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& HUMANITIES**

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PERTANIKA JOURNAL OF SOCIAL SCIENCES & HUMANITIES

About the Journal

Overview

Pertanika Journal of Social Sciences & Humanities is the official journal of Universiti Putra Malaysia. It is an open-access online scientific journal. It publishes original scientific outputs. It neither accepts nor commissions third party content.

Recognised internationally as the leading peer-reviewed interdisciplinary journal devoted to the publication of original papers, it serves as a forum for practical approaches to improve quality in issues pertaining to social and behavioural sciences as well as the humanities.

Pertanika Journal of Social Science & Humanities is a **quarterly** (*March, June, September, and December*) periodical that considers for publication original articles as per its scope. The journal publishes in **English** as well as in **Bahasa Malaysia** and it is open for submission by authors from all over the world.

The journal is available world-wide.

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Pertanika Journal of Social Sciences & Humanities was founded in 1993 and focuses on research in social and behavioural sciences as well as the humanities and its related fields.

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To publish journal of international repute.

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The abbreviation for Pertanika Journal of Social Sciences & Humanities is *Pertanika J. Soc. Sci. & Hum.*

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The *Introduction* explains the scope and objective of the study in the light of current knowledge on the subject; the *Materials and Methods* describes how the study was conducted; the *Results* section reports what was found in the study; and the *Discussion* section explains meaning and significance of the results and provides suggestions for future directions of research. The manuscript must be prepared according to the journal's **Instruction to Authors** (http://www.pertanika.upm.edu.my/Resources/regular_issues/Regular_Issues_Instructions_to_Authors.pdf).

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2. The Chief Executive Editor sends the article-identifying information having been removed, to 2 to 3 reviewers. They are specialists in the subject matter of the article. The Chief Executive Editor requests that they complete the review within 3 weeks.

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Foreword

Welcome to the 2nd 2021 issue for the *Pertanika Journal of Social Sciences and Humanities (PJSSH)*!

PJSSH is an open-access journal for studies in Social Sciences and Humanities published by Universiti Putra Malaysia Press. It is independently owned and managed by the university for the benefit of the world-wide science community.

This issue contains 37 articles; one review article; one case study; and the rest are regular articles. The authors of these articles come from different countries namely Brunei, Chile, China, India, Iraq, Malaysia, Nigeria, Oman, Pakistan, Philippines, Taiwan, Thailand and Vietnam.

Articles submitted for this issue cover various scopes of Social Sciences and Humanities including: accounting, architecture and habitat, economics, education, language and linguistics, law, literature, management studies, media and communication studies, political sciences and public policy, psychology, religious studies, and sociology.

A regular article entitled “Perceptions of Parenting Behavior by Adolescents: The Development of the Malaysian Parenting Behavior Inventory” sought to examine adolescents’ perceptions of their mother’s and father’s parenting behaviour and developing a new Malaysian Parenting Behavior Inventory (MPBI). This study showed that the MPBI has good initial psychometric properties and is culturally influenced. To extend the general knowledge of developmental psychology, it is a need to develop this scale which is suitable to be used by Malaysians. The detailed information of this article is presented on page 1011.

Su Luan Wong and colleagues undertook a study with the aim of understanding Digital Leadership (DL) among principals from four High Performing Schools (HPS) in Malaysia from the perspective of public relations practice, in their article, entitled “Understanding Public Relations Practice among Exemplar School Principals in Malaysian Schools”. The results indicated that social media have become the contemporary public relations conduit among exemplar Malaysian school principals. The aforesaid findings have meaningful implications for all school principals to better integrate social media in their public relations practice especially by leveraging on third-party social media platforms. Further details of the study can be found on page 1273.

A selected article from the scope of language and linguistics, entitled “Using Context Clues in Determining Contextual Meaning of Arabic Words” identified how context clues help students determine the contextual meaning of an Arabic word by using a three-dimensional model introduced by Fairclough. The findings showed that context clues can help students understand the meaning of Arabic words and enhance their understanding based on their sentence context. This is important to inculcate interest as well as improve the mastery and understanding of the students, including introducing the context clue technique. Details of this study are available on page 1335.

We anticipate that you will find the evidence presented in this issue to be intriguing, thought-provoking and useful in reaching new milestones in your own research. Please recommend the journal to your colleagues and students to make this endeavour meaningful.

All the papers published in this edition underwent Pertanika’s stringent peer-review process involving a minimum of two reviewers comprising internal as well as external referees. This was to ensure that the quality of the papers justified the high ranking of the journal, which is renowned as a heavily-cited journal not only by authors and researchers in Malaysia but by those in other countries around the world as well.

We would also like to express our gratitude to all the contributors, namely the authors, reviewers, Editor-in-Chief and Editorial Board Members of PJSST, who have made this issue possible. PJSST is currently accepting manuscripts for upcoming issues based on original qualitative or quantitative research that opens new areas of inquiry and investigation.

Chief Executive Editor

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Effectiveness of Auditor General's Online Dashboard Disclosures: Qualitative Perspectives from Malaysian Members of Parliament

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ABSTRACT

The Malaysian Auditor General's Report is tabled in Parliament every year. This report covers issues from government ministries, departments, and agencies. Once the report is tabled, it is published to the public in hardcopy. Beyond a thick physical hardcopy, the emergence of information technology allows the public to browse, analyze, and review the report online via the Auditor General's Online Dashboard. However, the public and many other stakeholders, including Malaysian members of Parliament, are not aware of the existence of those facilities. Therefore, this research aims to gather information on the effectiveness of the Auditor General's Online Dashboard disclosure and whether such disclosures provide satisfactory information to users and particularly to members of Parliament. A qualitative survey of 30 members of Parliament through convenience sampling is used. This study found that lack of promotion contributed mostly to unawareness of the existence of the Auditor General's Online Dashboard disclosure.

Keywords: Auditor general, governance, integrity, public sector, transparency

INTRODUCTION

Stakeholders have expressed their willingness and concern to evaluate the performance of public sector entities. In this regard, the literature has claimed that public sector entities must be held responsible for providing relevant performance-related information. Previous reports on international research on accountability perspectives have indicated that stakeholders in developed countries are more sophisticated and have a greater

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capacity and opportunity to exercise their rights in gathering information compared with stakeholders in less developed countries (Coombs & Tayib, 1998).

In this context, the auditor general, as one of the more important federal government agencies, plays a major role in curbing corruption and acting as a watchdog over public funds expenditures. Amidst high mismanagement and misuse of public resources, as well as corruption, especially in developing countries, a major question asks how the Auditor General's Report ensures effective public financial management and accountability within government departments and improves service delivery.

For Malaysia, the fight against corruption has become a national priority. The Government Transformation Programme 2.0 is among the efforts taken by the Malaysian government to combat corruption via the reformation of public services. In the Government Transformation Programme 2.0, the overall theme of the Anti-Corruption National Key Result Area (NKRA) was broadened as compared with the Government Transformation Programme 1.0 to ensure greater efforts taken by enforcement agencies, including the auditor general, to stamp out corruption.

In addition, the government also established the National Governance, Integrity and Anti-Corruption Centre, which is responsible for formulating the best strategy and ensure all government policies and activities are done based on good governance and the highest level of integrity. Consequently, many initiatives

have been implemented such as a more stringent code of conduct for Parliament members, asset declaration, disclosure of political donation, and founding of the Independent Police Complaints and Misconduct Commission.

In the fight against graft and corruption in the area of government transactions, particularly in government procurements and management of public funds, the Auditor General's Report has noted possible loopholes in the management of public funds and insufficient initiatives to combat this malpractices. In order to achieve the national objective of minimizing fraud and corruption in public fund management, the Government Transformation Programme 2.0 recommended transforming the auditor general's process to enhance its efficiencies and effectiveness in discharging its roles and responsibilities. These include fast-tracking access to the Auditor General's Performance Audit Report for Immediate Action, Action Committee on Auditor General's Report, Auditor General's Online Dashboard, and Putrajaya Inquisition.

The third initiative, which is the focus of this study, is the Auditor General's Online Dashboard disclosure, which was established to update issues arising from the Auditor General's Report. Its main objective is to promote transparency and induce pressure to expedite the resolution of issues raised in the report. The Auditor General's Online Dashboard disclosure was implemented under the administration of the National Audit Department of the Auditor General Office. The status of the issues, which appear on the Auditor General's Online

Dashboard disclosure, is marked in three (3) different colors, i.e., Action in Progress to Resolve Issue (yellow), Issue Resolved (green), or No Action Pending to Resolve Issue (red). In addition, feedback from the related issues is also published on the web for public reference.

However, since its launch in August 2013, the feedback received is far from meeting expectations. An examination of the number of access or hits from the website shows low response received from the public, members of Parliament, and other stakeholders. Reasons for this may be due to a lack of awareness and less effort to make it known to the public. Despite the little feedback received, the National Audit Department has been contacted to answer and clarify several substantial questions relating to the Auditor General's Report from Parliament.

In practice, the auditor general publishes three Auditor General Reports per year based on three separate performance audits of all public-sector entities. The Auditor General's Report is available online and may be accessed by a wide range of users. However, questions arise about how to fully utilize the Auditor General's Online Dashboard disclosures to promote transparency and how users and/or stakeholders are able to gain a summarization of the report.

Another concern is the notification and explanation to users and stakeholders about the roles and responsibilities of the auditor general, as most of the public response refers to enforcement-related action, which is contradictory to the power of duties of the auditor general as stipulated in the

Audit Act 1957. The Auditor General's Online Dashboard disclosures are intended to improve public perceptions of the actual auditor general's roles and responsibilities.

Based on this situation, this study will focus on details about the utilization, awareness, and expectations of Parliament toward the Auditor General's Online Dashboard. As elected members who represent the citizens, it is expected that the general public and members of Parliament particularly will pay attention to the information contained in the Auditor General's Report by conducting thorough analysis and offering professional judgment on the issues in the report that will benefit the country.

Thus, the purpose of the study is to analyze suggestions from Parliament for improvements to the Auditor General's Online Dashboard disclosures. Although the National Audit Department has provided convenient and accessible facilities for browsing the Auditor General's Report, stakeholders, the public, and members of Parliament are not aware that this facility exists. Therefore, this research aims to gather information on the perception of stakeholders about the implementation of the Auditor General's Online Dashboard disclosure and whether such disclosures provide satisfactory information.

This study offers several contributions. First, this study contributes to the innovation effort of the auditor general's activities and, hence, assists them in improving the guidelines of the Auditor General's Online Dashboard. Basically, the Auditor General's Report, which discusses issues

from government ministries, departments, and agencies, is tabled in Parliament every year. Once the report is tabled, it will be published to the public in a hard copy. Despite reading a thick hardcopy version, the public and other stakeholders are now able to browse, analyze, and review the Auditor General's Report by clicking on the Auditor General's Online Dashboard, thanks to the advancement of the information and communication technologies. Unfortunately, not many people realize the benefits of this innovation. Findings from this study are, thus, essential to improve this initiative.

Second, this study provides valuable information that will support the National Audit Department to fulfill the Government Transformation Programme 2.0's requirements. The auditors from the National Audit Department are required to form an opinion and report audit findings when conducting audit works, both for a performance audit and compliance audit of the government entities. Users of the Auditor General's Report are the public, members of Parliament, state legislative assembly members, and stakeholders. The Auditor General's Online Dashboard disclosure is part of the government's mechanism to channel all information to Parliament by offering members a clear view, with accurate and precise information, about the audit conducted by the National Audit Department.

Third, it is important to examine the effectiveness of the Auditor General's Online Dashboard to ensure this facility is fully utilized by the public and any

interested parties as a mechanism to assess the performance of the government and its related agencies. Findings from this study will provide a significant confidence level to the country, as the Auditor General's Online Dashboard disclosures promote transparency by providing satisfactory information to the public. In addition, the information disclosed online is an important key performance indicator of the auditor general. Therefore, its planning and implementation should be properly handled to provide adequate user feedback and, hence, alleviate weaknesses of the government and its related agencies.

Fourth, findings from this research will increase government accountability because the Auditor General's Online Dashboard disclosures were launched with the objective of ensuring that the public and stakeholders are well informed of audit issues. Examination of its effectiveness will help the government to promote transparency by providing the current status of certain issues. Besides that, Auditor General's Online Dashboard disclosures are aimed at informing the public of selected matters of public interest, as reported in the auditor general's periodical reports. In Malaysia, for example, users or stakeholders of the Auditor General's Online Dashboard disclosure include government agencies, members of Parliament, state assembly members, private companies, taxpayers, and the public.

Finally, the findings of this study will add to the theory and body of literature on the important characteristics of government

accountability in its effort to modernize public service delivery, particularly in the context of a developing country such as Malaysia. Prior studies concentrate more on government accountability in developed countries, e.g., the US, UK, and Europe.

This paper is organized as follows. Next is the literature review, followed by research issues. Section four discusses the research methodology, while section five includes findings and discussions of the study. Section six contains the conclusion. The last section reveals the study limitations and suggestions for future research.

LITERATURE REVIEW

Public Sector Accountability

Accountability concepts play an important role and contribute significantly to the image and positive perceptions of government organizations and related workforce. In the private sector, accountability is important to ensure shareholder wealth and other stakeholder interests are properly safeguarded via ethical decision-making by top management (Alias et al., 2019; Salin & Ismail, 2015; Salin et al., 2020), transparent information disclosure (Jaafar et al., 2019; Salin et al., 2019), fraud prevention (Abidin et al., 2019), efficient corporate governance mechanisms (Nor et al., 2018; Shahar et al., 2020), and strong internal controls (Dangi et al., 2020; Nawawi & Salin, 2018; Karim et al., 2018).

However, the concept and practice of accountability in the government and/or public sector is more profound and broader than in private organizations (McGregor,

1999; Parker & Gould, 1999; Ryan et al., 2014; Samkin & Schneider, 2010; Sinclair, 1995; Wynne, 2004) because government expenditures and operations are taxpayer-funded (Nawawi & Salin, 2019; Shariman et al., 2017; Yusuf et al., 2020). For example, reports on financial and operational activities by government agencies should be more precise, informative, transparent, and accurate compared with their counterparts in the private sector (Monfardini, 2010; Nahar & Yaacob, 2011; Nelson et al., 2003; Normanton, 1971; Turley et al., 2015). This is to ensure that government ministries, departments, and agencies are continuously efficient and effective in delivering services to the general public (Cooper & Johnston, 2012; Shariman et al., 2018). Moreover, the regulation of government information has a significant effect on accountability (Zhiyuan, 2016), as government accountability is fundamental to democratic governance (Vlaicu & Whalley, 2016). Gottlieb (2016), for example, documented that citizens are likely to sanction government officials that poorly perform and often vote for government officials and departments based on their performance.

Besides more voluntary disclosure, information that goes beyond rules and regulations is required to describe and satisfy the public and taxpayers on government activities and to improve life in the country. This consequently demonstrates government accountability (Boffa et al., 2016; Connolly & Dhanani, 2006; Hyndman, 1990) and its impact on society (Torres & Pina, 2003). In Malaysia, Tooley et al. (2010) found that

stakeholders of local authorities in Malaysia showed strong interest in the performance of nontraditional information disclosed in financial statements, e.g., information related to the performance of outputs, outcomes, efficiency, and effectiveness. Because of this, the Auditor General's Online Dashboard was introduced as a determination by the government via its federal audit agencies to improve the operation and services of the government machinery. Our research here will contribute to the body of literature by sharing research findings of government accountability mechanisms implemented by audit departments, which is rarely found in the literature. Prior research on government accountability focused on local authorities and government link companies. Our research fills this gap.

Auditor General's Online Dashboard Disclosures

The implementation of the Government Transformation Programme 2.0 improved the process of disseminating information in the Auditor General's Report. The Auditor General's Online Dashboard disclosure is one of four initiatives established to achieve the Government Transformation Programme 2.0's goals. The main objective of the Auditor General's Online Dashboard is to inform the public via the Internet about issues concerning the Auditor General's Report in a concise and accurate manner. In addition, the dashboard promotes transparency, initiating pressure to expedite the resolution of issues raised in the Auditor General's Report and enhancing its public perceptions.

Users and stakeholders are able to browse the Auditor General's Online Dashboard disclosure through the official portal of the National Audit Department and click the link entitled "Auditor General's Dashboard Website." This homepage summarizes the number and status of the issue based on three (3) distinguished colors: Action In-Progress to Resolve Issue (yellow), Issue Resolved (green), or No Action Pending to Resolve Issue (red).

The public is also allowed to access a complete set of Auditor General's Reports by clicking on the icon of the Auditor General's Report on the official portal of the National Audit Department. However, matters on display are limited to specific areas of performance audit, in which the selection of issues is determined by the Cabinet Paper Guidelines. According to these guidelines, when selecting topics from the Auditor General's Report, the National Audit Department needs to consider eight categories: unreasonable price, improper payment, construction and supply specification, unreasonable delay, wastage, weakness in revenue management, vulnerability management, maintenance of public assets, and vulnerability management of the government.

Preparation of the Auditor General's Online Dashboard

The Audit Follow-Up Division, one of the units in the National Audit Department, is entrusted with the role of supplying information to the Auditor General's Online Dashboard disclosure. Activities in the

preparation of the Auditor General's Online Dashboard disclosure are as follows:

Stage One: Recording of All Pertinent Matters and Feedback on Specific Areas of Performance Audits by Individual Audit Teams throughout the Country.

Pertinent matters and feedback on specific areas of performance audits by individual audit teams throughout the country are recorded in a secured electronic database platform. The audit teams also propose a color-coded status of each matter and feedback, i.e., yellow, green, and red.

Stage Two: Selection of Pertinent Matters and Feedback on Specific Areas of Performance Audits.

The Audit Follow-Up Division extracts the pertinent matters on specific performance audit areas from the database. After the extraction is done, the Audit Follow-Up Division selects only certain pertinent matters on specific areas of performance audits based on the Cabinet Paper Guidelines. It forwards this data to the Information Technology Unit to be published on the website via the dashboard.

Theoretical Framework

This study used the legitimacy theory (Dowling & Pfeffer, 1975) to explain the phenomenon of Auditor General's Online Dashboard disclosure and its effectiveness in delivering messages to related stakeholders. Based on this theory, an organization will actively seek ways to ensure its activities and existence are acceptable to stakeholders whose actions

and claims have potential effects on an organization in question (Phillips, 2003). For example, a firm involved in urban development depends on local communities and local policymakers' support to ensure project success (Yang, 2014). Due to this, the National Audit Department must continuously improvise its services and operations to accommodate government policies and requirements. Thus, the Auditor General's Online Dashboard is introduced as an innovative mechanism to disclose the findings of its audit to stakeholders generally and to the public particularly. This disclosure is important to improve the performance of various government departments and their related agencies and, hence, safeguard public resources.

METHOD

This study employed a qualitative survey on 30 members of Parliament through convenience sampling. Due to the busy schedules, however, larger samples are not feasible for this study. There are 222 seats in the Malaysian Parliament. Currently, the Alliance of Hope (Pakatan Harapan) is the National Front, which is a right-wing coalition of political ruling parties in Malaysia. It involves the People's Justice Party (PKR), Democratic Action Party (DAP), National Trust Party (Amanah), and Malaysian United Indigenous Party (BERSATU). The other coalition is the National Front (Barisan Nasional), which represents the largest opposition members in Parliament. This coalition includes three parties, i.e., United Malays National

Organisation (UMNO), Malaysian Chinese Association (MCA), and Malaysian Indian Congress (MIC). The respondents are the main group of stakeholders involved both directly and indirectly with the Auditor General's Online Dashboard.

A survey, which contains an open-ended question asking their opinions on suggested improvements to increase the effectiveness of the Auditor General's Online Dashboard disclosure, was distributed by hand to selected respondents. The questions were developed based on the literature. The initially proposed questions were examined and validated by experts in the relevant field of this research. This is to ensure the construct validity of the research. The questions were refined and amended based on expert advice. The qualitative data collected for this study were analyzed based on Malhotra (2010), which involved data reduction, data display, and conclusion. Data reduction is the stage in which all unnecessary and nonrelevant information is removed, leaving the utmost important information. This information is then mapped via a visual diagram to determine patterns and relationships. Finally, the meaning and significance of this pattern or relationship are analyzed and associated with the objectives of the study. The data collected were analyzed by using qualitative data analysis software. In addition to the open-ended questions, demographic questions on gender, age, education background, length of time as a member of Parliament, and political affiliation also were asked.

FINDINGS AND DISCUSSION

Based on 30 questionnaires distributed to the respondents, only seven (23%) of the respondents replied to the questionnaires. Demographic profiles of the respondents are shown in Table 1 and Table 2.

It has been widely accepted that the Auditor General's Online Dashboard disclosure allows the National Audit Department to improve its performance in disseminating information to the public and other stakeholders. The results of the survey provided insight into the current state of the Auditor General's Online Dashboard disclosure and the perceptions from stakeholders, particularly from members of Parliament. Generally, members of

Table 1
Demographic profiles of respondents

	<i>n</i>	Percentage
Gender		
Male	7	100
Female	0	0
Age		
Less than 30 years	2	28
30 to 40 years	1	14
41 to 50 years	3	43
More than 50 years	1	14
Qualification		
Diploma	1	14
Degree	3	72
Professional	3	14
Political experience		
Less than 5 years	2	28
5 years and more	5	72
Political affiliation		
National Front	4	58
Alliance of Hope	3	43

Table 2
Individual profiles of respondents

Respondents	Gender	Age	Qualification	Political experience	Political affiliation
R1	Male	41 to 50 years	Professional	5 years and more	National Front
R2	Male	41 to 50 years	Degree	Less than 5 years	Alliance of Hope
R3	Male	30 to 40 years	Degree	5 years and more	Alliance of Hope
R4	Male	Less than 30 years	Degree	Less than 5 years	National Front
R5	Male	More than 50 years	Diploma	5 years and more	Alliance of Hope
R6	Male	41 to 50 years	Degree	5 years and more	National Front
R7	Male	Less than 30 years	Degree	5 years and more	National Front

Parliament perceive the potential benefits associated with the Auditor General's Online Dashboard.

Promote the Auditor General's Online Dashboard

In examining the effectiveness of the Auditor General's Online Dashboard, this study revealed that enormous promotion is essential for the Auditor General's Online Dashboard disclosure implementation. Five (R1, R2, R3, R4, R6) out of seven respondents recommended this action. The National Audit Department has seriously considered suggestions from members of Parliament, as they are the main users of the Auditor General Online Dashboard. The question here, then, is how will the promotion be done?

R3 concurs:

"The dashboard currently is not well promoted. It needs to be comprehensively publicized so it is known, used, and utilized by the public. If not, it is itself a wasteful project."

R1, on the other hand, gave a more specific suggestion:

"The National Audit Department should promote it through the media such as giving an exclusive interview about this dashboard. All media (mainstream and online) can also be invited to a special workshop. Indirectly, media will disseminate the info to the public."

Specifically, referring to members of Parliament, R2 recommended,

"To do promotion by asking the National Audit Department to brief the members of Parliament regarding the Auditor General's Online Dashboard disclosure."

Based on these findings, there are many possible ways to promote the Auditor General's Online Dashboard disclosure. These issues may be addressed in a phase-by-phase manner. The National Audit Department planned that, in the initial phase, promotion would be targeted to members of Parliament, as they are the key persons using

the Auditor General's Online Dashboard. Further, Parliament may debate the issues raised from this dashboard. Therefore, 222 Parliament members will be invited to attend the workshop, briefing, and seminar on the Auditor General's Online Dashboard disclosure, as organized by the National Audit Department.

Better Coordination with Other Government Agencies on Enforcement Matters

This study found that the Auditor General's Online Dashboard disclosure should be inter-relation with other enforcement government agencies such as the Malaysian Anti-Corruption Commission, Royal Police of Malaysia, and Attorney General of Malaysia. This is emphasized by the fact that respondents want the required action taken as a result of the report, especially on audit findings that reveal major weaknesses in government transactions, which is a significant waste of taxpayer money.

R5 advocates,

"Invite NGOs like Transparency International-Malaysia (TI-M) to monitor this Auditor General's Dashboard. Transparency International can set up its own public monitoring system, which can complement the Auditor General's Dashboard, lending strength and support to the Auditor General's Report, so that Parliament, the Public Account Committee, and public officials, will know they are being watched, too."

This is supported by R6:

"To inter-relation with other government machineries such as Ministry of Finance, Transportation, Health, Human Resources, and other related agencies."

The findings suggest the important role and responsibility played by the National Audit Department to carry out audits in a professional and independent manner and to produce a balanced report to Parliament and state legislature toward enhancing good governance in the public sector. In this context, cooperation is essential as a bridge for sharing responsibilities in enhancing good governance in the public sector in Malaysia. In addition, the objectives of the government transformation program are to reduce bribery, misappropriation, and leakage in the public sector. Thus, via cooperation with those enforcement agencies, it allows efficient investigation on the issues addressed in the Auditor General's Report. The collaboration chain is also necessary to improve the government system as well as public perceptions.

Better Interaction with the Public or the Stakeholders

The Auditor General's Online Dashboard disclosure should be user-friendly so that it is able to facilitate interaction between the public and the National Audit Department. This is important, as stakeholders, especially the public, can also participate and provide feedback on the findings in the dashboard. This indirectly will increase the support

of the public toward government efforts to combat leakages in the public fund expenditures and prevent unethical practices.

This is suggested by R2:

“To have a direct link to the responsible officer so that further action can be taken as a result of complaint or info from a whistleblower on the scandal”

R5 supports this suggestion:

“Should add a ‘recommendation button’ from the auditor general or others to give their opinion on the problem or give solutions.”

R6 commends the interaction between the public and government:

“Should be user-friendly and allow the public to raise comments or interactions with the National Audit Department.”

Based on these responses, there should be mechanisms or modules to improve the efficiency of the Auditor General's Online Dashboard. The interactive system will provide an opportunity for the public to give comments, get a clear explanation on the issues raised, and demonstrate transparent actions taken to resolve issues. By taking all these considerations into account, the interactive module will attract people to know what is really transparently happening in the government. This will enable stakeholders to be more satisfied with government services.

Improve Monitoring of the Issues

The Auditor General's Online Dashboard disclosure must be monitored to ensure that appropriate action is taken by an auditee in regard to the published issue. If the Auditor General's Online Dashboard disclosure provides prompt updates on the status of feedback, the public or the stakeholders are will know the actual status of the issues instantly.

This was emphasized by R5:

“The Auditor General's Dashboard should have information about any action that has been taken against those who had failed to fulfill their commitments. A list of blacklisted companies can be added to this Auditor General's Dashboard website.”

Collaboration between the auditee and the National Audit Department is necessary in order to take specific action to deal with the issues and to deliver the feedback quickly to the person concerned. Although the process of monitoring the issues appears simple, it actually involves several processes and agencies or auditees. The public should be given the awareness that certain issues will take long periods to solve. This is because it may involve prosecution or require a charge. Thus, feedback status will remain the same until it is completely resolved. The chronology and related records due to prosecution or arguments over the issues will also remain confidential. Only general information will be provided and disclosed.

Upgrade the Future Version of the Auditor General's Online Dashboard

The study indicates a need for the National Audit Department to take more serious consideration of the system limitations as well as the server capability of the Auditor General's Online Dashboard disclosure.

For example, R7 opined,

“The layout and the design of the Auditor General's Online Dashboard disclosure should be enhanced and improved in order to attract the public to browse the system more frequently.”

R2 shared his experience:

“I tried to browse the online dashboard, which was difficult to find on your (National Audit Department) website. It should have a visible tab for easy recognition.”

R5 concurs with a similar tone:

“The Auditor General's Dashboard should be an easy access for the people and rakyat (public) to monitor the weaknesses in management, efforts on enhancing accountability and integrity toward good governance.”

Since its implementation, the Auditor General's Online Dashboard disclosure has undergone several changes in the listing of programs to ensure it meets its objectives, even though the cost of development was tight. Due to the emerging issue of public awareness of the content of the

Auditor General's Report, the role of the Auditor General's Online Dashboard disclosure has become crucial. For this reason, the Ministry of Finance approved about RM1.8 million for system upgrades and a dedicated server to accommodate modules, as requested by the public and Parliament. Under this consideration, several brainstorming sessions with various parties should be organized to explore and discuss their concerns and ways to fulfill their requirements.

CONCLUSIONS

An audit is an independent activity that produces transparency reports for clients, stakeholders, and the public. In this regard, evaluation of audit reports is essential, as it provides a basis for measuring transparency, integrity, and reliability. This research is conducted as part of a contribution to public-sector auditing for the improvement of the Auditor's General Reports in terms of isolating significant issues, disseminating information, and develop a good rapport between government agencies and the public.

The Auditor General's Online Dashboard disclosure was launched in August 2013. However, fewer responses were received from the public, members of Parliament, and stakeholders in regard to this system. For this reason, this study is intended to examine their awareness and perceptions on the implementation of the Auditor General's Online Dashboard. In view of the fact that the Auditor General's Online Dashboard disclosure is a new system introduced

by the National Audit Department, this study aims to contribute to the innovation and improvement of the auditor general's activities and establish comprehensive guidelines for the Auditor General's Online Dashboard disclosure system.

The qualitative survey, which has been distributed to Members of Parliament, suggests that an enormous promotion of the Auditor General's Online Dashboard, the appointment of the liaison officer, inter-relation communication between government agencies, effective monitoring of the issues, and using the latest technology to upgrade to the current version to increase the effectiveness of the dashboard.

LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FUTURE RESEARCH

The scope of this study is limited to a small sample. General views and opinions of the Auditor General's Online Dashboard disclosure implementation were only gathered through feedback via members of Parliament. In addition, some information may not be disclosed due to the personal requirements of Parliament members. In addition, some facts cannot be disclosed due to confidentiality.

Stakeholders of the Auditor General's Report are varied; however, primary users formed the Auditor General's Online Dashboard disclosures, although this study's analysis was limited by the number of Parliament members who responded. Thus, the sample size is a major limitation of this study. Future research should be conducted by taking a broader view of the stakeholders.

Future research should be focused on stakeholder requirements and the issues raised by every group of stakeholders, e.g., the public. Another data collection method, e.g., mass-market survey, can be utilized to gather more participants. More questions may also be asked and other types of analysis methods involving statistical modelling can be employed to generate more robust, reliable, and validated findings.

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Adoption of Innovation through Joint Asset Acquisition: The Case of Women Rice Processor Groups in Nigeria

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ABSTRACT

Small-scale rice processors in Nigeria cannot afford to individually own rice destoners and have therefore not adopted its use. As a result, locally produced rice has failed to satisfy both the local and foreign markets in terms of quality. This study determined the willingness of the women rice processors to own and manage destoners in groups. The survey also determined the factors that influenced their willingness and the constraints to the joint acquisition of destoners. Following a two-stage random sampling technique, 195 respondents were selected on whom a structured interview schedule was administered. Descriptive statistics and the Probit Regression Analysis were used to present and analyse collected data. Findings reveal a high level of willingness (62.6%) influenced by the age of the respondents (-0.0341), their total annual income (0.3864), educational level (0.0757), rice farming experience (-0.7927), access to extension (-0.0089), and credit (0.0079) at $P < .05$. The burden of joint management (Mean score = 2.56), poor accountability (Mean score = 2.55), and poor organisation of the groups (Mean score = 2.47) were the most severe constraints to the joint acquisition of destoners among the women processors. The study

concluded that the willingness of the women was high and influenced by some socio-economic characteristics. Strengthening of the processor groups through training in group dynamics and models of joint acquisition and ownership are some of the recommendations from the study.

Keywords: Adoption, group dynamics, joint acquisition, rice destoner, rice processing, willingness

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INTRODUCTION

With a population of over 186 million and a population growth rate of 2.7% per annum, Nigeria has the 3rd largest number of malnourished children in the world (World Food Programme, 2016). An estimated 48.5% of women in the reproductive age in the country are anaemic, and about 250 children are predicted to die daily from hunger-related issues (YeniŞafak, 2017). These statistics substantiate the reports that the worse hit by poverty is women and children. Interestingly, 70% of Nigeria's hungry people are farming families who reside in rural communities and depend almost entirely on agriculture for their sustenance. This group, which dominates the agricultural production activities, is made up of millions of small-scale resource-poor farmers, who are characterised by the low level of use of agricultural research, technology, and innovation. They are economically restricted by poor farm gate prices and access to developed markets, among other challenges.

In spite of the constraints highlighted above, agriculture still contributes over 40% to the annual GDP, and over 85% to the non-oil earning with over 85% of the contribution, attributable to crop farming (Central Bank of Nigeria, 2012). The fact that less than half (33million out of 68 million hectares) of cultivable land and less than 7% of the 3,14million hectares of irrigable land is currently in use suggests huge opportunities in this sector (Food and Agriculture Organization [FAO], 2005). It has also been documented in the

literature that the potentials of the youth and women in agriculture in Nigeria have not been optimised. While it has been difficult sustaining the interest of the youth in agriculture due to the unattractive nature in which it is practised, women, on the other hand, have a low level of access to opportunities and production resources (Omotesho et al., 2017b).

Women contribute between 50 to 90 percent of agricultural labour in Nigeria (Ogunlela & Muktar, 2009). They also dominate the processing and marketing of agricultural produce. Women have continued to suffer discrimination in terms of the distribution of resources. Less than 2% of agricultural land is owned by women, and only 10% of women have access to farm credit. About 15% of the total number of extension agents in the country are women, and only 5% of extension services are targeted at women farmers (Anaglo et al., 2014; FAO, 2011; Fon, 2015).

Furthermore, particularly in rural communities, women have little or no input to family decisions and a poor level of control over family resources, expenses, and investments. While acknowledging the fact that all farmers (male and female) in Nigeria are challenged severally in their production activities, the challenges of the women are more severe. There is the need to harness the potentials of all stakeholders, including women if the food security challenge of the nation will be surmounted. This can only be achieved by ensuring their adequate access to production resources and appropriate technology and innovation in agriculture.

One of the severe constraints to the adoption of technological innovations among farmers in the country is the high cost of acquisition of most technologies. In many cases, farmers appreciate the effect and benefits of technological innovations but lack the financial power to adopt these innovations. For example, in Nigeria, the use of technology to remove tiny stones, and other foreign materials from rice during processing by electronically or manually operated rice destoners. Failure of rice farmers/processors to adopt the use of rice destoners in processing rice is the bane in the acceptance of rice processed in Nigeria for both local and international markets despite the fact that farmers now produce the improved (long-grain) rice varieties. Rice is a staple in the Nigerian diet. Although Nigeria is a major producer of rice in Africa, it remains one of the largest importers of the crop in the world with an annual deficit of about 4 million metric tons. About \$2.41b was spent on rice importation between 2012 and 2015 (Premium Times, 2015). The effort has been put into improving rice production in the country by driving yield as opposed to the expansion of area cultivated, and this has drawn more farmers into rice production. However, there has not been a commensurate improvement in quality due to the presence of foreign materials (mostly stones) in the locally processed rice (Adegun et al., 2012). The result is that the imported rice has not only continued to receive preference over the locally processed rice; it is also priced higher than

the local rice. Rice processing is dominated by women who do not have access to resources. The main sources of funds for the adoption of technologies among farmers and processors in Nigeria have been government intervention programmes and other donor initiatives, and these are fast dwindling (Olomola & Nwafor, 2018). The joint acquisition has been explored as a veritable option for the adoption of technologies among small-scale farmers with some success stories. A good example is the case of smallholder tea farmer associations in Kenya who collectively own and manage processing factories, employ experts, and fund research (Mwaura et al., 2010a).

Extension experts of the Department of Agricultural Extension and Rural Development of the University of Ilorin, Nigeria, embarked on a community development exercise directed at improving rice processing in Nigeria. The project which was funded by the African Forum for Agricultural Advisory Services (AFAAS) involved training of women rice processors in the project area on high hygiene levels during processing. Donation of destoner machines was made to rice processor groups in the Edu, and Patigi Local Government Areas of Kwara State as a component of the project to assist women processors improve the quality of their output. Members of the groups were sensitised on the joint acquisition of destoner machines as processor groups to facilitate their processing activities.

Statement of Problem

The quality of Nigeria's locally processed rice has failed to satisfied local and international markets. The major reason for this is the presence of impurities, mainly tiny stones in the processed rice. The technological innovation required to remove impurities such as stones in rice processing (destoner machines) has been disseminated to rice processors in Nigeria, but majority cannot afford to purchase the machines. Rice processing is dominated by women who have poor access to credit and production resources. Though there are many rice-producing and processing groups scattered across the major rice-producing areas in the country, many of these organisations have not taken advantage of joint acquisition in enhancing the adoption of appropriate processing technologies that will guarantee that their products are suitable for the local and international markets. Farmers, therefore, continue to receive lower prices for their produce at the detriment of their livelihood. This study was carried out to analyse joint asset acquisition in enhancing the adoption of innovation among rice processors in Nigeria. The specific objectives were to:

1. determine their willingness to be part of a joint asset acquisition of group;
2. identify the determinants of their willingness or otherwise; and
3. identify the constraints to joint asset acquisition among the processors

LITERATURE REVIEW

Farmer-groups have been described as a collection of farmers who share common experiences and interests (Asante et al., 2011). Farmers join such socio-economic groups to use their membership of the groups to accomplish some social and economic objectives often related to their farming businesses (Ofuoku & Chukwuji, 2012). Several factors underscore the need for farmer-groups in Nigeria. Chief among these factors is the small-scale nature of the millions of resource-poor farmers that characterise the agricultural sector of the country. This is also true of agricultural processors who are mostly women (wives of farmers in the majority of cases). The abysmally high farmer-to-extension worker ratio makes it practically compulsory that extension workers relate to farmers/processors in groups. International donor agencies also consider these socio-economic groups as the most efficient means of reaching farmers and processors. More important, however, is the fact that farmers and processors are able to achieve as groups, what they would ordinarily not be able to accomplish as individuals. For instance, many farmer groups engage in joint cultivation, buy inputs together at reduced prices and negotiate excellent prices for their farm output as a group (Effiom, 2014). The role of farmer-groups in pulling farmers' resources together for the collective advantage of widening their industrial base and management techniques has been enunciated (Anigbogu et al., 2016). Often, improved technologies come at a

price, some of which may be out of the reach of individual farmers. Farmers can easily acquire such technologies in groups.

It is important to note, however, that the possibility of farmers maximising this advantage depends primarily on the strength of the group as defined by their group dynamics. Group dynamics is a system of behaviours and psychological processes happening in a social group (intragroup dynamics) or between social groups (intergroup dynamics) (Gencer, 2019). These processes influence and explain decision-making as well as reactions of members of groups to changing circumstances. It is theorised that all groups go through the forming, storming, norming, performing, and adjourning stages with the performing stage involving working in a group, at a common goal, on a highly efficient and cooperative basis (Tuckman, 1965). This is possible when individuals in a group who are identified by the 'self-concept' can adequately reconcile their personal and social (collective self) identities (Hogg & William, 2000). The effective synchronisation of the two identities defines the level of participation and hence the success of group activities. The study is premised on the theory of planned behaviour (Ajzen, 1991). The theory states that the best predictor of a behaviour is the intention to adopt it, and this, in turn, depends on subjective norms, attitude towards the behaviour, and perceived behavioural control. All of the above has however been proven to be influenced by socio-economic characteristics (Wejnert, 2002). Several studies confirm the

influence of socio-economic characteristics of individuals and some characteristics of groups on the participation of members in groups. Members' age, educational status, household size, marital status, income, farming experience, farm size, membership size, age of group are some of the variables that have been investigated as factors that could influence the participation of members in groups (Abegunde, 2009; Agbonlahor et al., 2012; Ofuoku, 2013; Omotesho et al., 2019).

METHODS

Study Area

The project was carried out in Kwara State, Nigeria. The country is located between latitude 4°N and 14°N, and longitude 3°E and 15°E. It has a total land area of 923,800KM² and occupies about 14% of the land area in West Africa. Kwara State is one of the 36 states of Nigeria and lies between latitude 7° N and 9° N and longitudes 2°E and 6° E covering a land area of about 32,500 KM². The state which has a population of about 3.1 million people (Kwara State Government, 2021), is located in the middle belt region of the country and shares an international boundary with the Republic of Benin. It. The annual rainfall ranges from 1000-1500mm, while the maximum average temperature ranges between 30°C and 35°C. Kwara State is largely agrarian and a significant hub for the production of rice in Nigeria. However, the quality of rice produced in the state has not met the standard demanded by consumers; hence imported rice is preferred to the detriment of

farmers' livelihood as well as the country's foreign earnings.

Sampling Procedure and Sample Size

Two Local Government Areas (Edu and Patigi LGAs) were purposively selected for the project because they are the hub of rice production in the state. The sampling frame for the survey was the list of members of all the women rice farmer groups that were trained under the project. A two-stage random sampling technique was adopted in selecting the respondents for the survey. The first stage involved the random selection of 50% of the 133 women farmer groups trained under the project. The second stage was the selection of three (3) respondents each from the 67 selected groups through the dip hat method. The names of members of each of the selected groups were written and rolled up in tiny papers and placed in containers "hats". Three of the rolled-up papers were then picked from the hats. The procedure produced a sample size of 201. One hundred and ninety-five (195) copies of the interview schedule were found analysable at the end of the survey, therefore, giving a response rate of 97%.

Data Collection and Analysis

The instrument for data collection was an interview schedule which was drawn by the researchers and subjected to validation by extension experts in the Department of Agricultural Extension and Rural Development of the University of Ilorin, Nigeria. The test-re-test method was also

employed to ensure its reliability. The schedule was used to collect information on respondents' socio-economic characteristics, their willingness to partake in the joint acquisition of destoner machines, and their challenges in so doing. Data were collected between October and December 2017 with the aid of trained enumerators who were staff of the state Agricultural Development Project. Descriptive statistics involving frequency counts, percentages, and means were used to present the results of the survey. A three-point Likert-type scale was used to assess the severity of constraints to the joint acquisition of rice destoners. This was achieved by drawing a list of possible constraints to the joint acquisition of destoners. Respondents were requested to state the level of severity of the constraints on a scale of one to three. The scale was graduated as follows;

Not a constraint=1, Not severe=2,
Severe=3

The scores were aggregated and converted to means which were used to rank the constraints in order of severity. The Probit Regression Analysis was fitted to identify the determinants of rice farmers' willingness to jointly acquire rice destoners. The choice of the probit regression analysis is borne out of its ability to model dichotomous or binary outcome variables. The model effectively measures the relationship between categorical dependent variables and usually continuous independent variables (or several) by converting the dependent

variable to probability scores (Hosmer & Lemeshow, 2000). The Probit equation for the study is presented as:

$$Z = \beta_0 + \beta X_1 + \beta X_2 + \dots + \beta X_{12} + \mu \quad (1)$$

Where

Z = willingness to jointly acquire rice destoners

X₁, X₂, X₁₂ = socio-economic characteristics of respondents as follows;

X₁=Age of respondents measured in years

X₂=Respondent's Household size measured as the number of persons living under the same roof and eating from the same pot

X₃=Marital Status measured as a dummy variable, 1 if married, 0 otherwise

X₄=Total income measured in Naira

X₅=Educational Level measured as the number of years of schooling

X₆=Primary occupation measured as a dummy variable, 1 if rice processing, 0 otherwise

X₇=Rice processing experience measured of number of years in rice processing

X₈=Length of farmer-group membership measured in years

X₉=Number of extension contacts in the immediate past six month period

X₁₀=Group membership strength measured as the number of members

X₁₁=Access to credit facilities measured as a dummy variable, 1 if yes and 0 if no

X₁₂= Age of farmer-group to which respondents belong was measured in years

β=are the coefficients to be estimated

μ=the error term

RESULTS AND DISCUSSION

Socio-economic Characteristics of Respondents

This section presents the result of the socio-economic characteristics of rice farmers in the study area. The results are summarised in Table 1. The importance of age distribution to rural developmental studies stems from its influence on years of experience, decision making, attitude, productivity, and perception (Omotesho et al., 2016). The mean age of 52.2 shown in Table 1 is an indication of the low level of the youth in participating in rice farming/processing and also in membership of rice farmer-groups. Majority of the women rice farmers in the study area were married (94.9%). This could imply a high level of social and financial stability. According to Table 1, most (66.8%) of the rice farmers had no formal education. Education has been linked to the adoption of innovation, and these statistics may present a constraint to the willingness to acquire assets jointly. The means number of years of rice processing experience was 21.3, which shows that the respondents were well experienced in rice processing. Table 1 reveals a poor level of contact with agricultural extension with an average of seven contacts per annum, and several had no contacts at all. The fact that about 80% of the respondents had rice processing as their primary operation should enhance their commitment to its improvement. The mean length of membership (4.7 years) and mean age of the farmer-groups (5.3 years) suggest that the formation of rice farmer groups was a relatively new idea in the study area. It is

Table 1
Distribution of respondents by selected socio-economic characteristics

Socio-economic Variables	Frequency Count	Percentages	Mean (SD)
Age of Respondents			
≤30	1	0.5	52.2 (9.18)
31-50	111	56.9	
>50	83	42.6	
Marital Status			
Single	185	94.9	
Married	10	5.1	
Household Size			
≤5	62	31.8	6.8 (2.21)
6-10	109	55.9	
>10	24	12.3	
Educational Level			
No Formal Education	129	66.8	
Primary Level	41	21.0	
Post Primary	25	12.2	
Rice Processing Experience			
≤10	50	25.6	21.3 (10.30)
11-20	63	32.3	
21-30	52	26.7	
>30	30	15.4	
No of Extension Contact			
0	33	16.9	7.0 (4.10)
1-12	90	46.2	
>12	72	36.9	
Access to Credit			
No	141	72.3	
Yes	54	27.7	
Primary Occupation			
Rice farming	155	79.5	
Others	40	20.5	
Income (N)			
≤200,000	83	42.6	260,366.2 (96,256.25)
200,000-400,000	75	38.5	
>400,000	37	18.9	
Length of membership of group			
≤5	163	83.6	4.7 (2.06)
>5	32	16.4	
Age of Group			
≤5	150	76.9	5.3 (3.81)
6-10	33	16.9	
>10	12	6.2	

Source: Field survey

Note: n=195; N360=\$1 SD (Standard Deviation)

possible that this may have implications for group organisation and strength.

The Willingness of Rice Farmers to Jointly Acquire Rice Destoners

This section presents the result of investigations into the willingness of rice farmers to partake in the joint acquisition of rice destoners. The results are presented in Table 2. As shown in the table, more of the women rice farmers were willing to jointly acquire rice destoners in the study area. The high level of willingness could be as a result of the benefits derived from the rice destoner donated to the groups under the AFAAS/ University of Ilorin Rice Processing Project carried out in the study area. Through the use of the destoner, the processors were able to produce high quality, even, and stone-free rice which commanded high market value. This resulted in higher income for the women.

Determinants of Rice farmers' Willingness to Jointly Acquire Rice Destoners

This section presents the result of Probit analysis to determine socio-economic

Table 2
Willingness of respondents to jointly acquire destoners

Willingness to Acquire Destoners	Frequency	Percentage
Willing	122	62.6
Not Willing	73	37.4
Total	195	100.0

Source: Field survey
Note: n=195

characteristics of the rice farmers, which affect their willingness to jointly acquire rice destoners. The results are presented in Table 3. The significance of the chi-square value at one percent shown in Table 3 affirms the goodness of fit of the model. Six of the twelve regressor variables in the model predicted the willingness of rice farmers to jointly acquire destoners. The factors that predicted processors' willingness were the age of the respondents, their total annual income, educational level, rice processing experience, access to extension, and credit.

As revealed in Table 3, the inverse relationship shown between age and willingness reveals that willingness declined with an increase in age. In other words, the younger the farmers, the more likely their willingness to jointly acquire rice destoners. This finding supports those of (Zakaria et al., 2014). The fact that older people have been known to be risk-averse while younger people tend to be more open to new ideas may explain this finding.

Table 3 also reveals a significant and direct relationship between total income and the willingness of rice farmers to jointly acquire destoners at a one percent level of significance. This means that the higher the total income, the higher the Willingness. This finding agrees with the reports by Ahuja and Sen (2006), Mwaura et al. (2010b), and Oladele (2008). Higher income may connote the availability of more funds from which to pay.

According to Table 3, the respondents' number of years of experience in rice processing and their level of access to

extension negatively influenced their willingness to jointly acquire rice destoners. The fact that experienced processors were already used to manual processing methods and were therefore not willing to embrace a change in practice may be responsible for the inverse relationship. However, Chandio and Yuansheng (2018) reported that years of experience positively influenced farmer’s disposition to the new ideas in rice production in Pakistan. The collective participation nature of joint acquisition may be the reason for the divergent reports.

Access to credit was also found to be a determinant of processors’ willingness to jointly acquire rice destoners. The direct relationship between access to credit and willingness shown in Table 3 connotes that

the more access a farmer had to credit, the higher their willingness. This can be directly traced to increased financial resources which are enhanced by access to credit.

The level of education of the farmers was positively related to their willingness to jointly acquire destoners at a 5% level of significance. This implies that willingness increased with the level of education. This relationship may be connected to the effect of education on the levels of adoption, reasoning, and ability to comprehend new ideas by the farmers. This is similar to some reports in the literature (Abu et al., 2011; Abraham et al., 2012).

The respondents’ household size, length of membership of farmer-groups, and primary occupation were not significant in

Table 3
Parameter estimates from probit regression model to investigate determinants of the willingness of rice farmers to jointly acquire rice destoners

Variable	Regression Coeff.	Standard Error	t-value
Constant	-4.07914	0.45968	-8.87378
Age	-0.03413***	0.00706	-4.83147
Household Size	0.24107	0.16238	1.48455
Marital Status	0.08226	0.26197	0.31398
Total Income	0.03864***	0.01138	3.3954
Educational Level	0.07571**	0.03483	2.17382
Primary Occupation	-0.03553	0.15402	-0.23068
Rice Processing Experience	-0.07927**	0.04143	1.91327
Length of membership of group	-0.00365	0.00658	-0.55446
Number of Extension Contact	-0.00887**	0.00387	-2.29049
Membership strength	0.03888	0.11097	0.35035
Access to Credit	0.02782**	0.01185	2.3476
Age of Group	0.00792	0.01767	0.44791
Pearson Goodness of fit (chi square value)	556.436		
D.F.	181		
P	.000		

Source: Field survey
Note: n=195; *** 1%, **5%

predicting their willingness to subscribe for joint ownership of destoners. This is in spite of contrary reports on the influence of these variables on the participation of women in self-help programmes (Anyiro et al., 2014).

Constraints to the Joint Acquisition of Rice Destoners among Rice Farmers

This section discusses the constraints to the joint acquisition of destoners among rice farmers in the study area. The results are summarised in Table 4 As shown in the table, the major constraints to the joint acquisition of rice destoners among the farmers can be summarised into four categories. The first category bothered on the capability of the leadership of the various farmer groups to manage the joint use of the destoners. The second category of concerns had to do with corrupt practices and favouritism in the

management of the destoners. The fact that many of the organisations were weak with low-level participation by the members was also a concern. The final group of challenges was the quest to pursue individual interests which often resulted in difficulties in decision making.

However, the most severe of the identified constraints was the burden of management (Mean score = 2.56). Poor accountability in management ranked 2nd (Mean score= 2.55) while poor group organisation ranked 3rd (Mean score = 2.47). The least severe of the constraints were restrictions imposed by socio-cultural and religious beliefs. In a similar study among beekeepers, poor management resulting in trust issues was identified as the major challenge to group cohesion (Omotesho et al., 2017a).

Table 4
Constraints to the joint acquisition of rice destoners among rice processors

Constraints	Frequency (Percentages)			M	R
	Not Severe 1	Moderately Severe 2	Very Severe 3		
Corrupt practices by some leaders	85(43.6)	72(37.0)	38(19.4)	1.76	11 th
Restricted access	55(28.2)	96(49.2)	44(22.6)	1.94	8 th
Socio-cultural/Religious beliefs	77(39.5)	89(45.6)	29(14.9)	1.75	12 th
Undue external influence	60(30.8)	91(46.7)	44(22.5)	1.92	10 th
Poor group organization	22(11.3)	59(3.2)	114(58.5)	2.47	3 rd
Poor accountability	23(11.8)	41(21.0)	131(67.2)	2.55	2 nd
Burden of joint Management	18(9.2)	49(25.1)	128(65.7)	2.56	1 st
Financial constraints	52(26.7)	106(54.3)	37(19.0)	1.92	9 th
Difficulty in making personal decisions	47(24.1)	88(45.1)	60(30.8)	2.07	5 th
Frequent conflict among members	47(24.1)	91(46.7)	57(29.2)	2.05	6 th
Large size of membership	42(21.5)	103(52.8)	50(25.7)	2.04	7 th
Weak group leadership	40(20.5)	45(23.1)	110(56.4)	2.36	4 th

Source: Field survey

Note: n=195; M (Mean); R (Rank)

CONCLUSIONS AND RECOMMENDATIONS

The findings lead to the conclusion that the willingness of women rice farmers to jointly acquire rice destoners was high and influenced by some socio-economic characteristics of the farmers. The weak leadership and poor organisation of the groups were the roots of most of the challenges encountered in the joint acquisition of destoners among the farmers. The recommendations from the study are as follows;

1. Extension organisations and farmer/processor groups should embrace joint acquisition as an option to the poor technology uptake due to unaffordability among farmers/processors
2. Extension officers should strengthen the farmer groups through training in group dynamics as a solution to the observed challenge of poor management and organisation of the groups.
3. Leaders of the farmer groups should be trained on models of joint asset management to ameliorate the burden of management of the destoners.
4. There is a need to create awareness among farmers on joint acquisition in enhancing the adoption of innovation. Older and more experienced farmers/processors should receive more focus in these campaigns. This is because the willingness to co-own destoners

was negatively influenced by the age and number of years of rice processing experience of the processors.

5. A multidimensional approach to the provision of credit facilities to rice farmers/processors should be explored as willingness was positively influenced by the access of the women processors to the credit facility.

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Technical Efficiency of Commercial Stingless Bee Honey Production in Peninsular Malaysia

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ABSTRACT

The Stingless beekeeping project, a relatively new industry in Malaysia, has a huge economic potential because the production of stingless bee honey is low but the demand for this type of honey is slightly higher. This study was developed to measure the technical efficiency of commercial stingless beekeeping farms in Peninsular Malaysia by using Data Envelopment Analysis (DEA). Ninety-two respondents were selected using clustered random sampling and they were personally interviewed using a structured questionnaire. The results showed that the average technical efficiency was at 75%, with a minimum of 21% and a maximum of 100%. However, 25% of the farms were found to be fully efficient. The output slacks were 24.7, revealing that the bee farms produced honey with a shortfall in outputs. Labour hours indicated the highest input slacks which was 457. Mean slack for farm size indicated that the farms should be reduced by 0.58 acre while for the total number of colonies, the value of slack indicated that beekeepers should reduce it by one colony. Determinants of inefficiency results indicated that bee flowers and agricultural extension

were significant. In conclusion, the technical efficiency of commercial stingless bee honey production in Peninsular Malaysia is high, but efficiency and inefficiency factors should be of concern to improve the value of technical efficiency.

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INTRODUCTION

Honey is a natural food product, produced by honey bees (*Apis* spp.) and stingless bees (*Meliponini* spp.). In Malaysia, the sources of honey production are derived from honey bees (*Apis mellifera* and *Apis cerana* spp.), Tualang bees (*Apis dorsata* spp.), and stingless bees (*Meliponini* spp.). In the Malaysian meliponiculture industry, there are five species of stingless bees being commercialized for honey production and pollination which were *Geniotrigona thoracica*, *Heterotrigona itama*, *Lepidotrigona terminata*, *Tetragonula fuscobalteata*, and *Tetragonula leaviceps* (Kelly et al., 2014). The *Trigona* sp. was commonly found in Malaysia (Majid et al., 2019) while *Heterotrigona itama* is the most abundant species found in the southern part of Malaysia (Rasmussen, 2008). Currently, most of the honey production in Malaysia depends on *A. dorsata* and *Meliponini* or stingless bees. Stingless bees tend to dwell in the hollow spaces of tree trunks and can be domesticated easily for intensive farming compared to *A. dorsata*. Honey from stingless bees had been proven to be a superfood, possessing high antioxidant and antibacterial activities, with high nutritional and therapeutic values.

Presently, the stingless bee industry is a growing phenomenon among new entrepreneurs due to its contribution to socio-economic development. The higher selling price of stingless bee honey and high return on investment (ROI) tend to capture the attention of new or young entrepreneurs to be involved in this industry. According

to Ismail and Ismail (2018), the expected ROI from the stingless bee project is about 70% of its initial investment. This indicates that the stingless bee industry could become a high-impact agriculture project if it is operated commercially. Currently, as reported by the Department of Agriculture Malaysia (DOA), there are 717 stingless beekeepers in Malaysia, and only 192 reported as commercial stingless beekeepers in Peninsular Malaysia. The aggressive development of the stingless bee industry in Peninsular Malaysia occurred due to the abundance of research regarding the health benefits, socioeconomic benefits, and technological improvements on stingless bee honey because of collaborations between research universities and entrepreneurs.

Malaysia depends on imported honey from China since the 1990s for domestic consumption (Wah & Baharun, 2008). This indicates that the local honey production is still insufficient to support the domestic demand. Therefore, the stingless bee industry is seen as a future potential to fulfill domestic demand for honey. However, there are a few pertinent issues that need to be solved in order to achieve this potential. Firstly, stingless bee honey tends to be sour-tasting due to its high moisture content which leads to a fermentation process. According to Mustafa et al. (2018), the sour taste of stingless bee honey can be avoided by dehydrating the honey from 35% to 22% moisture content by using a dehydrating machine. Secondly, there is the issue of the capability of producing stingless bee honey in large-scale farms

to meet the high domestic demand for honey. Cultured stingless bees facilitate better management activities and better production of honey since the preparation of food sources can be planned through the cultivation of flower species and trees that are suitable to produce honey, propolis, beebread, and other products. Currently, most Malaysian beekeepers only practice meloponiculture without any concern about the efficiency of inputs and outputs used in honey production. Hence, the technical efficiency of commercial stingless beekeepers needs to be improved to ensure that the beekeepers utilize the input wisely. Therefore, the purpose of this study is to assess the performance of commercial stingless beekeepers through a technical efficiency assessment and to identify the factors determining the inefficiency of commercial stingless bee honey productions in Peninsular Malaysia.

Technical efficiency (TE) refers to the maximum achievable level of output for a given level of input within a given range of technology. As noted by Rashidah et al. (2010) and Soh et al. (2016) TE is used to measure how close a firm is to its maximum achievable outputs. It is measured as the ratio of the observed output to its potential output derived from the frontier function. Generally, a firm is considered technically efficient when it produces a higher level of output compared to another rival firm at the same level of inputs (Nurul et al., 2011).

Sabuhi et al. (2012) and Sherzod et al. (2018), stated that technical efficiency can be evaluated through two methods

which are parametric and non-parametric methods. The parametric method uses the Stochastic Frontier Analysis (SFA) while the non-parametric method uses the Data Envelopment Analysis (DEA). Our study applied the DEA non-parametric approach for measuring TE and factors affecting TE. The main advantages of DEA are that it considers various factors and does not need parametric assumptions of traditional multivariate approaches. In addition, in terms of estimation of technical efficiency, it does not require prices for the outputs and inputs. On the other hand, there are several critical factors that must be considered in the application of DEA models. The efficiency scores could be very susceptible to changes in the data and are highly dependent on the number and type of input and output factors considered (Talluri, 2000).

The DEA method is based on a model of linear programming. The DEA can be analyzed either with the assumption of Constant Returns to Scale (CRS) or Variable Returns to Scale (VRS). The technical efficiency defined by the DEA method either for CRS or VRS can be calculated based on output or input orientation. Hence, it results in a model that attempts to maximize outputs holding the observed amount of any input constant, or based on input orientation, thus resulting in a model whose objective is to minimize inputs, keeping the observed amount of any output constant (Coelli et al., 2005). The DEA method is one of the regular methods used for measuring efficiency in the agricultural sector (Abatania et al., 2012; Artukoglu et al., 2010; Makri

et al., 2015; Sabuhi et al, 2012; Sherzod et al., 2018). Furthermore, TE was also used in determining the efficiency level of agricultural cooperatives (Linh et al., 2017).

METHODS

Study Area and Sampling Methods

The study area was focused on commercial stingless beekeepers in Peninsular Malaysia who are registered with the DOA, Malaysia. In this study, only commercial stingless beekeepers with a minimum of 50 stingless beehives and above were selected as a study sample. The study used primary data sources obtained through face-to-face interviews using a set of questionnaires. The research instruments had been tested and validated through a pilot study and were confirmed by an expert panel before the actual data collection.

According to the DOA Malaysia, there are 192 (2017) commercial stingless beekeepers in Peninsular Malaysia. The Cochran’s Formula was used in the determination of sample size for this study. Below is the formula for sample size calculation:

$$n = \frac{p(100-p)z^2}{E^2} \div \frac{1 + p(100-p)z^2}{E^2 * N}$$

- n is the required sample size
- P is the percentage occurrence of a state or condition
- E is the percentage maximum error required
- Z is the value corresponding to level of confidence
- N is the total sample population

Descriptive Analysis

The descriptive analysis of this study involved socio-demographic factors such as age, gender, level of education, marital status, number of people in the household, types of involvement, and experience. Those socio-demographic factors of commercial stingless beekeepers in Peninsular Malaysia were then summarized into mean, maximum, minimum, and standard deviation as presented in Table 1.

Empirical Models

This study employed a two-stage DEA in measuring the technical efficiency of commercial stingless beekeeping in Peninsular Malaysia. In the first stage, the efficiency scores were obtained through the inclusion of input and output variables in the standard DEA model. The input-oriented approach proposed by Bankers et al. (1984), was applied in this study. The detailed formula of the model is as follows:

$$TE_{VRS} = \min_{\theta, \lambda} \theta$$

Subject to:

$$Y\lambda - Yi \geq 0,$$

$$\theta Xi - X\lambda \geq 0,$$

$$\lambda \geq 0$$

- Y are the output vectors
- X are the input vectors
- θ represent the scalar which ranges from 0 to 1
- λ is an n x 1 vector of constant

The technical efficiency of the commercial stingless bee farms can be defined if the farm obtained efficiency scores of 1. Meanwhile, for the inefficient farms, the efficiency score will be less than 1. The DEA model for this study was performed with three input variables and one output variable. The input variables involved in this study were: 1) the number of colonies, 2) stingless bee farm size, and 3) hours of labor. The single output variable used in this study was total stingless bee honey production (kg). The current annual production of honey for each colony of the stingless beehive is small, about 4 kg. Therefore, the number of colonies is an important variable to increase production. More colonies result in more honey production. Hence, if the beekeepers could not increase the number of colonies through the splitting technique, then it is impossible for them to expand their operation.

This study applied an input-oriented VRS DEA model in order to estimate technical efficiency. This model was applied because input quantities are the main decision variable of farms and it can be controlled by farm owners or managers (Coelli et al., 2005). Based on Huguenin (2012) the CRS model assumes constant returns to scale technology and this model is appropriate when all firms are operating at an optimal scale, but this assumption is quite ambitious and very seldom the case. The second model (VRS) assumes variable returns to scale technology. This is appropriate when farms are not operating at an optimal scale. Usually, the situation happens when farms face imperfect

competition, government regulations, and regarding the situation, this model is more appropriated to applied for the study on the technical efficiency of stingless bee farming in Malaysia. Comparison between the two models reveals the source of inefficiency. If there is a difference in two scores for a particular farm, then this indicated that the farm has scale inefficiency and that the scale inefficiency can be calculated from the difference between the VRS TE score and the CRS TE score (Coelli, 1996).

In the second stage of DEA, Tobit Regression was applied to determine the external factor that contributed to the inefficiency of the stingless bee farm. There were 11 external factors identified namely: 1) years of schooling, 2) the number of people in the household, 3) gender, 4) age, 5) experience, 6) involvement in associations, 7) agricultural extension, 8) full-time involvement, and the types of plants for stingless bee food sources such as 9) fruits, 10) flowers, and 11) acacia forest.

RESULTS AND DISCUSSION

Descriptive Statistics of Variables

This study was carried out in each of the states in Peninsular Malaysia and the target groups were beekeepers who have 50 to 300 hives. In total, 92 beekeepers responded, and data were recorded for the analysis. Adeyemo and Kuhlmann (2009) stated that the main socio-economic factors which were assumed to have an influence on the productive efficiency of farmers and hence, included in the model were the age of the farmer, availability of off-farm income,

access to credit, access to extension services, education level of the farmers and years of experience in the vegetable production industry. In the present study, the age group of 40 to 49 indicated the highest involvement, with 28.3% followed closely by the 50 to 59 age group, with 26.1% (Table 1). There were very few beekeepers over 70 years old, with only 3 persons, and similarly, the number of beekeepers being 20 to 29 years old was also low, at only 8 persons. The beekeeping industry

is involved with many techniques and technologies, and because of that, people of the older generation who are above 60 years old are not interested to get involved. The operation also needs a considerable amount of initial capital to buy the hive and equipment. Because of that, young people who are still not financially stable may find it difficult to get involved in stingless beekeeping projects.

For gender, the industry is dominated by men at 84.8% or 78 persons and only 14

Table 1
Demographic variables statistics in 2019

Variable	Description	Freq (n)	(%)	Mean	Min	Max	Std Dev
Age (year)	20-29	8	8.7	12.12	6	15	2.78
	30-39	18	19.6				
	40-49	26	28.3				
	50-59	24	26.1				
	60-69	13	14.1				
	70-79	3	3.3				
Gender	Man	78	84.8	0.85	0	1	0.36
	Women	14	15.2				
Marital status	Single	7	7.6	0.95	1	3	0.34
	Married	84	91.3				
	Widow/er	1	1.1				
Level of Education	Primary School	9	9.8	12.12	6	15	2.78
	Secondary School	46	50.0				
	Higher Education	37	40.2				
Household	1 to 3	27	29.3	4.80	1	12	2.27
	4 to 6	46	50.0				
	7 to 9	16	17.4				
	10 and above	3	3.3				
Involvement	Part time	61	66.3	0.34	0	1	0.48
	Full time	31	33.7				
Experience	1 to 3	9	9.8	5.70	1	13	2.14
	4 to 6	58	63.0				
	7 to 9	19	20.7				
	10 and above	6	6.5				
Number of farms		92					

persons or 15.2% are women. Most of the beekeepers in the study are married, with only 7 persons who are still single. Most of the beekeepers (46 persons or 50%) have completed secondary school, followed by higher education with 37 persons or 40.2%. This number showed that most of the beekeepers are educated. This situation may exist due to the issues of capital and technology, where educated and middle-aged farmers are the target group in stingless beekeeping farms. However, the DOA also provides incentives for young farmers who are below 40 years old. Each participant will receive RM30000 in the form of stingless bee colonies. However, only those operating 30 colonies and above will entitle to this incentive. Newcomers will not be entertained.

For the number of people in the household, 50% of beekeepers had four to six members. Meanwhile, 29.3% had one to three members and only 3% of beekeepers had more than 10 members in their household. The largest number of households was 12 members. Family labor is a very important source of labor in the beekeeping industry. Most beekeepers, especially in small-scale beekeeping, do not

hire labor to cut the cost of production. More than half of the beekeepers were involved with this activity on a part-time basis and only 33.7% or 31 persons were involved full time. The analysis also showed that all beekeepers had experience in beekeeping. The minimum was a one-year experience, and the maximum was 13 years. More than 91% or 83 persons had more than 3 years of experience, only 9 persons had less than 3 years of experience, and 6 persons had to experience more than 10 years.

Table 2 presents the descriptive statistics of input and output used in this research, where the one output involved was raw honey in kilograms (kg), while the three inputs included farm size in acres, number of hives, and hours of labor. These three inputs are the fundamental components in the production of stingless bee honey and give a significant effect on the total production cost. Technical inefficiency in using major input resources will increase the cost of production and burdening the beekeepers.

Technical Efficiency of Stingless Beekeeping Farms

As presented in Table 3, the results showed a wide efficiency range for VRS which

Table 2
Descriptive statistics of output and input variables in 2019

Variables	Unit Measure	Mean	Minimum	Maximum	Std Deviation
Output					
Honey	Kg	300	45.00	744.00	164.77
Input					
Farm size	Acre	2.61	0.25	15.50	2.98
Colony	Number	97.00	50.00	300.00	54.49
Labor	Hour	1586.21	48.00	8736.00	1579.28

Table 3
Frequency distribution score of TE in the first stage DEA

RANGE	CRS	VRS	SCALE
0.0-0.099	2	0	0
0.1-0.199	8	0	4
0.2-0.299	20	6	4
0.3-0.399	11	4	12
0.4-0.499	7	2	9
0.5-0.599	11	10	6
0.6-0.699	6	16	13
0.7-0.799	11	13	9
0.8-0.899	7	7	7
0.9-0.999	4	9	23
1	5	25	5
Mean	0.50	0.75	0.67
Minimum Efficiency	0.07	0.21	0.16
Maximum Efficiency	1	1	1
Standard Deviation	0.27	0.23	0.27

was between 0.21 to 1.00, and for CRS the efficiency was wider which was 0.07 to 1.00, this confirmed that beekeepers produce honey with a wide variation in output. Accordingly, we found that 25 out of 92 farms were fully efficient under VRS while only five farms were fully efficient under the CRS analysis. Compared to VRS, CRS indicated a lower score, and this is because the CRS model was assumed to have a tighter enveloping surface where the use of the CRS specification when not all farms are operating at the optimal scale will result in measures of TE which confounded by scale efficiency and thus, only permits a lower efficiency score. Based on Idris et al. (2013), the technical efficiency scores in CRS and VRS were used to verify the trend of farmers' operation, whether it is at an increasing scale or returning to decline.

If the score of VRS is higher than CRS, the beekeepers are increasing their scale of production.

The results indicated that mean TE under CRS and VRS obtained from this study were 0.5 and 0.75 respectively. This result indicates that beekeepers in Peninsular Malaysia only utilize up to 50% and 75% of their input or in other words if beekeepers are to reduce input application by 50% and 25% bee farms will still produce the same level of production. Furthermore, the study also calculated the scale efficiency (SE). The mean SE in this study was 0.67 and only 5 farms were fully efficient under SE, suggesting that some of the farms were not optimal in size. This is a major issue in the stingless beekeeping industry where it is difficult to increase the number of colonies without cutting trees.

Table 4
Summary of input output slacks and optimum value

Variable	Mean Slack	Frequency (n)	Percentage (%)
Output	24.70		
Input:			
Farm size	0.58	32	34.78
Total colony	1.00	7	7.61
Labor hours	457.26	36	39.13
Farm without slack		34	36.96
Optimum mean value after slack adjustment			
Farm size	2.03 acre		
Total colony	96 colonies		
Labor hour	1129 hours		

The splitting technology is not yet perfect thus, many beekeepers have failed. The value of SE was also lower than TE (VRS), suggesting that apart from farm size as a cause of inefficiency, poor management also contributed to the inefficiency of bee farms. Therefore, the results suggest that beekeepers can improve their efficiency through size optimization and implement the best management practices.

Table 4 was indicated the summary of input slacks and the optimum input after slacks adjustment. The value of output slacks is 24.7, revealing that the bee farms involved in this study produced a shortfall in output. The input slacks showed the quantity of which input that could be reduced but still produced the same level of output. Based on Table 4, it is obvious that labor hours indicated the highest input slacks which were 457.26 and 36 bee farms involved with this input slack. This value is very high, suggesting that beekeepers should reduce their hours of labor to increase the TE of their bee farm. Mean slack for farm size

indicated that farm size should be reduced by 0.58 acre to produce the same output and 32 bee farms were involved (Table 4).

For the total colony, the value of slack indicated that beekeepers should reduce by 1 colony to produce the same level of output and 7 bee farms were involved with this slack. In this study 34 bee farms (36.96%) reported 0.00 input slack, meaning that these farm operations were at the optimum farm size, the number of the colony, and labor hours. Based on the analysis, it can be suggested that the optimum value for farm size was 2.03 acre, the optimum number of colonies was 96, and the total labor hours to produce optimum production were 1129 hours annually.

Determinants of Technical Inefficiency

Several factors were regressed upon the efficiency scores to identify the inefficiency factor and stated in Table 5. The estimated coefficient of the year of schooling was insignificant and carries a negative sign which implied that educated beekeepers

were more technically efficient compared to less educated beekeepers. The result for the number of people in the household was also not significant but indicated a positive sign, which means that the increase in the number of people in the household will increase the inefficiency of the farm. Gender and age of beekeepers were also indicated as insignificant in VRS, though the sign was positive which means that if the farm was managed by a male, the technical inefficiency of the farm will be reduced while younger beekeepers were technically more efficient than older beekeepers. Based on the results, the experience variable was noted as insignificant but carries a negative sign which means that increasing beekeepers' experience will decrease the technical inefficiency of bee farming. Table 5 also indicated that agricultural extension was significant at 0.5% but

carries a negative sign. Extension service is important for any agriculture activity. Guidance from agricultural officers is important and provides significant effects.

The results indicated that the more often officers visited the farm, the less inefficiency occurred. Usually, agricultural officers focus on supporting beekeepers in terms of knowledge, technology transfers, government incentives, and many more to improve honey production. Since stingless beekeeping is relatively new in Malaysia, the adoption rate by existing beekeepers is low (Musa, 2019). As noted in the table, associations also indicated as insignificant and carry a negative sign which means that involvement with associations does not support the technical efficiency of the farm. Sometimes, beekeepers join associations without paying attention to the benefits provided by the associations and many

Table 5
Results of Tobit Regression

Variables	Coefficients	Standard Error	t-Statistics
Constant	0.7781726	0.1884052	4.13
Year of schooling	-0.0089031	0.0094712	-0.94
No. of household	0.0076829	0.0107277	0.72
Gender	0.0316673	0.0627375	0.50
Age	0.0022989	0.0021666	1.06
Experience	-0.0079977	0.0110884	-0.72
Agricultural extension	-0.0098696**	0.0040091	-2.46
Association	-0.0338705	0.0455379	-0.74
Fulltime involvement	0.076641	0.049302	1.55
Fruits	-0.0877575	0.0614719	-1.43
Flower	0.087081*	0.0512718	1.70
Acacia	0.0853508	0.0719116	1.19
Number of obs		92	
Log likelihood		11.078386	

Note. * and ** indicated values statistically significant at 10%, 5% and 1%

of them also registered just because other people also joined the association. Because of this shortcoming, the beekeepers did not benefit from joining the associations.

The food source is a very important factor in beekeeping activities. This is because the stingless bees will forage for the food sources which are nectar and pollen from the plants around their hive. In addition to wild and existing plants, beekeepers will often grow specific plants around their farm area, especially plants that produce huge amounts of nectar and pollen throughout the year. A simple ornamental plant such as *air mata pengantin* (*Antigonon leptopus*) and *ulam raja* (*Cosmos caudatus*) were commonly planted. In the meantime, beekeepers should also plan for long-term nectar sources by planting acacia and *gelam* (*Mellaleuca cajaputi*) around the borders of their farms. However, based on the results of the analysis, the coefficient for fruits was insignificant and had a negative sign which meant that planting fruit trees was not contributing to the efficiency of the farm. In contrast, planting flowering plants and acacia is more effective because they will contribute to the efficiency of the farm, and planting flowers indicated a significant result at 10%. Most flowering plants produce pollen and nectar, and the shape of the flower itself sometimes supports the stingless bees to have easier access to the nectar and pollen. Beekeepers should wisely choose the right plant species so that their stingless bees will have a sufficient

food source. Norasmah et al. (2018) noted that the nectar concentration and food distance influenced both the number of bees exploiting food resources and the overall foraging pattern of *H. Itama*, a major species for commercialization.

CONCLUSIONS

Some important conclusions could be drawn from the findings of this study. By using the DEA method of TE analysis, the results indicated that the TE of large-scale beekeeping in Peninsular Malaysia was high (75%) as this sector is relatively new in Malaysia. The use of inputs should be decreased up to 25% to produce the same level of output. There were a few input slacks that needed to be considered and a reduction in the use of these inputs can be financially beneficial to beekeepers. Two variables that contributed to the technical inefficiency were planted flowers as a source of nectar and pollen and agricultural extension. The right plant species should be determined before they are planted for the short and long terms. This can be assisted by the DOA, who should increase their commitment to give a better service to stingless beekeepers so that the farms will be more efficient and sustainable.

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Work Value Orientation and TVET Students' Career Decision-Making Self-Efficacy: The Mediating Role of Academic Major Satisfaction

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ABSTRACT

Graduates should know how technical and vocational education and training (TVET) can increase their employability and set them on a path to a professional career. However, graduate underemployment continues to be a severe and rising issue in many countries due to graduates' lack of readiness to make a future career decision. The present study assessed the influence of work value orientation on Career Decision-Making Self-Efficacy (CDMSE) and the mediating role of Academic Major Satisfaction (AMS) on the relationship between work value orientation and CDMSE of TVET students. A cross-sectional survey design was employed, involving 223 full-time Malaysian Skills Certificate (MSC) students who were randomly selected from TVET public institutions in Selangor, Malaysia. This study found that work value orientation was positively correlated with CDMSE. Extrinsic work values have more impact than intrinsic values in serving as precursors to students' career decision-making. Besides, AMS satisfaction mediated the relationship between work value orientation and CDMSE.

Keyword: Academic major satisfaction, students, technical and vocational education and training, work value orientation

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INTRODUCTION

TVET has appeared as one of the most important human resource development (HRD) solutions (Afeti & Stefen, 2014). TVET is a beneficial intervention that can make people more interested in fields of economic activity (Sumberg et al., 2021). TVET can improve student's occupational

skills and expand their preferences (Aring, 2015). It aims to let learners meet the needs of employers for skilled labor and/or own needs related to TVET for HRD in the Emerging Knowledge Economy. Because of this, TVET systems have reliable sources of information on job creation, investing avenues, and trade development. As European Training Foundation (2007) alluded TVET generates new jobs and prosperity, it not only builds a competent workforce but stimulates and sustains socio-economic development.

With noble and ambitious goals, many governments continue to incorporate TVET to address unemployment and poverty alleviation policy gaps. Yet, their goals rarely succeed because TVET remains unattractive among students, resulting in a mismatch of policy goals. Students think that TVET has often been associated with second-class jobs (Lam & Hassan, 2018). Aziz et al. (2020) highlighted that the view that TVET is a somewhat demeaning option is still held by many students, including those who feel that they need to enroll for it, albeit not as their first choice (Aziz et al., 2020). According to Lauglo (2010), diverting students' perceptions to match their goals with the policy objectives is an important basis for ensuring employability in TVET. In most countries, including Malaysia, there is a TVET mismatch between graduates' talent(s) and labor market demand. Mengistu (2017) particularly stresses that developing nations are unable to achieve their TVET goals if the inherent inconsistency between students' preferences and the education

and training they provide is not adequately addressed.

In this respect, Lyngdoh (2005) stated that TVET by itself will not create jobs. Employability is the entirety of TVET and it is determined by numerous factors including the students' career choice. Many researchers verify that most newly enrolled students in TVET across the world often struggle in career choice because choosing an occupation that fits their talents and aspirations is considered a major life decision that highly determines the fate of their future (Yates et al., 2014). Besides, every new student that arrives at training institutions and goes through the process of career choice is usually pre-conditioned by various influences (Watson et al., 2010). Because TVET students' career decisions are a vital aspect of their future success, it is necessary to explore the factors affecting their career decision-making process. To investigate this issue, this study adopted the concept of career decision-making self-efficacy (CDMSE). CDMSE is the belief of a person that he or she will make career choices effectively. Considerable research has reported that individuals with high CDMSE will engage in active career exploration behaviors that lead to a successful career decision (Choi et al., 2012). To investigate further, we focused on variables that influence the CDMSE of TVET students in Malaysia.

According to Pang (2011), the stagnant number in TVET enrolment in Malaysia is an indication that TVET is not a chosen mainstream alternative for school students.

TVET is considered as a less prestigious study option owing to the stigma associated with it, i.e., that it suits students with less than average academic capabilities (Naziz, 2019). TVET's social stigma was also created by the impression that its primary goal is to appeal to school dropouts rather than equipping students with suitable livelihood qualifications (Ismail & Hassan, 2013). The struggle with negative stigma has never been easy for TVET students and collectively, all the above indirectly affect the career decision-making self-efficacy of students who opt for TVET to continue their studies.

Like most students, those with TVET backgrounds have different work value orientations (WVOs) from one to another. Students with intrinsic work value orientation tend to have more self-esteem and are expected to have job satisfaction compared with students with extrinsic WVO who prioritize high earnings and other material perks when job-hunting (Brown, 2002). Earning is always a crucial factor in individuals' career choice decision-making. According to the life-cycle model, if students hold costs and non-monetary benefits constant, they will be inclined towards choosing a major that offers the best estimate of one's economic future (Berger, 1988). Studies often suggest that students with low CDMSE levels mostly select their profession based on the wage available, without considering career compatibility with their talents, preferences, or skills (Kniveton, 2004; Wang & Castañeda-Sound, 2008).

The student's sense of fulfillment emerges as an important variable in the learning or education process. The existing TVET scheme is enforced by numerous public and private ministries, departments, and associations, resulting in a plethora of certifications, guidelines, and curricula. This situation has led to difficulty in the standardization of training, qualification, and quality assurance of TVET graduates. According to Ismail and Hassan (2013), TVET-based qualifications are still poorly perceived and not accorded due to low recognition in the workplace.

While Sharf (2010) found that financial considerations (salary, benefits, and incentives) were very important in career decision-making, many other studies that examine diverse aspects in CDMSE among students have yielded findings that are not quite like one another (e.g., Cimsir, 2019; Penn & Lent, 2019; Willner et al., 2015). Despite voluminous studies on this topic, very few have discussed CDMSE in the context of TVET students. Thus, to bridge the gap in the literature, this study examined the influence of intrinsic and extrinsic WVOs on TVET students' CDMSE and the mediating role of academic major satisfaction (AMS) on this relationship. The findings of the study would be helpful to facilitators and career counselors in planning effective career-related activities, particularly among TVET students.

In the next section, we discuss the theoretical foundations of the study, followed by a conceptual model, and a discussion on hypotheses development.

Then, the section describes the methods employed and presents the findings of the study. Finally, the researchers discuss limitations and findings implications, as well as highlight gaps for future research.

Theorizing Career Decision-Making Self-Efficacy of TVET Students

To explore the variable's relationships, this study applied the social cognitive career theory (SCCT). The theory, which was developed by Bandura (1986) is still widely used when variables associated with the career are conceptualized and examined (Swanson & Gore, 2000). From the SCCT viewpoint, career decision self-efficacy is part of career development and is considered a crucial component of the individual's career interests, goals, choices, experiences, and performance (Jo et al., 2016). The theory explains how cognitive and motivational values, as well as environmental factors, influence career decision-making and career performance (Mohd Rasdi & Ahrari, 2020).

SCCT postulates that the primary sources of information obtained from learning experiences (i.e. personal experience, vicarious learning, social persuasion, and psychological state of mind) would shape the individual's values, beliefs, and attitudes and would influence his intrinsic and extrinsic work values when he joins the workforce (Johnson & Elder Jr, 2002). In the context of TVET students, such learning experiences can also be acquired through exposure to prospective careers, information obtained from a variety of sources, and support from significant others.

The SCCT states that an individual's inputs and background context influence his or her learning experiences which are sources of self-efficacy and outcome expectations. It is believed that students' fulfillment of their academic major forms part of their learning experience that will enhance their confidence in making career decisions. Elliott (2002) is of the view that student-centeredness determines how satisfied they are with their overall learning experience. SCCT posits that career interests turn into goals when students have a strong learning experience and environmental support concerning their preferred career paths. In the context of TVET students, academic major satisfaction (AMS) can be acquired from the student's satisfaction with the role played by TVET institutions in developing and nurturing talents as well as proactively promoting and developing a curriculum that matches the expectations and requirements of various industries. Collectively, all these sources influence TVET students' career decision-making self-efficacy.

RELATIONSHIP BETWEEN WVOS AND CDMSE AND THE MEDIATION EFFECT OF ACADEMIC MAJOR SATISFACTION

Intrinsic and Extrinsic WVOs and CDMSE

The principles of the intrinsic dimension of work values are the intangibles of having a career, such as pride, involvement in work, and a desire to be committed (Maloni et al., 2017). Meanwhile, the dimension of

the extrinsic value of work has generally been defined as the attitude towards the social status of a particular job. It relates to the tangible rewards derived from one's career and working environment, such as job security, and material benefits (Ros et al., 1999). A study conducted by Vansteenkiste et al. (2007) indicated that intrinsic WVO is self-actualization and self-expression driven.

In this study, intrinsic WVO concerns TVET students' perceptions of their future employment as opportunities to make use of their competencies and skills, and as such, they become more confident in making career decisions. On the other hand, students with extrinsic WVO view their future jobs as opportunities to acquire financial security and material assets; their career goals include achieving financial success, recruitment by highly ranked organizations, ability to manage and influence others, and holding prestigious positions at work (Vansteenkiste et al., 2007).

Lent et al. (1994) stated that an individual's career choice process consists of numerous cognitive mechanisms, and this is where his or her value orientations play an essential role. Researchers have highlighted the fact that through self-assessment, an individual's value orientations are established and nurtured from the experiences of learning foundational social rules (Lent et al., 2007). There is a potential that it can influence the psychological states, for example, the CDMSE of individuals, when decisions regarding career directions need to be made (Jiang, 2014). Many

studies have reported that work value has a significant influence on CDMSE. Regarding the WVOs of students, Doo and Park (2019) investigated the effect of the intrinsic and extrinsic work values of 217 South Korean undergraduates on CDMSE. The research results indicated that intrinsic WVO influenced CDMSE. Abessolo et al. (2017) also suggested that motivated individuals may be driven by such work values and use them as criteria to define their future careers. Hirschi's (2010) longitudinal study found that intrinsic work values were correlated to positive career development. Meanwhile, Gokuladas's (2010) study found that engineering undergraduates students were more confident in making career decisions due to intrinsic work values.

On the other hand, extrinsic work values are a reflection of self-preservation; securing jobs and income is a means to provide basic needs, general security, and orderliness in their lives (Ros et al., 1999). According to Masternak and Ross (1992), extrinsic WVO (i.e., focusing on pay and advancement) is an important factor in assessing job attractiveness, indirectly influencing CDMSE. In contrast, Doo and Park (2019) found an insignificant relationship between extrinsic WVO and CDMSE. Several studies have found that extrinsic work values are more stable than intrinsic work values in terms of the stability of work value types (Easterlin & Crimmins, 1991; Jin & Rounds, 2012). Work values of individuals could change from personal self-fulfillment to materialism, which reflects extrinsic orientation. Based on the mixed

findings from past studies, we, therefore, hypothesize that:

H₁. Intrinsic WVO influences CDMSE.

H₂. Extrinsic WVO influences CDMSE.

The Mediation Effect of Academic Major Satisfaction

Lent et al. (2007) define academic major satisfaction (AMS) as a student's enjoyment of his or her role or experience being a student. Recent descriptions of student populations include the following increased diversity: (i) ethnic identity, (ii) how academically prepared the students were, and (iii) why they choose to attend college (Noel-Levitz Inc, 2005). Sovet et al. (2015) found that AMS was correlated to life satisfaction among college students. In another study, AMS was associated with positive outcomes among students' current and future outcomes (Schenkenfelder, 2017). This follows that when students feel gratified with their selected major and gain confidence from good academic results, they are less likely to drop out (Nauta, 2007).

In this research, AMS is defined as how well students do in their academic major, and how their satisfaction translates into confidence in choosing a suitable career. According to Nauta (2007), AMS is a satisfaction construct that is determined by a student's choice of major. This construct has demonstrated key implications for CDMSE (Jadidian & Duffy, 2012; Nauta, 2007). Students who believe that their academic pursuits will provide better employment opportunities and satisfying careers are more likely to persist in their studies

(Peterson & Delmas, 2001). According to Holland (1997), individuals seek similarity with their surroundings. Thus, they actively seek jobs or education programs that closely match their interests. Similarly, students tend to opt for majors that are more related to their interests and characteristics, and those who select satisfying majors are more efficacious in making career decisions (Jurgens, 2000). All these studies have found that WVOs are related to students' satisfaction with their major. Studies by Doo and Park (2019) and Park (2017) showed that intrinsic WVO significantly influenced AMS while extrinsic WVO was found to have little influence on AMS (Doo & Park, 2019). Choosing a major and engaging in the tasks demanded of that major constitute the process of shaping one's career path. Fouad et al. (2009) and Komarraju et al. (2014) found that AMS was correlated to career decision-making self-efficacy. Choosing a major that is aligned with their interests and abilities helps students to be more self-assured in decisions about their future careers. In other words, they are effectively planning their career path, selecting options that are relevant to their goals, and are determined to overcome frustrations and barriers they may encounter in pursuing their studies.

Based on the above discussion, many studies found that AMS is related to WVOs and CDMSE, while only one study has examined AMS as a mediator between the two variables (Doo & Park, 2019). The variables of CDMSE and AMS are considered as student outcomes due to their

impact on the career development of TVET students. CDMSE reflects one's confidence when performing decision-making tasks related to his or her future career paths, a process that TVET students inevitably walk through. AMS has been annotated as a student's level of academic satisfaction in terms of class and major options. Allen (1996) further extended that the AMS construct is similar to job satisfaction. Correspondingly, academic environments are comparable to work environments, as both offer individuals opportunities to apply and nurture a sense of self, to develop and hone skills and interests, and to undergo reinforcement patterns. AMS is also expected to influence students' career decisions because it represents their experiences and satisfaction as a student (Sovet et al., 2015). After examining the TVET student population and perceiving that AMS is expected to be an important factor that can explain TVET students' career decision-making, we chose to examine AMS as a mediator. As found by Kim et al. (2019), AMS partially mediated the relationship between academic self-efficacy and academic achievement among nursing students. Studies on the relationship between WVOs and CDMSE among Malaysian TVET students where AMS is examined and tested as a mediator is lacking and have yet to emerge. Based on the above, we hypothesize that:

H₃. AMS mediates the relationship between intrinsic WVO and CDMSE.

H₄. AMS mediates the relationship between extrinsic WVO and CDMSE.

METHODS

Sampling and Procedures

A cross-sectional survey design was used in this research. The sample consisted of full-time students studying for the Malaysian Skills Certificate (MSC) in TVET public institutions in Selangor, Malaysia. Three out of six institutions in Selangor were randomly selected using cluster random sampling. To select the samples of this study, again cluster random sampling was employed to select the classes which were involved in the study. There were 18 classes (N=1536) that accommodated the samples of the study which comprise students from Level 3 MSC, Level 4 Malaysian Skills Diploma, and Level 5 Malaysian Advanced Skills Diploma students. A total of nine classes were selected randomly using the Fishbowl technique. The technique is practical to be used to randomize a small number of groups/clusters and it is a very popular method of drawing a random sample. This method also is free from personal bias as every sample has an equal chance to be selected (Miller & Benz, 2008). The samples were selected based on these criteria: (a) students at Levels 3 to 5 who are considered skilled workers in need by the country as categorized by the Department of Skills Development (DSD) (Levels 1 and 2 were excluded because they are categorized as semi-skilled); (b) at the pre-service stage who were expected to complete their training towards a certificate or diploma qualification; (c) aged 18 years or older, and (d) learners who had chosen their specialization for vocational routes within their respective fields.

Data were collected using an online survey. Upon permission by the institutions, researchers were then in contact with the nine class instructors and shared the survey link to be distributed to all students in the class. Very few instructors allocated a special slot for the students to answer the online survey form, and mostly, students were asked to answer the survey form after finishing their classes. For the latter group, the duration of one week time was stressed out to them to complete the online questionnaire. It should be noted that most of the students owned a smart mobile phone, thus assuming that this would facilitate online data collection. Nevertheless, only 36.14% answered the online questionnaire despite several measures such as follow-up calls to the instructors taken to increase the response rate. We received all complete responses because the online survey does not permit incomplete submission.

A total of 223 participants were selected for this study; there were 119 male students (53.4%) and 104 females (46.6%). More than 50% of the respondents were aged between 21-25 years and were at Level 3 (69.5%), Level 4 (23.8%), and Level 5 (6.7 %). A total of 87% of the students had already set their career goals. Besides, 79.4% of the participants indicated that their majors matched their future job expectations. However, a total of 3.1% replied that their majors did not match, and 17.5% stated that they did not know whether their academic majors matched.

Instrumentation

The questionnaire consisted of 41 items that were designed to identify intrinsic WVO, extrinsic WVO, AMS, and CDMSE of the respondents, i.e. TVET students. The instruments were content validated by two senior instructors from the institutions who have more than 15 years of experience in teaching TVET students. On top of that, an expert in HRD was appointed to content validate the instruments. The results from all assessments concluded that all instruments were measuring the constructs that they were supposed to measure.

The self-administered online questionnaire took about 15 minutes to be completed in the classrooms and was facilitated by the students' instructors. The respondents were assured of anonymity and confidentiality. A pilot study found that the instrument was reliable, with Cronbach alpha for the scales ranging from ($\alpha=.77$ to $\alpha=.94$). The instrument was also checked for content validity by a panel of experts; all the items were found to have measured the constructs of the study satisfactorily.

Career decision-making self-efficacy (CDMSE) items were developed by Taylor and Betz (1983) as a tool to help students understand their career decision and facilitate their career decision-making. This study employed the shorter version of the scale with 25 items, and it was considered to have higher reliability compared to the original scale by Betz and Luzzo (1996). It consisted of items that evaluated self-appraisal, gathering occupational information, goal selection, making plans for a future career,

and career problem-solving. It was reported that the internal consistency of CDMSE ranged from .73 to .83 for all the 25 items, with the reported Cronbach alpha of .94. Sample item: "Choose a major or career that will fit your interests". The response options ranged from 1 ('no confidence at all') to 5 ('complete confidence'). The reported internal reliability coefficient in this study was .94.

Intrinsic and extrinsic WVOs were evaluated by the shorter version of the Work Preference Inventory (WPI) by Robinson et al. (2014). Although the WPI was used to gather responses about the work motivation among physician-scientists, the scale is applicable for the students and the general population (Cheng, 2019; Hayat et al., 2018). Exploratory and confirmatory factor analyses were conducted to reduce the 30 items of WPI as developed by Amabile et al. (1995); the Cronbach alpha (α) for each of the four sub-factors (i.e. challenge and enjoyment as sub-factors of intrinsic motivation; compensation and outward orientation as sub-factors of extrinsic motivation) ranged from .68 to .76. Items were rated on a 4-point Likert scale and ranged from fully disagree (1) to fully agree (4). A sample item for extrinsic WVO: "I am strongly motivated by the recognition I can earn from other people". A sample item for intrinsic WVO: "The more difficult the problem, the more I enjoy trying to solve it". The reported internal reliability coefficient in this study was .74 for extrinsic WVO and .77 for intrinsic WVO.

The academic major satisfaction scale with six items, developed by Nauta (2007), is a uni-dimensional scale consisting of six Likert-like ratings from 1 (strongly disagree) to 6 (strongly agree), where a higher score indicated greater satisfaction with the academic major. Sample item: "I feel good about the major I have selected." The reported reliability for this study was .82.

RESULTS AND ANALYSIS

Findings

This study examined the influence of intrinsic and extrinsic WVOs of TVET students on CDMSE, and the mediating role of AMS in this relationship. Before analysis, the data were tested for normality and linearity and were found to be normally distributed; the residuals were checked for correct applications of statistical analysis. The results indicated that the data for the constructs met all prerequisite assumptions for parametric analyses such as Pearson Product Moment Correlation Coefficient and Multiple Linear Regression. Skewness and kurtosis ranged between -1 and $+1$, indicating data normality was satisfied (Georg & Mallery, 2010).

Table 1 shows the means, standard deviations (*SD*), and Pearson's inter-correlations of the individual constructs employed in this study. The descriptive statistics showed the following for extrinsic WVO ($M = 3.41$; $SD = 0.42$), intrinsic WVO ($M = 3.24$; $SD = 0.45$), and AMS ($M = 4.79$; $SD = 0.80$). We found several significant correlations amongst our study

variables. The results showed that there were positive and moderate correlations between extrinsic WVO and CDMSE ($r=0.44$; $p<.05$), and intrinsic WVO was positively and moderately correlated with CDSME ($r=0.50$; $p<.05$); AMS was also positively and moderately associated to CDMSE ($r=0.44$; $p<.05$). This meant that the higher the WVOs the higher the CDMSE.

Table 2 shows the model summary and coefficients for the model of TVET students' CDMSE. A multiple regression model was calculated to investigate the factors contributing to TVET students' CDMSE. The adjusted R-squared value was used to avoid biased estimation. In this study, the coefficient of determination (Adjusted $R^2=.314$) showed that 31.4%

of the proportion of variance in CDMSE could be explained by intrinsic and extrinsic WVOs and AMS. The F-ratio showed that the independent variables were statistically and significantly predicted the dependent variable, $F(3,219) = 34.814$, $p <.005$, thus indicating that the model fitted the data. As shown in Table 2, H_1 and H_2 were accepted. Coefficient values for all the variables, intrinsic WVO ($\beta=.258$, $p<.05$), extrinsic WVO ($\beta=.306$, $p<.05$), and AMS ($\beta=.183$, $p<.05$) were statistically significant, indicating that extrinsic WVO was the strongest predictors of TVET students' CDMSE. The Durbin-Watson value was 1.801, falling between values of 1 and 3, thus supported the assumption of independent residuals.

Table 1
Correlations, means, and SDs of study variables

Variables	Mean	SD	Y	X1	X2
Y CDMSE	3.74	0.56			
X1 Extrinsic WVO	3.41	0.42	0.44*		
X2 Intrinsic WVO	3.24	0.45	0.50*	0.65*	
X3 AMS	4.79	0.80	0.44*	0.33*	0.46*

Note: CDMSE: Career decision-making self-efficacy, WVO: Work value orientation, and AMS: Academic major satisfaction

* Correlation is significant at the .05 level (2-tailed).

Table 2
Estimates of coefficients for the model of CDMSE

Dimension	β	t	p -value
(constant)	.990	3.531	.001
Extrinsic WVO	.306	3.180	.002
Intrinsic WVO	.258	2.647	.009
AMS	.183	4.202	.000

Note: WVO: Work value orientation, AMS: Academic major satisfaction $R=.568$; $R^2=.323$; Adjusted $R^2=.314$; $F=34.814$; $p=.000$; Durbin-Watson=1.801

Testing for the Mediator

Hypothesis 3 postulated that AMS mediated the relationship between both work value orientations and CDMSE. The results of the simple mediation analysis of SPSS PROCESS macro (Hayes, 2012) are shown in Table 3.

Table 3 shows that the direct effect of intrinsic WVO on AMS ($b = .458$, $SE = 0.078$, $t = 5.83$, $p < .001$) was significant, and the direct effect of AMS on CDMSE was also significant ($b = .188$, $SE = 0.04$, $t = 4.27$, $p < .001$). The mediation effect (i.e. indirect effect) of academic major satisfaction on the relationship between intrinsic WVO and CDMSE ($a \times b = .81 \times .19 = .15$) did not include zero in the 95% confidence interval (.057, .256), indicating that this indirect effect was significant, based on the 5,000 bootstrap method (Preacher & Hayes, 2004). Further supporting the mediation effect is that when AMS was added into the analysis as a mediator, the path coefficient between intrinsic WVO and CDMSE became significant c' (direct effect) = .45, $SE = 0.078$, $t = 5.83$, $p < .001$).

Results shows similar findings when the direct effect of extrinsic WVO on AMS and the direct effect of AMS on CDMSE were both found to be significant, ($b = .4431$, $SE = 0.08$, $t = 5.15$, $p < .001$) and ($b = .188$, $SE = 0.04$, $t = 4.27$, $p < .0015.53$, $p < .001$). The indirect effect of academic major satisfaction on the relationship between extrinsic WVO and CDMSE ($a \times b = .63 \times .23 = .14$), the value of lower-level for confidence interval was entirely above zero (.062 to .249), indicating that the mediation effect was significant, based on the 5,000-bootstrap method (refer Table 3). From these findings, we concluded that AMS mediated the relationships between WVOs, both intrinsic and extrinsic, and CDMSE of TVET students. Hence, H3 and H4 were accepted. Hence, 10.71% of the proportion of variance of AMS could be explained by intrinsic and extrinsic WVOs.

DISCUSSION

This study examined the influence of WVOs on CDMSE and the mediating role of AMS on the relationship between

Table 3
Total, direct, and indirect effects

Effect	Direct			Indirect			Total		
	β	t-value	SE	β	t-value	SE	β	t-value	SE
CDMSE									
AMS	.188**	4.27	0.041				.183**	4.202	0.042
Extrinsic WVO	.44**	5.15	0.08	.14**	3.24	0.048	.58**	7.29	0.0805
Intrinsic WVO	.45**	5.83	0.078	.15**	3.34	0.05	.61**	8.43	0.072

Note: CDMSE: Career decision-making self-efficacy, WVO: Work value orientation, and AMS: Academic major satisfaction
*** $p < .001$, ** $p < .05$

WVOs and CDMSE of TVET students. The research findings of this study confirmed the significant influence of both intrinsic and extrinsic WVOs on CDMSE of TVET students in Malaysia, and the existence of the mediation effect of AMS. This evidence is supported by the data from the SEM which shows that WVOs and AMS were significantly contributed to the explanation of the variance in CDMSE. This result is aligned with prior research that suggests WVOs influenced AMS and CDMSE (Doo & Park, 2019). This result is also supported by other previous research findings that work value and major satisfaction of dental hygiene students have a positive effect on CDMSE (Ji & Heo, 2019).

This study also found that WVOs, especially extrinsic WVO, influenced CDMSE. The result was supported by earlier studies (Kunasegaran et al., 2016). Extrinsic work values such as salary, job security, location, promotional opportunities, and type of work were significant determinants of self-efficacy in making career decisions. Students high in extrinsic work orientation primarily value remuneration and view work principally to attain attractive income (Demerouti et al., 2012). This study also found extrinsic WVO as the strongest predictor of TVET students' CDMSE. The prospect of having attractive jobs (i.e. good remuneration and as well as guaranteed job security) spurs students to choose a major that would fulfill their career aspirations.

This study also reveals that AMS mediates the relationship between both intrinsic and extrinsic WVOs and CDMSE.

This finding supports previous research about the significant influence of AMS on CDMSE (Doo & Park, 2019; Jadidian & Duffy, 2012; Nauta, 2007). Student's work-related reinforcement preferences seem to be more influenced when they feel satisfied with their performance academically, and consequently, this increases their confidence in making career decisions. These results indicate that what students learn during their course allows them to assess their own needs and skills, to plan their career path effectively, to select choices that are relevant to their goals, and to assess the obstacles they may encounter in the pursuit of their careers. According to Agrawal (2013), TVET prepares individuals for effective performance on psychomotor tasks. TVET environments should be fully equipped with facilities and opportunities that match TVET students' interests. Providing students with a supportive learning environment (i.e. studying a major of their own choice, as well as one that matches their interest) facilitates and reinforces learning, and helps students acquire the requisite technical skills for the career they have opted for. On top of that, expanding the industry network among TVET players helps to open doors to more lucrative jobs for TVET graduates.

LIMITATIONS AND FUTURE STUDIES

The study has several limitations which offer opportunities for further investigation in future research. First, we employed a cross-sectional survey design and the construct of CDMSE was measured based

on TVET students' perceptions. This might have limited the understanding of CDMSE among the participants. Future researchers are encouraged to extend this study by investigating CDMSE using qualitative studies. Besides, because a correlational design was employed in this study, causal relationships were not investigated. Thus, future studies could embark on an experimental design to examine causal relationships between the same constructs on students' career decision-making. Although the positioning of the variables in the present study is supported by the literature, more research is required to scrutinize the associations of other pertinent variables such as motivation factors or other internal and external factors to have a better understanding of CDMSE relationships. Besides, future studies could adopt a qualitative paradigm to explore other constructs that would explain associations with students' CDMSE. Finally, the generalization of the research findings to other cultures or countries is limited. Future research could involve participants from diverse backgrounds and technical streams to examine the influence of demographic variables, such as gender, race, and culture on students' career decision-making. Studies focusing on other providers (public and private training institutions) and other streams such as medical, engineering, or other non-technical stream are essential to provide different perspectives on the outcomes of the CDMSE research.

CONCLUSION AND IMPLICATIONS FOR PRACTICE AND THEORY

In this study, we conclude that WVOs and AMS are functions of TVET students' CDMSE. Both intrinsic and extrinsic work values are precursors to efficacious students' career decision-making, but extrinsic work value is found to have a stronger impact compared to intrinsic work value. Academic satisfaction or subjective evaluation of the whole educational experience explains the interdependence of students' WVOs and their career decision-making self-efficacy.

As pointed out above, extrinsic WVO is found to have a stronger influence on CDMSE than intrinsic WVO. This can be attributed to borderless information that allows students to gain information and forecast their future in the TVET ecosystem. The future for TVET graduates certainly looks brighter, what with the government's efforts to raise TVET certification to a level similar to academic qualifications. Strong collaboration between industries and TVET institutions, attractive remuneration, and opportunities to be absorbed into large organizations with career assurance are some of the strategies to improve the enrolment of students at TVET institutions.

This study also found that AMS mediated the relationship between WVOs and CDMSE. As such, perhaps TVET institutions could administer yearly student satisfaction surveys to measure students' level of satisfaction on the overall knowledge transfer experience. TVET institutions could also make use of diverse internal

assessment tools such as self-evaluation checklists or psychological inventory scales to better understand the values, skills, personality, and interests of students. Subsequently, continual improvements can be made by TVET institutions to support and facilitate the development of cognitive and psychomotor abilities of their students. This might help to give a better assessment of students' intrinsic and extrinsic work values which lead to their CDMSE. Apart from that, TVET institutions need to scrutinize the process of selection of new intakes to ensure only qualified and enthusiastic individuals are selected. This will smoothen the learning and training process because the courses chosen by students should be aligned with their passion to make their learning experiences more meaningful and satisfying.

This study also suggests optimizing the roles of counselors in gearing students' career interests and choices. Counseling sessions may be necessary to facilitate students' awareness of intrinsic and extrinsic work values. Several methods such as career coaching sessions, as well as mentoring programs, could be implemented with customized approaches to strengthen students' psychomotor abilities. TVET institutions could also conduct sessions for students to interact with professionals in the relevant fields to increase their knowledge and expand the range of career options. This would facilitate their engagement with career preparation activities, and help better equip them with the realities and expectations of the working world.

We also propose that TVET institutions develop programs to help extrinsically work-oriented students who focus on high earnings and attractive perks rather than opportunities for growth at the workplace. TVET institutions are also recommended to synchronize their programs to match the needs of the industry. It is important to expand and strengthen networking with the industries to enjoy various benefits, e.g. financial sponsorship or conducting a dual-track learning approach with classroom training combined with an apprenticeship at a hosting company. Students will be more inspired to explore more, and it will boost their confidence in opting for careers that require TVET certifications.

WVOs and AMS have a significant influence on CDMSE, implying that it is important to conduct a continual needs assessment to enable students to set their WVOs appropriately and build up their confidence in charting their career paths. The assessment exercise would help to highlight students' interest and engagement in the chosen field of study and would indirectly prepare them for employment. Reinforced by a wide range of networks and robust support systems, committed students would be more optimistic, particularly in deciding their future careers.

This study attempts to contribute to the CDMSE theory literature in several ways. First, prior work on the mediating role of CDMSE in SCCT focused on its indirect influence on career-related outcomes (Li et al., 2019; Santos et al., 2018). Less research has been devoted to its antecedents. In

this research, we have demonstrated that extrinsic and intrinsic WVOs among TVET students increase CDMSE. Our results support outcome expectations of SCCT such that career-related outcome expectations may map neatly onto and incorporate work values (Lent et al., 1994). Second, although prior work has examined WVOs and AMS as predictors of CDMSE (Doo & Park, 2019), the exact nature of their relationship is not well understood in the TVET context. Our results helped clarify the interrelationships between these three constructs which increased our knowledge of how CDMSE among TVET students is cultivated. Indeed, this study proposes that the AMS mediator explains TVET students' career decisions.

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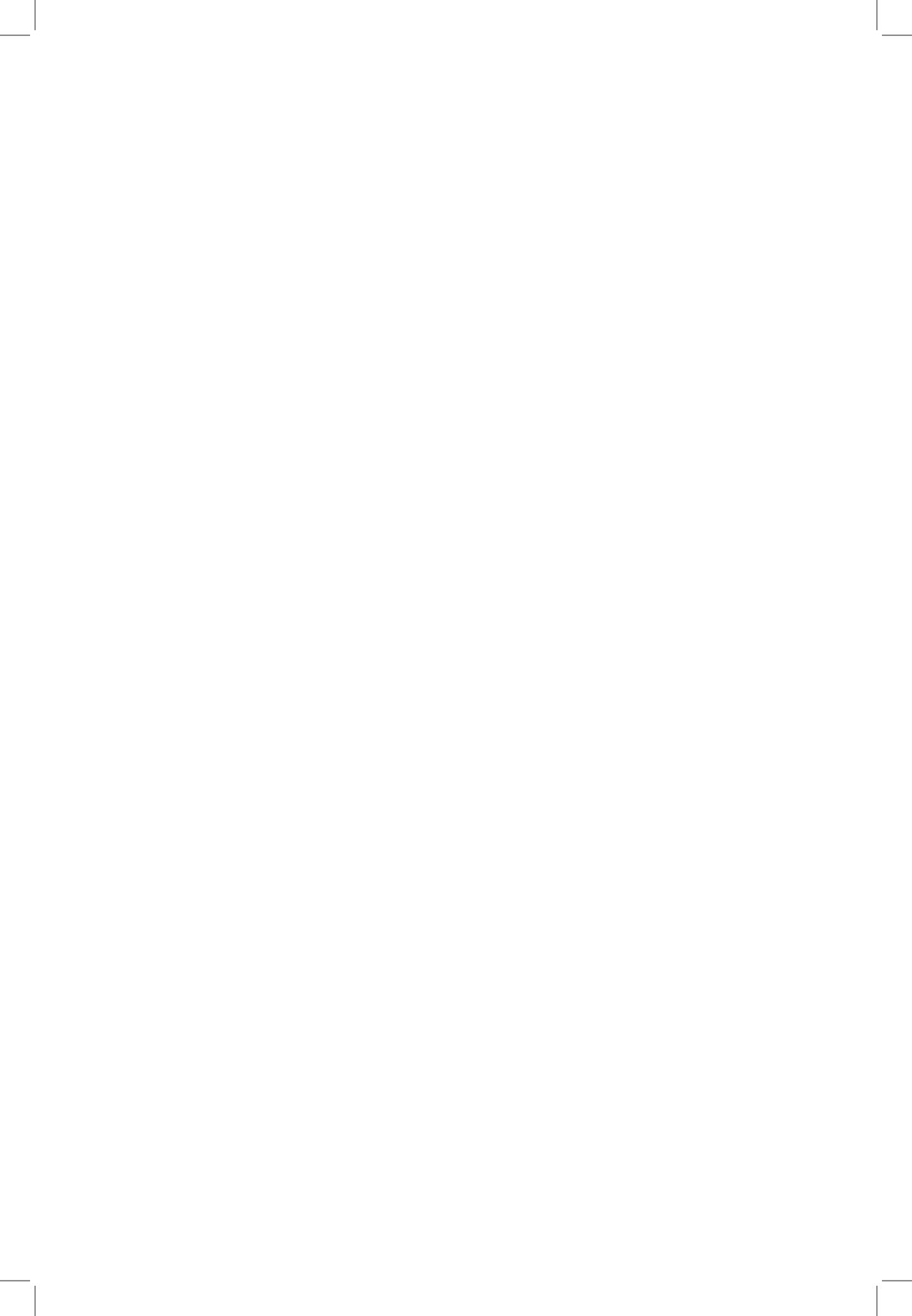
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Case Study

Development of the Self-efficacy Beliefs of Engineering Undergraduates Preparing for an International Contest

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ABSTRACT

This study was designed to understand the everyday experiences influencing the self-efficacy of a group of engineering students preparing for the TECO Green Tech International Contest. It also aimed to understand whether participants' self-efficacy levels fluctuated under the influences of these experiences. The paper takes a qualitative approach using focus group discussion, journaling, and one-to-one interviews as data gathering tools. Our study confirms previous theoretical assumptions and empirical findings that four sources of self-efficacy information are related to self-efficacy beliefs. In addition, the study also supports the role of collective efficacy and context in influencing engineering students' self-efficacy. During the first two weeks of the contest preparation period, participating students experienced a low sense of self-efficacy under the influence of perceived lack of knowledge and skills, contest pressure, doubt of team ability, and negative feelings. A couple of weeks prior to the contest, as the students draw inspiration from a growth in

knowledge and skills, verbal feedback, and positive feelings, their self-efficacy was enhanced. Comparison with team members and trust in the advisor's credibility also strengthened their sense of self-efficacy. This research has the potential to inform the development of engineering undergraduates' contest self-efficacy.

Keywords: Contest, engineering, qualitative, self-efficacy

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INTRODUCTION

Technology development in a global context has recently required a supply of competent engineers to keep up with the technology growth rate to secure any country's economic prosperity and national security (Huiyao, 2019). The countries' sustainable economic development is likely to be affected by a variety of factors, including the quality of engineering education. However, in some areas of the world, engineering students seem to have difficulty applying textbook knowledge to challenging work situations. In addition, their critical thinking skills, problem-solving skills, and teamwork skills are in question (Bodewig et al., 2014; Nguyen, 2011; Trines, 2017). As such, the importance of equipping engineering undergraduates with practical knowledge and skills while they are still at university is essential to the sustainable development of the workforce. One method used to solve the problem involves encouraging undergraduate students to join in contests to expose them to engineering knowledge and skills at work (Nguyen, 2011; Trines, 2017), thus validating their textbook knowledge and increasing their awareness of social demands for the practical techniques, skills, and experiences (Verner & Ahlgren, 2004). Recently, engineering contests are identified as a good vehicle to better engage professional societies with engineering undergraduates (Furse, 2019). However, little has been done to understand how students keep their perseverance and what can boost their performance in this challenging context (Stewardson et al.,

2019). Performance and perseverance while preparing for contests appear to depend on students' beliefs in the ability of themselves and team members to achieve desired outcomes (Ahlgren & Verner, 2009; Furse, 2019). Self-efficacy is defined as "[belief] in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). It is likely that raising the self-efficacy beliefs of engineering students in well-preparing and winning a contest can help future students gain their contest perseverance and performance, and increase the quality of engineering graduates in the long run.

Based on the above-mentioned arguments, an in-depth understanding of what factors can influence the self-efficacy of engineering students preparing for a contest, hereby referred to as students' contest self-efficacy, may engender it. Furse (2019) stated that the domain of engineering students' contest self-efficacy has not been paid much attention in the available self-efficacy literature. Therefore, our study aimed to explore what experiences affected the self-efficacy of a group of engineering students preparing for the TECO Green Tech International Contest. It also tried to understand whether participants' self-efficacy levels fluctuated under the influences of these experiences. Given that engineering exposure to practical knowledge and skills at contests is important to engineering undergraduates' future career and their contribution to the economy, it is hoped that the experiences identified in this study may be useful in suggesting

practical ways to develop and strengthen the students' contest self-efficacy. Investigating the self-efficacy of engineering students in a contest will likely contribute to the growth of research in tertiary students' self-efficacy. The present study answered the following research questions:

1. What are the perceived day-to-day experiences that influence the self-efficacy beliefs of engineering undergraduates preparing for an international contest?
2. How do these experiences affect their self-efficacy?

LITERATURE REVIEW

Self-efficacy Beliefs

Social Cognitive Theory (SCT) (Bandura, 1997) provides the lenses through which the present study was conducted. As Bandura (1997, p. vii) stated "people are producers as well as products of social environments", the theory highlights both people's power to change the social environments where they live and the role of environmental factors in mediating behaviors. Self-efficacy helps to understand the relationship between the amount of effort people put into their behaviours, the effectiveness of their thoughts and actions, and the perseverance people show in the face of difficulty (Bandura, 1997). Self-efficacy beliefs have been reported to strongly predict students' academic performance and learning and positively correlate to their retention (Bartimote-Aufflick et al., 2015). Bandura (1997) and Klassen and Klassen (2018) stressed that self-efficacy is

concerned with what people believe they can do with the necessary knowledge and skills to achieve their goals, not with how many sub-skills they possess.

Self-efficacy is task- and situation-specific (Bandura, 1997), and assessing self-efficacy at a micro-analytic level is necessary to a comprehensive theory of self-efficacy (Schunk et al., 2008; Srisupawong et al., 2018). Under the influence of a range of factors, for example, physical conditions (mood or health conditions) and other environmental factors (classroom environment, resources), students' levels of efficacy vary as they perform different learning tasks, challenges, or endeavours in different contexts. For example, engineering students may hold different self-efficacy levels when they join a contest or attend an online science course. Besides, it is possible that the self-efficacy levels of the students will change as they perform different tasks set by the contest. The engineering students can also judge their self-efficacy to perform similar tasks differently at various points in time. The description of what is associated with the fluctuations in self-efficacy can help researchers and educators to improve students' self-efficacy levels more effectively. However, little is known about what factors influence engineering students' contest self-efficacy and how they affect the students' self-efficacy levels due to a lack of studies investigating this research area (see below). The present study fills the gap by expounding on diverse efficacy-relevant experiences to shed light on engineering students' contest self-efficacy.

There are four sources of information shaping self-efficacy identified by Bandura (1997): enactive mastery experiences (past performances), vicarious experiences (models' comparison), verbal persuasion (verbal judgment from important people), and physiological/affective states (stress or fear). According to some researchers (e.g. Bandura, 1997; Usher & Pajares, 2008), since mastery experiences provide clear, measurable evidence for the capability of success, they are the most consistent in predicting student achievement. The other sources of self-efficacy information are believed just as important (Usher & Pajares, 2008). It is important to note that sources of self-efficacy information become active only when people weigh and select different types of self-efficacy information (Bandura, 1997; Chen & Usher, 2013; Klassen & Klassen, 2018; Wyatt, 2018). People may vary in applying rules of weighting and interpreting sources of information to construct their self-efficacy. Under cultural influences, forms of self-efficacy information sources may vary in different contexts and situations (Phan & Locke, 2015). As a result, inconsistent findings have been found among studies conducted in diverse settings (Keefe, 2013; Srisupawong et al., 2018; Wyatt, 2018).

Collective Efficacy

Bandura (1997, p. 477) defined collective efficacy as "a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments". He argued that it is individuals' need to co-operate and make

use of unified effort to solve problems and improve their life which has activated and encouraged the development of collective efficacy. In essence, perceived collective efficacy is more than the sum of individuals' self-efficacy beliefs but individuals' beliefs in the group's abilities as a whole. Self-efficacy and collective efficacy are similar in the sense that both focus on the amount of effort and persistence that individuals are dedicated to a task and perceptions of task success (Ahlgren & Verner, 2009). Both types of efficacy operate through similar processes and serve similar functions. In addition, perceptions of self-efficacy and collective efficacy are interrelated and together drive behaviour (Goddard et al., 2004). Engineering students' sense of self-efficacy in the successful performance of their own tasks is stronger and more likely to persist in their own efforts when they hold firm beliefs in the capability of the whole team to complete tasks and succeed in the contest. Conversely, engineering students with a low sense of collective efficacy may doubt the successful performance of the team and subsequently lower the expectations of their own tasks' success.

Factors Influencing Engineering Tertiary Students' Self-efficacy Beliefs

The research into factors influencing students' self-efficacy beliefs is not entirely new, yet few studies have been conducted to understand this research area in engineering education. Scholars who are interested in this topic have been investigating either the impact of environmental factors or

sources of self-efficacy beliefs of university engineering students.

Regarding the influences of the environment, what the researchers have found supported Bandura and other researchers (e.g. Reisberg et al., 2012) confirmation that such environmental factors as university context (e.g. physical conditions, student characteristics) and academic climate (e.g. professional development, academic achievement, educational values, and norms) correlate with engineering students' self-efficacy. The students' self-efficacy varies according to context, that is, context can mediate self-efficacy. For example, Fantz et al. (2011) surveyed 322 engineering freshmen from four departments to understand the relationship between pre-collegiate experiences (e.g. working in engineering-related environments) and self-efficacy beliefs. Findings indicated that the more exposure to pre-collegiate experiences the students had, the more efficacious they became. Similarly, Raelin et al. (2015) conducted a longitudinal study to explore whether engineering sophomores' work experience and contextual support influenced the students' three types of self-efficacy beliefs (work, career, and academic efficacies). The researchers also compared the self-efficacy beliefs of students who participated in the programs to those who did not. Findings of the study stated that students joining the work experience programs displayed a significant increase in their self-efficacy beliefs, whereas those who did not have such experience got a lower sense of self-efficacy. The quality of

the work experience strengthened students' work self-efficacy and contextual support predicted three forms of self-efficacy beliefs.

Research investigating sources of self-efficacy of engineering undergraduates is sparse. The findings of the available studies have yielded mixed results. For example, Purzer (2011) used a mixed-methods approach to understand how verbal exchanges affected engineering students' achievement and self-efficacy. Unlike the findings of other studies, giving verbal feedback, agreements, praises, and acknowledgements, rather than receiving verbal persuasions, were likely to increase the self-efficacy of the feedback giver and feedback receivers. Similarly, Srisupawong et al. (2018) surveyed 524 computer-science students from Thai universities to explore how sources of information influenced their self-efficacy beliefs. The findings of the study, however, did not support Bandura's (1997) assertion that mastery experiences were the most powerful source. Students' perceptions of verbal persuasions, vicarious experiences, and emotional and physiological states positively correlated with self-efficacy.

Common themes resounding in the available literature are the strong influence of environmental factors on engineering undergraduates' self-efficacy and the mixed results regarding the strength of efficacy information sources. Most of the available studies are quantitative in nature and self-efficacy beliefs and environmental factors are accessed by students' self-reports on Likert-scale items. Researchers have

reached an agreement that engineering undergraduates' self-efficacy beliefs differ as a function of context. However, it remains unclear how engineering students select, weigh, and internalise different sources of efficacy information to construct their self-efficacy beliefs in quantitative studies (Wheatley, 2005). Likert-scaled instruments fail to provide an in-depth understanding of how context mediates engineering students' construction of self-efficacy beliefs and how the students exercise their control over contextual influences to build up their self-efficacy. Also, what causes a change in students' self-efficacy cannot be demonstrated clearly in quantitative research though participants may answer several questionnaires at different points in time.

Regarding quantitative studies investigating sources of engineering undergraduates' self-efficacy beliefs, Usher et al. (2015) noted that items in questionnaires fail to capture the complexity of affective states since they are often negatively worded. The positive dimensions of this source have not been paid much attention to in self-efficacy literature. Also, the number of items to assess vicarious experiences and affective states is too few compared to that of other sources. Accordingly, the multidimensional nature of these information sources cannot be elicited fully in such research (Usher & Pajares, 2008).

Although the need to understand the relationship between student self-efficacy, perseverance, and academic performance

has been noticed by a number of researchers (e.g. Ahlgren & Verner, 2009; Furse, 2019; Trines, 2017), engineering educators have not yet understood what experiences impact on engineering students' contest self-efficacy beliefs due to a serious lack of studies investigating this issue in engineering education. Given the paucity of research, the questionable quality of some quantitative studies, and methodological problems, there is a gap in the self-efficacy literature that has not been addressed fully by existing research. Therefore, this study, using a qualitative approach, aims to fill this gap by exploring factors affecting the self-efficacy beliefs of a group of engineering undergraduates preparing for an international contest.

MATERIALS AND METHODS

Research Context and Participants

The TECO Green Tech Contest started 12 years ago and has become one of the most attended green technology events in Taiwan. The contest has attracted students from many countries worldwide to share their creativity and innovations in green technologies. In 2019, a total of 60 international teams were entered for the first round. In the final round of the contest, 20 teams competed for seven awards.

The study included eight male engineering undergraduates from two universities forming a team to register for the 2019 TECO Green Tech International Contest. Table 1 below shows the team's profiles.

Table 1

Profiles of team members

Team member	Gender	Age	Nationality	Years of study	Major
S1	Male	19	Taiwanese	Junior	Mechanical and Electro-Mechanical Engineering (MEME)
S2	Male	19	Taiwanese	Junior	MEME
S3	Male	19	Taiwanese	Junior	MEME
S4	Male	19	Taiwanese	Junior	MEME
S5	Male	18	Taiwanese	Sophomore	Electronic Engineering
S6	Male	19	Taiwanese	Junior	Electronic Engineering
S7	Male	19	Vietnamese	Junior	Electrical Engineering Technology
S8	Male	19	Vietnamese	Junior	Electrical Engineering Technology

Methodology and Data Tools

A qualitative case study approach is chosen for our study. One purpose of qualitative studies is to understand contextual conditions that are relevant to the phenomenon being explored (Creswell, 2012). The inquiry holistically enables researchers to illuminate people's perceptions within a context and interpret their daily experiences (Walia, 2015). A rigorous qualitative case study uses multiple data sources to enhance data credibility and provide a greater understanding of the phenomenon under study (Baxter & Jack, 2008). Three data instruments: a focus group discussion, two rounds of one-to-one interviews, and journaling, were used to answer the research questions in the present study.

Focus group discussion has been long known in the literature as a stimulation

of the co-construction of knowledge and meaning arising from group members' productive interactions (Tuckett & Stewart, 2004). In the present study, the researcher (corresponding author) used a semi-structured set of questions to conduct a focus group discussion with eight engineering undergraduates three days before the end of the data collection period. Students were invited to talk about whether their self-efficacy levels fluctuated over the course of three months and what led to the changes. Sample questions used in the focus group discussion are: "The contest will begin in several days. How do you feel now?" and "What can you say about the level of your confidence now compared to that in the first two weeks of the preparation period?"

One-to-one interviews helped the researchers focus on the data presented by one respondent versus a whole group to

distinguish individual opinions about the issue in question (Boyce & Neale, 2006). The purposes of the interviews were to understand students' perceptions of the influence of the daily experiences on their beliefs in their abilities to accomplish assigned tasks and whether their self-efficacy beliefs were subject to change under the influence of such experiences. Examples of individual interview questions are: "What makes you feel the most confident while preparing for the contest?" and "Can you tell me one example of how you overcame a task challenge?" Team members also answered a semi-structured set of questions to explain some behaviours and experiences mentioned in their journal entries.

In this study, journaling provided participants with an opportunity to make their experiences, opinions, thoughts, and feelings visible to the researchers. Participants, on a regular basis, recorded significant events that were relevant to the issue being explored (Hood, 2009). Students in our study kept weekly entries and sent the Word files via emails. The corresponding author provided guidelines in the form of prompts to ease their writing process. In the entries, eight engineering students described in detail what important experiences they got, whether these experiences were positive or negative, and how they impacted their task performance and emotions. The data from journals were used to triangulate the data from one-to-one interviews and the focus group discussion.

Data Collection and Analysis

Data collection began with journaling. Participants were invited to write their journal entries over a three-month data collection period. One-to-one interviews were organized at the end of the first and second months and each lasted approximately 60 minutes. The interviews were carried out with eight participants and ended just before the focus group discussion. Notes were taken during the interviews and the focus group discussion. The corresponding author audio-recorded the interviews and the focus group discussion and sent transcripts to participants via emails to provide them with opportunities to validate and amend data. No engineering undergraduates altered their responses. The English language was the preferred means of communication in our study. The focus group discussion lasted approximately 90 minutes. At the end of the three-month period of journaling, the researcher had received 56 entries from eight engineering undergraduates.

In the present study, the inductive coding process (Creswell, 2012) and the thematic analysis method (Braun & Clarke, 2006) were chosen as methods of analysis. The researcher coded for specific research questions and followed a four-step procedure suggested by Le (2011) as in Table 2. Table 3 illustrates how emerging codes were grouped into subcategories and categories in our study.

Table 2
Overview of the data analysis procedure

Step	Focus	Pre-analysis	Steps in analysis
1. Analyzing the journal entries	-Experiences influencing self-efficacy	Reading each journal entry several times	1A. Underlying keywords, phrases, and coding them. 1B. Categorizing the above, grouping them into subcategories by cutting and pasting 1C. Tabulating data of each student.
2. Analyzing one-to-one interviews	-Effects of these experiences on self-efficacy, i.e. increasing or decreasing it	-Transcribing data -Reading each transcript several times	2A. Cutting and pasting keywords and phrases into the above subcategories. 2B. Comparing and contrasting data from journal entries
3. Analyzing the focus group discussion		-Transcribing data -Reading the transcript several times	3A. Cutting and pasting keywords and phrases into the above subcategories. 3B. Comparing and contrasting data from participants' journals and interviews.
4. Triangulating findings	Understand how self-efficacy fluctuated under the influence of different experiences	Reviewing all data	-Interrogating all data again for additional or contradictory findings -Refining the content of all sub-categories -Grouping experiences: increasing or decreasing self-efficacy

Table 3

Example of coding hierarchy

Feedback	Contest pressure	Task allocation	Adviser credibility	Comparison with team members
My adviser let me communicate with that team. He told me he is very proud of what I can do (S1).	- We need to do a lot of tasks (S1). - We have only three months. Time seems not to be enough (S5)	The advisor reviewed my task weekly and broke them down into sub-tasks. That made me feel confident and clearer (S5).	The advisor cares about us a lot. He often has meals with us and has organized two sightseeing trips to many areas in Taiwan for us . . . He treats us as his family members (S7).	No one knows what a vacuum pump is. I learned about the vacuum pump and shared it with my team (S3).

Reliability and Validity

In our study, in terms of reliability, the research aims, and research questions were made explicit. The assumptions and theories behind the study were explained. Social Cognitive Theory, self-efficacy theories, and studies of engineering undergraduates which helped to position the current study and form the research questions were critically discussed. The methods of collecting and analysing data were justified and illustrated.

Within-method triangulation and data triangulation helped to increase confidence in the present study's validity. Three types of data instruments; namely one-to-one interview, focus group discussion, and journaling, helped to ensure data accuracy and an in-depth understanding of factors affecting engineering students' contest self-efficacy. Two types of data triangulation, i.e., person and time, were also included to add

strength to the research findings. Gathering data from eight engineering students in three months increased data validation across participants and contributed to the robustness of data. Transcripts of interviewing sections were sent to participants for emendation and validation, facilitating the data interpretation and research findings' writing process. In addition, the two researchers discussed emergent themes and findings to make sure analyses emerged from the data.

Participants' privacy and confidentiality were respected and protected in this research. The researchers, at the outset, discussed with the participants how their privacy and confidentiality were addressed. The researchers collected, analyzed, and reported data anonymously. The real names of eight participants and two universities were removed and replaced by pseudonyms. Participants were made to be aware of the

need to keep the comments made within the focus group discussion confidential.

FINDINGS

In the present study, the way eight engineering students perceived the day-to-day experiences in the laboratory appeared to affect their sense of self-efficacy. During the first two weeks of the contest preparation period, participating students experienced a low sense of self-efficacy under the influence of perceived lack of knowledge and skills, contest pressure, doubt of team ability, and negative feelings. Roughly half of a month before the contest, as the students draw inspiration from a growth in knowledge and skills, verbal feedback, and positive feelings, their self-efficacy was enhanced. Comparison with team members and trust in the advisor's credibility also strengthened their sense of self-efficacy.

Perceptions of Knowledge and Skills

It appears that the eight students' perceptions of their knowledge and skills had the potential to enhance or lower their self-efficacy. When they joined the team for the first two weeks of the preparation period, all students expressed concern for their low English language proficiency and limited background knowledge of motors and technology. The students used negative words and phrases to describe their experiences and mentioned their confusion about what was required of them which suggested their sense of inefficacy. For example:

My English is not good and I have limited technical knowledge of modern motor series and electronic engineering technology. I got lost in my discussion with the team today. (S6RJ2)

I'm one member of the IOT [Internet of Things] team. I'm the only sophomore to join this contest, but I'm doing the most challenging task which no one did before. I seriously lack laboratory experience and technological knowledge. I think the time is not enough for me to reach the goal indicated by the team's schedule. (S5IT1)

However, in the journal entries written over the last two weeks of the preparation period and in the focus group discussion, some engineering undergraduates reported perceptions of obtaining better English language skills, motor knowledge, and laboratory experience, which seemed to increase their feeling of being able to tackle some particular tasks. For example:

The meeting with the guest speaker . . . was very useful. I learned about a range of motors and motor technology. . . We have worked in the laboratory for 3 months and it has given me many skills that can be carried over to the contest. I feel more relaxed now. (S7RJ15).

After three months of working with team members and our adviser, I can express my thoughts in English quite easily now. . . I have practiced my presentation with a team member a few times this week. I have done it quite well, I think. I believe we will deliver this presentation successfully on the contest day. (S1FG)

Contest Pressure

It appears that during the first week of the three-month period, participating students' perceptions of the contest pressure in terms of the number of tasks, time limit, and scope undermined their sense of self-efficacy. All team members had never joined in any contest and needed to compete against many strong teams worldwide. They reported negative feelings to describe how the contest impacted on them.

I was very tired during the first week [of the contest preparation period]. After exciting moments knowing that the team was on the final list, I realized I had a lot of tough tasks ahead. . . I suffered a lot of pressure. I couldn't sleep well for several nights. (S7IT1)

My IOT task was too tough. I was confused and felt seriously stressed. I didn't know where to start. (S5IT1)

Perception of Team Capability

Findings of the study offer evidence that the perception of the team able to do certain tasks affected individual student's perceptions of their ability to do their own tasks. In the first and second week of the preparation period, the students expressed a diminished sense of collective efficacy which lowered their own sense of self-efficacy:

I don't think all team members understood what we needed for the contest, what we needed to prepare for the contest. No one has done that before. . . You will lose your belief in yourself. (S1RJ3)

The whole team, including me, was down because I think we didn't know what we would do. We haven't found the right direction that can make a beautiful story, beautiful materials, beautiful scripts, how to show ourselves . . . and the IOT issue. . . The whole team was up and down, up and down together. And I myself was in a bad mood at that time. I lost my belief in the team's ability to win in the contest, and I am a part of the team. I thought we couldn't make it! I couldn't make it. (S4IT1)

However, in the last two weeks, the students mentioned the team's discovery of their "value" and "strengths" which built up individuals' beliefs in the team's contribution and motivated them to achieve their own goals.

And finally, we found the value of the team, we learned about our strengths compared to other teams. We strongly believe we have our own value. I think this is the most important thing which has helped us move forward more smoothly. It built up every member's belief in their contribution. Each of us oversees different tasks and we have together achieved our goals step by step. (S8FG)

Verbal Feedback

In the present study, verbal feedback enhanced participants' sense of self-efficacy, especially within the last month. Findings suggest that students relied on team members and their adviser's verbal

feedback, to register task performance as successful or not. Feedback guided engineering undergraduates' interpretations of their competence, that is, the feedback developed the perception of whether they had the required ability to succeed. Interestingly, no team members considered the feedback to be negative.

We didn't think we received any negative feedback [from our advisor and team members]. Everything was good but something was better, more suitable. We chose the best thing! And that makes us feel confident in ourselves. (S7FG)

I like the way I am given feedback. . . . We often hold a discussion at the end of the day. We tackle every single issue. I agree with him [S7] that we don't have negative feedback. We try to give constructive feedback to everybody. . . . Every member raises his voice and comments on daily work. . . . So, when we leave the meetings, we feel satisfied with specific and timely feedback we receive from team members and the advisor. (S8FG)

The eight participants reported receiving more "compliments" from their peers and their advisor within the last month than at other times which boosted their sense of self-efficacy and prepared them well for the contest.

The adviser assigned a new task for me a week ago. He let me work as the communicator between the IOT team and the university staff. He told me

he is very proud of what I can do. His encouragement motivates me a lot and strengthens my belief that I can do any task well on the contest day. (S1RJ8)

In the third month, I feel more confident with my work. Not only me but the whole team feel the same thing. We nearly finish all the tasks on the schedule. We receive more compliments from our advisor. Of course, he often compliments us, but we have received more good words recently! (S3FG)

Advisor Credibility

McCroskey and Teven (1999) identified competence, trustworthiness, and goodwill as important dimensions of teacher credibility. Competence refers to a student's perception of the teacher's knowledge and experience, whereas goodwill is the perceived caring resulting from empathy, understanding, and responsiveness. Trustworthiness is seen as the perceived character and honesty of the teacher. In our study, findings suggest that engineering undergraduates seemed to display a robust sense of self-efficacy when learning with an advisor, who they perceived as credible. First, the advisor was perceived to be able to assign tasks in accordance with the students' attributes and to break the tasks down into manageable and achievable sub-tasks which confirmed his knowledge and experience. For example, student 5 said he felt "more confident and satisfied" because he became "clearer about what [he] needed to strive for" after his IOT task was divided into manageable subtasks. Second, the advisor's verbal feedback illustrated his

responsiveness and understanding which also instilled a sense of self-efficacy in the students (see *Verbal Feedback* above). Last but not least, some students also mentioned his caring and other good characteristics:

The advisor cares about us a lot. He often has meals with us and has organized two sightseeing trips to many areas in Taiwan for us . . . He treats us as his family members. (S7IT2)

I feel warm and safe to learn more in this laboratory with my advisor and my team members. I believe that our advisor can help us to succeed at the contest with his knowledge, ability, and generosity. (S6IT2)

Comparison with Team Members

In the study, it appears that students' comparison with team members can strengthen their self-efficacy. Observing team members doing the same tasks provided participating students with opportunities to compare their own abilities to that of their team members. High efficacious students formed a need to enrich their knowledge and skills in order to help their team members while those with weaker self-efficacy displayed a willingness to learn from their peers to improve their knowledge and skills. As a result, both types of students felt more efficacious due to the perceptions of successful skill development or task accomplishments. For example, student 3 shared in his interview that he "could learn about vacuum pumps quickly and shared with the team because no one knew what it

was". The newly gained knowledge made him think he "could speak well on the contest day". Student 5 said:

I fixed a lot of English pronunciation mistakes and learned some new terms by observing a team member deliver his presentations. I learned quite a lot from him. I also recognized that I need to practice my speaking skills a lot to keep up with my team members. I have done it promptly for 2 months. . . I become more confident in my English competence. (S5RJ9)

Emotions

In this study, the negative or positive feelings associated with the interpretations and internalization of other sources of efficacy-relevant information can enhance or harm engineering students' self-efficacy. For example, in the first two weeks of the three-month period, the feeling of incompetence in motor technology knowledge and English language skills lowered students' self-efficacy beliefs. Some students in their interviews and journal entries mentioned their "tiredness" (S3), "sadness", "pressure" (S7), and a feeling of "lacking comfort and confidence" (S4). In contrast, growth in knowledge and skills, a stronger belief in the team's ability to win the contest, successful task performance brought by verbal feedback, the advisor's credibility, and comparison with team members induced students' positive feelings. For example, the students reported to be "excited" (S2), "motivated" (S3; S1), "confident" (S5; S7), "safe" and "warm" (S6) which strengthened

their trust in their competence to do assigned tasks successfully.

DISCUSSION AND CONCLUSION

The present study confirms previous theoretical assumptions (Bandura, 1997, Schunk et al., 2008) and empirical findings (e.g., Fantz et al., 2011; Keefe, 2013) that four sources of self-efficacy information are related to students' self-efficacy beliefs. In addition, the study also supports the role of collective efficacy (Ahlgren & Verner, 2009) and context (Klassen & Klassen, 2018) in mediating engineering students' self-efficacy.

Mastery experiences appear to be a powerful factor affecting the self-efficacy of individual students in the present study since they exerted the most direct experiences on forming self-efficacy (Bandura, 1997; Schunk et al., 2008). At the early stages of the study, some engineering undergraduates displayed a low sense of self-efficacy due to the perceived serious lack of knowledge of motor series, technology, and presentation skills. However, as their knowledge and skills improved over time, participating students' self-efficacy beliefs were strengthened. The process of developing new skills and experiences happened when tasks were practiced and completed. As Bandura (1997) suggested, the greatest potential for a positive change in self-efficacy occurs during this period of skill development. Our study confirms the results of previous studies (e.g. Fantz et al., 2011; Keefe, 2013; Srisupawong et al., 2018) which highlighted the importance of supplying engineering

students with a range of opportunities to gain a sense of mastery (see below).

The findings suggest that social persuasion contributed significantly to the development of mastery experiences. Feedback brought individual students the perception that they could succeed or were on the right track. Specific, timely, and constructive verbal comments motivated students to keep attempting mastery. Some researchers (e.g., Keefe, 2013; Mills, 2011) noted the critical role of supplying enough feedback to enable students to quickly absorb the pain of confusion or possible failures and find the courage to try again. Other researchers (e.g., Agricola et al., 2020; Mills, 2011) made it clear that feedback's form, content, quality, and focus can lead to the positive development of self-efficacy. Our study shows that organizing feedback conversations, in which verbal feedback is focused, goal-oriented, timely, and constructive, can have a significant impact on the improvement of engineering students' self-efficacy beliefs.

Consistent with Won et al.'s (2017) assertion, in our study, the perceived credibility of the advisor was associated positively with increased self-efficacy beliefs of the students. This special form of social persuasion interacted closely with other forms of social persuasion (feedback and task allocation and breakdown) in increasing their self-efficacy. The students reported positive emotions and greater effort (a stronger sense of self-efficacy) since they trusted in the qualities of the advisor. The perceived credibility of the advisor likely

made his feedback and guidance particularly effective in developing his students' self-efficacy. Owing to the scarcity of research on the relationship between advisor credibility and students' contest self-efficacy, future studies are suggested to support this finding of our study.

Regarding vicarious experiences, it seems that participating students' comparison of their performance relative to their peers' scaffolded input opportunities for them to visualize their current strengths and weaknesses, see their uniqueness and contribution, understand their knowledge and skill gaps, set up improvement goals to reduce the gaps, and gain desired results. The comparison facilitated engineering students' willingness to work and learn together to attain their goals. Our study suggests that social comparison engendered undergraduates' co-construction of knowledge, which consequently led to their improvement of mastery experiences and self-efficacy beliefs.

The findings in the present study also confirmed Bandura's (1997) assertion that emotions and physiological responses do not directly influence students' self-efficacy beliefs. Instead, they are a factor in the interpretation of what that response means. In our study, negative or positive emotional reactions can be interpreted as indicators of incompetence or competence. Research suggests that negative feelings such as fear, boredom, fatigue, and anxiety can harm self-efficacy and lead to poor performance. Positive emotions, however, usually engender self-efficacy beliefs and

subsequent success (Martinez et al., 2011). In line with Fantz et al.'s (2011) and Usher and Pajares' (2008) contention, our findings make clear that creating more opportunities for students to gain more senses of mastery and negotiate developmental challenges, increasing the credibility of the advisor, and giving timely, specific and constructive feedback has the potential of triggering positive feelings for engineering students which indirectly engender their contest self-efficacy.

Our study resonates with the assertion of Bandura (1997) and other researchers (Ahlgren & Verner, 2009; Goddard et al, 2004) that collective efficacy can influence self-efficacy. For example, when individual students believed that no one in the team could figure out the way to solve the IOT problem or to produce interesting scripts, they lost the beliefs in their own abilities. It appears that participating students' perception of team ability to succeed or fail in accomplishing some tasks influenced the self-efficacy of some individual students. The finding suggests that collective efficacy beliefs acted as a resource in affecting self-efficacy in our study. However, due to the lack of research into the relationship between collective efficacy and self-efficacy in the field of engineering education, more research is needed to understand its specific nature.

Our findings substantiate the assertion of Bandura (1997) and other researchers (e.g., Chen & Usher, 2013; Srisupawong et al., 2018) that students' self-efficacy fluctuates in accordance with contexts.

The students appeared to have fluctuating self-efficacy in accordance with the context. However, as they gained more mastery experiences a couple of weeks prior to the contest, the impact of contextual factors became less significant, that is, they gained a stronger sense of self-efficacy beliefs.

Our research has limitations that must be acknowledged. First, all data collected are self-reported. Participating students might have felt uncomfortable disclosing certain information which they considered to be sensitive. It is also possible that students could overestimate or underestimate the role of efficacy-relevant information. It would be useful if future qualitative research could employ observation as an additional data tool. In addition, the respect for the teacher seems to play a unique role in Asian cultures (Phan, 2011) and sources of self-efficacy may operate differently in Asian and Western cultures (Klassen, 2004). Therefore, the finding that adviser credibility indirectly bolstered students' contest self-efficacy should be interpreted with caution.

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Factors that Influence High School Female Students' Intentions to Pursue Science, Technology, Engineering and Mathematics (STEM) Education in Malaysia

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ABSTRACT

Despite the increase in the number of female students in education indicating a reversal in the gender gap, their participation in Science, Technology, Engineering, and Mathematics (STEM) education in Malaysia is still a matter of concern. This study extends empirical explanations for this gender gap and identifies factors influencing high school students' intentions to pursue Science, Technology, Engineering, and Mathematics (STEM) Education in Malaysia. The present study aims to develop a framework of female intention to pursue STEM education by examining the impact of five independent variables on STEM self-efficacy and in turn the impact of self-efficacy on intention. The independent

variables include attitude towards STEM, self-concept, gender stereotype, motivation, and teacher stereotypes. The study also examines the independent and moderating impact of career outcome expectancy on the relationship between self-efficacy and intention. Data was collected from 211 secondary school female students in Forms 4 and 5, studying at eight secondary schools in two states in Malaysia. The data was analyzed using SmartPLS. The results of

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the study show that attitude, motivation, and career outcome expectancy are positive and are significant predictors of STEM self-efficacy, whereas gender and teacher stereotypes are the negative predictors. The results of the study also highlight that self-efficacy is a strong predictor of intention to pursue STEM education. These findings of the study would assist policymakers to develop suitable strategies to improve female participation in STEM education in Malaysia.

Keywords: Female, intention, Malaysia, self-efficacy, STEM

INTRODUCTION

Over the past decade, Science, Technology, Engineering, and Mathematics (STEM) education has received growing attention (Honey et al., 2014). By providing the necessary skills and knowledge, STEM education has laid the technological foundations for a sustainable society (Meng et al., 2014). Hence, the world needs more STEM literate individuals, professionals, and leaders (Ramsey, 2018) and its importance cannot be undermined.

According to a report published by the American Association of University Women (AAUW), an increase in female interest and participation in STEM education may lead to increased innovation as well as competitiveness (AAUW, 2010). The AAUW report further informed that to represent and cater to the needs of female consumers, it is important that the STEM

workforce comprises women and men in equal and proportional numbers. Other authors i.e., Chubin et al. (2005) also emphasized the need for a diverse workforce with females. Hence, it can safely be asserted that STEM and women need each other (Ramsey, 2018).

The research has shown an increase in female participation in STEM fields in the past 50 years (Rabenberg, 2013). However, despite its importance and relevance to the 21st-century challenges, the dearth of female participation continues and as a result, the gender disparity in STEM education exists all over the world (The Association of Academies and Societies of Sciences in Asia [AASSA], 2014; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2017). Over the years, female students' interests in STEM-related careers gradually declined, as early as during their studies at the secondary level (Riegle-Crumb et al., 2011). As of 2019, only 27% of the STEM workforce in the United States of America (USA), the world leader in science and technology, is comprised of females (Martinez & Christnacht, 2021). As a result of this gender gap in STEM education, various global, as well as domestic challenges have emerged. For instance, due to their lack of participation in STEM education and careers, the female population tends to have lesser earnings as well as opportunities for leadership positions as compared to males. Moreover, not only for better pay scales or leadership opportunities but females also need to be STEM-literate in order to lead

an informed and effective life as users of STEM-related products (Ramsey, 2018).

Similarly, in Malaysia, where although female participation in education has improved, the interest of female students in taking up STEM subjects has decreased (Kamsi et al., 2019). Malaysia being a patriarchal society, tends to hinder women from fully utilizing their potential (Azmawati et al., 2017). As women are expected to play a vital role in the family (Abdullah et al., 2008), most of the females choose family over career (Noor, 2001). Hence, there is an under-representation of women in technology and engineering-related STEM fields in Malaysia (Goy et al., 2018).

Some of the factors behind the lack of female participation in STEM fields include those that are related to self-confidence, education, culture, and society (AAUW, 2010). Due to the importance of female participation in STEM education and careers, this under-representation has been extensively studied across the world (O'Brien et al., 2020). Similarly, in the context of female participation in STEM education in Malaysia, researchers have identified and studied several factors. With regards to individual factors, Pang et al. (2015) who studied the impact of gender, personality types, and pre-school time duration on mathematics achievement, found that the duration of time spent in preschool has a significant impact on mathematics achievement. Halim et al. (2018) who studied further the impact of students' STEM self-efficacy on their career choice in STEM as well as physics

found statistically significant and positive relationships between the aforementioned constructs. The study also found that females showed a higher self-efficacy in science, whereas the males showed higher levels of self-efficacy in engineering. Yeoh and Ierardi (2015) who examined the role of motivation of matriculation students in learning biology, studied different kinds of motivation including intrinsic, extrinsic, grade and career motivation, self-determination, and self-efficacy. The result of the research showed that extrinsic motivation and grade motivation surpassed intrinsic motivation for females. The study also indicated that female students possessed a lower level of self-efficacy when compared to males in learning biology. However, the study also indicated that women possess a higher level of self-determination as well as motivation towards achieving high grades and pursuing careers in biology.

In addition to the personal factors, researchers have also identified several key variables which are contextual in nature, and which positively or negatively affect female students' decisions to undertake STEM education or career paths. For example, Abu-Lail et al. (2012) identified the presence of role models as one of the major contextual factors. The authors insisted on the importance of female role models in STEM fields. Goy et al. (2018) further opined that low recruitment at the point of entry in STEM careers is also seen as one of the contextual factors to negatively affect the female decisions to undertake STEM education. In addition, Rajenderan

and Zawawi (2019) proposed that work-family stress can affect the psychological well-being of the females working in the Information and Communication Technology (ICT) industry.

However, several other factors have been overlooked or understudied in the Malaysian context such as self-efficacy, stereotyping, intrinsic motivation, personal preferences, self-concept, role model influence, family influence, and low recruitment (Sajid et al., 2020). Hence, the objective of the present research is to examine the impact of the under-studied individual (i.e., self-concept, attitude, motivation, and self-efficacy) and contextual factors (i.e., gender and teacher stereotypes and career outcome expectancy) on female students' intentions to pursue STEM education in Malaysia. Consequently, the present research aims to propose a framework of individual and contextual factors affecting female participation in STEM education in Malaysia.

LITERATURE REVIEW

Based on the review of the literature, the present study has identified nine factors including self-concept, self-efficacy, attitude, gender-stereotypical norms, motivation, teacher's stereotype as well as career outcome expectancy which may affect female's intention to pursue STEM education at the secondary level of education.

Self-efficacy is an individual's expectation of his/her performance in STEM-related subjects. i.e., "*I believe I can get a B in a test of any STEM-related*

subject". It has been reported that women lack self-efficacy towards STEM-related goals and hence they lose their interest in STEM (Eccles, 1994). Self-efficacy is a strong predictor of the vocational choice of women (Larose et al., 2006), as well as their persistence in STEM education (Lent et al., 2015). While studying the intentions of middle school students in pursuing STEM education, Brown et al. (2016) found a strong relationship between self-efficacy and intention.

The female STEM self-concept is an important factor that can be explained as confidence in her aptitude to accomplish and complete tasks related to STEM through the consolidation and implementation of the required knowledge and expertise to manage STEM-related subjects (Sahranavard & Hassan, 2012). Self-concept does not reflect achievement in a particular domain (Ertl et al., 2017). According to the studies performed by Marsh and Scalas (2011) and OECD (2015), females were found to be more critical of their STEM-related self-concept when compared to males. Hence, the STEM-related self-concept may affect the level of achievement in STEM-related subjects (Ertl et al., 2017). Self-concept is similar to self-efficacy, but they differ from each other significantly (Pajares, 2004). STEM self-concept is the general perception of an individual about STEM education, whereas STEM self-efficacy is an individual's expectation about his/her performance in STEM. For instance, a person might express his STEM self-efficacy in words such as "*I believe that I*

can get a B in a test of any STEM-related subject.”, whereas, for STEM self-concept, the person might generally say, “I am good at STEM-related subjects” (Rittmayer & Beier, 2008). Hence, it can be argued that a positive STEM self-concept will lead to positive STEM self-efficacy.

Attitude is one of the important variables in the Theory of Planned Behavior (TPB), and it can be defined as the belief of a person towards the features of some objects (Fishbein & Ajzen, 1977). In the context of STEM, attitude is defined as the belief, feelings or values held about STEM-related discipline or its impact on society or the scientists (Osborne et al., 2003). Like self-efficacy, it has been reported that females lack the right attitude towards STEM education (Mahoney, 2010). The attitude of a person towards STEM affects their participation, interest (Greenfield, 1996), and achievement (Papanastasiou & Zembylas, 2002).

Likewise, gender is a central social construct used by children from preschool years, to compare and categorize and differentiate themselves from others (Renno & Shutts, 2015). According to Ruble et al. (2007), children as early as 2 years of age can comprehend gender labels, which are reinforced by their interaction with adults (Ruble et al., 2007), and start to form a stereotype (Mulvey et al., 2010) about the different activities, roles, and careers (Blakemore, 2003).

Stereotypes are peculiar to questions such as, who can, should, and is good at STEM education which influences student's

intention in STEM education (McGuire et al., 2020). It has been argued that the ability to study, pursue and succeed in the STEM world can be viewed as “gender innate” in the sense that it is meant for men (McGuire et al., 2020). As a result, according to McGuire et al. (2020), female students have to suffer lifelong consequences of these stereotypes for their engagement and motivation in the STEM domain. According to Cundiff et al. (2013) and Schuster and Martiny (2017), these gender stereotypes negatively affect the motivation as well as self-efficacy of women to pursue STEM education or careers. The same was echoed by Garriott et al. (2017) in a study on adults, which showed that gender stereotypes significantly predict STEM self-efficacy, which in turn is a strong predictor of career goals.

Another variable namely motivation entails the degree to which a person is moved to do something (Deci & Ryan, 2000). According to the Self-Determination Theory proposed by Deci and Ryan (2000), motivation can be further categorized into intrinsic and extrinsic motivation. Student motivation and self-efficacy are intertwined constructs and has long been understood that the two have a strong relationship in the educational context (Husain, 2014). It is argued that after the students are motivated, they tend to regulate their behavior (García-Martín & García-Sánchez, 2020). Hence, it can be deduced that people with high self-efficacy have high motivation and in turn, the ones with high motivation will also have high self-efficacy. This phenomenon termed as success-cycle by Ackerman (2020), is seen when a highly motivated individual is

highly likely to achieve goals, which gives him the experience which in turn increases self-efficacy.

Similarly, the teacher plays a significant role in encouraging females to pursue STEM education. The influence of the teacher on the students' interest in STEM education is shown through the instructional practices of the teacher (Swarat et al., 2012) as well as encouraging behavior (Wang & Eccles, 2012). Their support has been regarded as a crucial variable to augment the learning and interest of students in STEM education (Nugent et al., 2015). According to Gunderson et al. (2012), teachers are one of the factors to transmit negative stereotypes about their lack of math abilities among young girls. In the late 70s, the studies by Astin (1975) and Leinhardt et al. (1979), have shown that teachers spent more time and attention on the boys than the girls when teaching Mathematics. According to research conducted by Lavy and Sand (2015), female students with such stereotypical teachers had been persuaded to take up lesser high school courses in STEM-related subjects or were unlikely to take STEM subjects as a major or STEM as a career. According to Blair et al. (2005), teacher stereotypes alone can permanently change the "*neurobiology of the prefrontal cortex*" and as a result permanently change how females and males perceive their STEM abilities. As for its influence on self-efficacy, according to Bandura (1977), like parents, teachers also play a crucial role in developing the self-efficacy of the children and student's STEM self-efficacy

is improved when the significance of STEM skills is emphasized by the teachers (Bandura et al., 2001).

Behavioral intention is one of the elements of the Theory of Planned Behavior (TPB). It has been defined by Ajzen (1991) as the willingness of an individual to work hard and try to perform a particular behavior. According to Hardin and Longhurst (2016), women lack a strong intention to pursue STEM education. Hence, this becomes a relevant factor when studying female participation in STEM education. It has been argued that a student's intention to pursue STEM education and goals is affected by self-efficacy and outcome expectations, and the former can be increased by increasing the later factors (Fouad & Santa, 2017). Hence, the present study hypothesized the impact of self-efficacy and career outcome expectancy on female intention to pursue STEM education.

Outcome expectancy is also one of the important variables in social cognitive theory. It is defined as the "*self-perceptions of the anticipated consequences or outcomes that would accrue, if the person were employed in the occupation of her/his choice*" (Springer et al., 2001). The career outcome expectations can increase the motivation of the person to pursue a particular career while overcoming the barriers and increasing her competency. Furthermore, Social Cognitive Career Theory (SCCT) elaborates that outcome expectations not only affect self-efficacy, but they can also affect the intention or goals of an individual.

THEORETICAL FRAMEWORK

Theoretically, the present study is based on two theories the Theory of Planned Behavior (TPB) by (Ajzen, 1991) and Social Cognitive Career Theory (SCCT) by Lent et al. (1994). The Theory of Planned Behavior (TPB), a renowned theory to explain human behavior, posits that intention is the strongest predictor of behavior, where attitude, subjective norms, and perceived behavioral control predict the intention (Ajzen, 1991). According to Moore and Burrus (2019), TPB has predictive power for STEM academic choices. As for the

SCCT, the theory posits that the student's decision to choose a particular career path is an outcome of the interaction between various cognitive and environmental factors as well as explicit behaviors (Ambriz, 2016). TPB and SCCT have been instrumental in explaining planned human behavior and cognitive choice of a career path, respectively. Based on these two theories and the literature review, the proposed framework for the present research work has been illustrated in Figure 1, whereas the proposed hypotheses have been presented in Table 1.

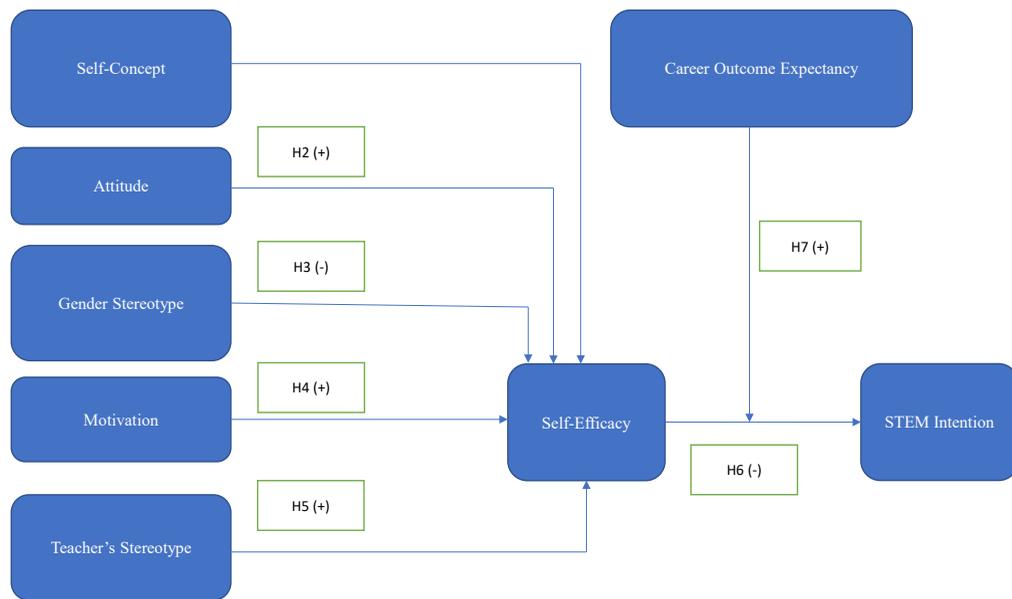


Figure 1. Proposed theoretical framework

Table 1
Proposed hypotheses

Hypothesis No.	Hypothesis Statement
H1	STEM self-concept will positively affect the STEM self-efficacy of female students
H2	Attitude towards STEM will positively affect female STEM self-efficacy.
H3	STEM-related gender stereotypes will negatively impact female students' STEM self-efficacy.
H4	Motivation will positively impact female students' STEM self-efficacy.
H5	Teacher stereotypes will negatively impact female students' STEM self-efficacy.
H6	Self-efficacy will positively affect the intention of women to pursue STEM education
H7	COE will positively moderate the relationship between female students' STEM self-efficacy and their intention to pursue STEM education.

METHODOLOGY

The present study is quantitative in nature where the quantitative data was collected through the survey questionnaire. The data was collected from 211 female students studying in Forms 4 and 5 at eight secondary schools in the Klang Valley and Kuala Lumpur. As for the sampling method, a convenience sampling method was employed in this research. The data was gathered using pre-validated scales on a five-point Likert scale. The survey questions were tailored to fit the context of the present research were found necessary. Table 2 highlights the variables, the source from which their instruments were adopted, the number of items, and a sample item from the survey. The complete questionnaire items

for each variable as well as the coding are included in Appendix 1.

After collection, the data was analyzed using Smart Partial Least Square (PLS). The data were analyzed in two stages measurement model evaluation followed by structural model evaluation. In the measurement model evaluation, the reliability of the data was analyzed using Cronbach's Alpha and composite reliability, whereas the convergent and discriminant validity was evaluated by using tests such as Average Variance Extracted (AVE) and Fornier-Larcker criterion respectively.

In the structural model evaluation, the path coefficients, as well as the significance of the correlation, were assessed through the bootstrapping method. This helped in testing

Table 2

Adopted scales for all constructs

Variable	Source	No. of Items	Example
Self-Concept	Kulm (1973)	27	“How comfortable I feel in STEM subjects’ class”
Attitude	Mahoney (2010)	24	“I enjoy learning about STEM subjects”
Gender Stereotype	Maryann and Patience (2017)	19	“Girls are assigned more domestic duties in the house than boys”
Motivation	Edzie (2014)	10	“My school counselor encouraged me to study STEM-related courses”
Teacher stereotype	Ertl et al. (2017)	4	“Teachers are more likely to encourage boys to take STEM subjects”
Self-Efficacy	Jenson et al. (2011)	7	“How confident are you that you can get good grades in your STEM courses this semester?”
Intention	Salleh (2013)	4	“I intend to learn STEM subjects to gain more scientific knowledge”.
Career Outcome Expectancy	Springer et al. (2001)	26	“I will get a feeling of accomplishment if I work in STEM related job”

the proposed hypotheses of the present research. The results and discussions are presented in the following section.

RESULTS AND DISCUSSION

Measurement Model Evaluation

In the measurement model evaluation, construct reliability and validity were examined by using measures such as Cronbach’s Alpha, Composite reliability, and Average Variance Extracted (AVE). Table 3 shows the results of the mentioned measures. The discriminant validity results

are further illustrated in Table 4 as measured by the Fornell-Larcker criterion. Figure 2 illustrates the measurement model.

The reliability of the survey instrument is measured through Cronbach’s Alpha and composite reliability. According to Henseler et al. (2009), .70 and above is considered satisfactory and good reliability of the survey instrument. As for validity, which is measured through Average Variance Extracted (AVE), most of the variables achieve an AVE value of .50 and above which is considered as a satisfactory value (Henseler et al., 2016).

According to the results presented in Table 3, all the variables measured in the survey have and indicate satisfactory reliability and validity.

For satisfactory discriminant validity, the value of the square root of AVE for each variable should be higher than the correlations among the variables (Fornell & Larcker, 1981; Henseler et al., 2009). According to the results presented in Table 4, all the variables meet the Fornell-Larcker criteria for discriminant validity.

Structural Model Evaluation

Table 5 shows the path coefficients and significance values for the relationship between the constructs. Figure 3 illustrates the structural model. The results shown in Table 5 are the outcomes for the structural model evaluation of the present study to examine the factors influencing female participation in STEM education in

Malaysia. The study analyzed the impact of seven independent variables on STEM self-efficacy and in turn its impact on female students’ intentions to pursue STEM education. The five independent variables are attitude, gender stereotypes, motivation, self-concept, and teacher stereotypes. The study also examined the impact of career outcome expectancy as a moderating variable.

According to the results, attitude towards STEM (beta: .170: p-value: .047) positively and significantly predicts female students’ STEM self-efficacy. Career outcome expectancy (beta: .536: p-value: .000), when tested as an independent variable, further proved to be a positive, strong, and significant predictor of STEM-related self-efficacy. The results also indicate that motivation is also one of the strong, positive, and significant predictors

Table 3
Construct reliability and validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Attitude	.885	.911	0.594
Career Outcome Expectancy	.934	.942	0.505
Gender Stereotype	.771	.835	0.504
Motivation	.863	.907	0.709
STEM Intention	.888	.923	0.750
Self-Concept	.738	.835	0.560
Self-Efficacy	.887	.914	0.639
Teacher stereotype	.880	.923	0.804

Table 4
Fornell-Larcker results for discriminant validity

	Attitude	Career Outcome Expectancy	Gender Stereotype	Moderating Effect 1	Motivation	Intention	Self-Concept	Self-Efficacy	Teacher stereotype
Attitude	0.771								
Career Outcome Expectancy	0.531	0.710							
Gender Stereotype	-0.181	-0.321	0.710						
Moderating Effect 1	0.039	-0.268	0.065	1.000					
Motivation	0.724	0.592	-0.166	-0.078	0.842				
Intention	0.680	0.734	-0.303	-0.141	0.676	0.866			
Self-Concept	-0.278	-0.096	0.372	-0.120	-0.133	-0.240	0.748		
Self-Efficacy	0.520	0.523	-0.270	0.016	0.563	0.657	-0.212	0.800	
Teacher stereotype	-0.130	-0.162	0.250	-0.108	0.019	-0.193	0.389	-0.197	0.897

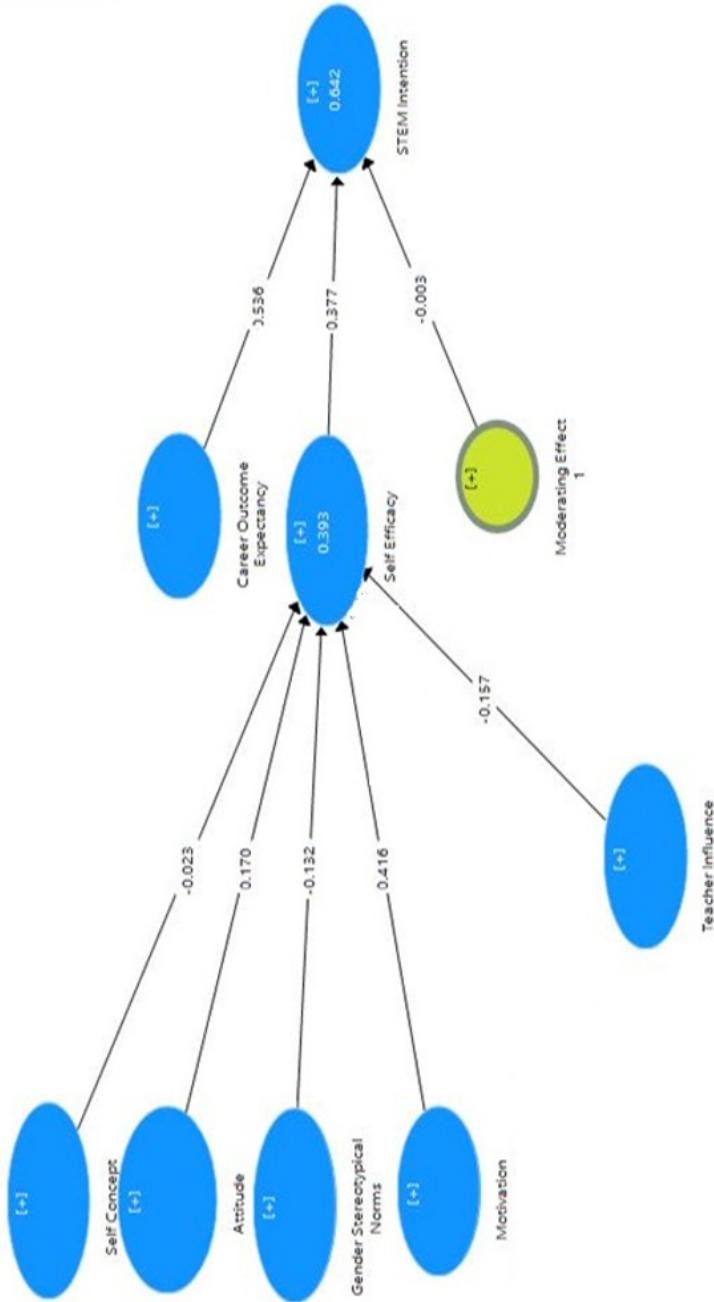


Figure 2. Measurement model

of STEM self-efficacy (beta: .416: p-value: .000). In addition, the results also showed that self-efficacy positively, strongly, and significantly predicts intentions to pursue STEM education (beta: .377: p-value: .000).

The present study also found some negative predictors of female self-efficacy. According to the results, gender stereotypes (beta: -.132: p-value: .054), as well as teacher stereotypes (beta: -.0157: p-value: .021) negatively predicted the self-efficacy of female students to pursue STEM education.

It entails that general gender stereotypes, as well as teacher stereotypes towards female STEM education, may negatively influence female students' self-efficacy towards STEM education.

Apart from the mentioned relationships, the other relationships proposed in this research did not achieve statistical significance. This includes self-concept (beta: -.023: p-value: .766) and career outcome expectancy as moderator (beta: -.003: p-value: .914).

Table 5
Path coefficients and significance values

Paths	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Attitude→Self Efficacy	0.170	0.175	0.086	1.987	.047
Career Outcome Expectancy→STEM Intention	0.536	0.532	0.054	9.928	.000
Gender Stereotype→Self Efficacy	-0.132	-0.135	0.069	1.930	.054
Moderating Effect 1→STEM Intention	-0.003	-0.005	0.030	0.109	.914
Motivation→Self Efficacy	0.416	0.408	0.087	4.781	.000
Self-Concept→Self Efficacy	-0.023	-0.023	0.077	0.297	.766
Self-Efficacy→STEM Intention	0.377	0.382	0.049	7.701	.000
Teacher stereotype→Self Efficacy	-0.157	-0.145	0.068	2.317	.021

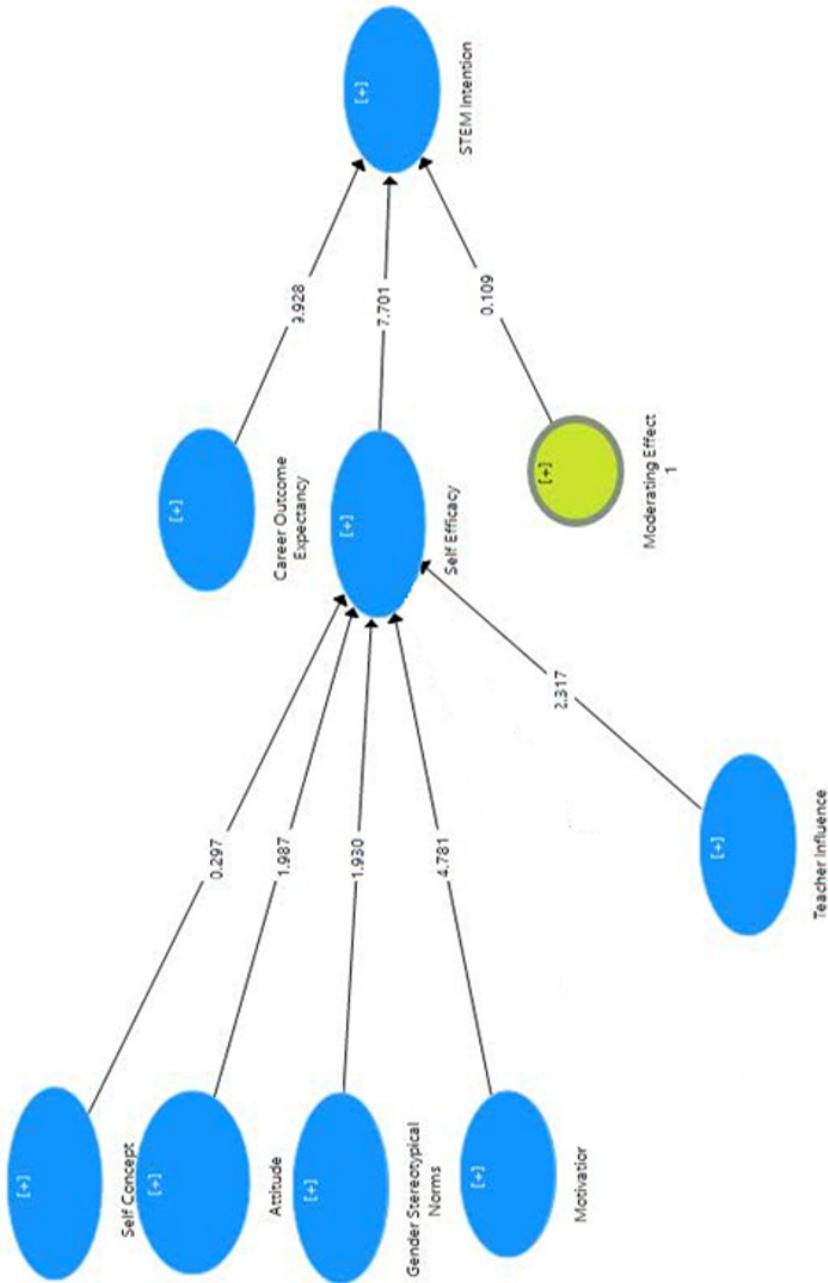


Figure 3. Structural model

R-Square

R² indicates the collective impact of independent variables on the dependent variable. According to Table 6, all the independent variables explain 39.3% variance in STEM-self efficacy, whereas self-efficacy can predict 64.2% variance in the intention to pursue STEM. Based on the value of R², it entails that the percentage of the impact of independent variables on self-efficacy is weak (only 39.3%), whereas the percentage of the impact of self-efficacy on intention is moderate. It can be ascertained that the variables studied in this study are not holistic in terms of predicting the self-efficacy of female students.

Table 6
R Square value

Variable	R Square	R Square Adjusted
STEM Intention	.642	.637
Self-Efficacy	.393	.372

DISCUSSION

The present study attempted to understand the precursors of female participation in STEM education in Malaysia. For this purpose, the impact of five independent variables on self-efficacy was examined. These variables included attitude, self-concept, gender stereotype, motivation, and teacher stereotypes. The impact of self-efficacy on intention to pursue STEM education was also examined. In addition,

the direct and the moderating impact of career outcome expectancy was also examined on self-efficacy, as well as between self-efficacy and intention, respectively. The results showed that female attitude towards STEM subjects positively and significantly affects their STEM self-efficacy. The results are in congruence with prior research. In a study conducted on the relationship between self-efficacy and attitude towards computer technologies, Kinzie and Delcourt (1991) found that a positive attitude leads to positive self-efficacy. As mentioned earlier, the attitude of a person towards STEM affects their participation, interest (Greenfield, 1996), and achievement (Papanastasiou & Zembylas, 2002).

The results for the impact of career outcome expectancy on female students' STEM self-efficacy are also in compliance with previous research. According to Maddux et al. (1982), and contrary to the popular narrative, a positive outcome expectancy may lead to incremented self-efficacy. According to SCCT, the career outcome expectations can increase the motivation of the person to pursue a particular career while overcoming the barriers and increasing her competency (Lent et al., 2002).

The results of the present study have shown that motivation positively and significantly predicts female STEM self-efficacy. Prior research has also indicated a positive relationship between motivation and self-efficacy. Husain (2014) pointed towards a strong relationship between both constructs. High motivation leads

Table 7
Results for each hypothesis

Hypothesis No.	Hypothesis Statement	Result
H1	STEM self-concept will positively affect the STEM self-efficacy of female students	Not supported
H2	Attitude towards STEM will positively affect female STEM self-efficacy.	Supported
H3	STEM-related gender stereotypes will negatively impact female students' STEM self-efficacy.	Supported
H4	Motivation will positively impact female students' STEM self-efficacy.	Supported
H5	Teacher stereotypes will negatively impact female students' STEM self-efficacy.	Supported
H6	Self-efficacy will positively affect the intention of women to pursue STEM education	Supported
H7	COE will positively moderate the relationship between female students' STEM self-efficacy and intention to pursue STEM education.	Not supported

to the high achievement of goals which in turn leads to augmented self-efficacy (Ackerman, 2020). This present research found that gender stereotype affects female STEM self-efficacy negatively. As for the gender stereotypes, similar results were found by Cundiff et al. (2013), Schuster and Martiny (2017) as well as Garriott et al. (2017) that gender stereotypes negatively predict STEM-related self-efficacy. Due to gender stereotypes, female students face lifelong consequences in terms of lack of motivation and engagement in the STEM domain (McGuire et al., 2020). Similar to gender stereotypes, the results also found that teacher stereotypes also show negative effects on female STEM self-efficacy in a significant manner. Similar results were found by earlier research such as Blair et

al. (2005), that teacher stereotypes can have a lasting and permanent impact on how females perceive their abilities in STEM. Teachers are one of the sources transmitting negative stereotypes on female lack of abilities in STEM subjects (Gundersen et al., 2012). Lavy and Sand (2015) argue further that teacher stereotypes also affect the intention of female students to take up STEM subjects in the future.

The results of the present research have shown a positive, significant, and strong impact of self-efficacy on female students' intentions to pursue STEM education. Brown et al (2016) also found similar results when examining the relationship between the self-efficacy and intention of middle school students. Similarly, Fouad and Santa (2017) found that a student's intent to pursue

STEM education and goals is affected by self-efficacy. As for the impact of self-concept on self-efficacy, the results showed that there is an insignificant relationship between both constructs. It is contrary to common belief and the results of the previous studies. It could be due to the small size of respondents and the coverage of data collected from only one state in Malaysia. The study also found that career outcome expectancy does not play a moderating role in the relationship between self-efficacy and the intention to pursue STEM education. It could be due to the context of the study which focused on secondary school students in Malaysia. For the female students at this level, career outcome expectancy may not be significant, as they may not comprehend the importance of a career at this early stage. Hence, this construct may not affect their intentions to pursue STEM education. Table 7 highlights the outcomes of the study for the hypotheses.

CONCLUSION AND IMPLICATIONS

The present research aimed to examine the impact of self-concept, attitude, motivation, and self-efficacy on individuals under study and contextual factors (i.e., gender and teacher stereotypes and career outcome expectancy) on the intention of female students to pursue STEM education in Malaysia. The study also aimed to propose a framework of individual and contextual factors affecting female participation in STEM education in Malaysia. Both objectives were achieved as discussed in the

results and discussions sections of the paper. The impact of individual and contextual factors was examined thoroughly with the help of quantitative surveys and later by using the SmartPLS tool for statistical analysis.

The results of the study have many important implications. Firstly, the results of the study indicate that attitude, motivation, and career outcome expectancy are positive predictors of STEM-related self-efficacy among female students in Malaysia. The governments and policymakers can thus make policies to enhance the attitudes and motivation of female students. In addition, policies should be made to provide equal and safe opportunities for women to work in STEM-related careers.

Secondly, as the results of the study have shown that teacher and gender stereotypes are negative predictors of STEM-related self-efficacy among female students in Malaysia, steps to reduce these stereotypes can be taken to educate the masses as well as the teachers. Teachers can and should be trained to encourage female students to look positively at and get interested in STEM-related subjects. Moreover, female instructors for female students can also be one of the strategies to encourage students towards STEM education and careers.

Lastly, self-efficacy has proven to be a strong predictor of intention to pursue STEM education. Hence, it is important for the policymakers and the government to come up with policies to augment those factors which flourish and control those factors which may inhibit the STEM self-

efficacy of Malaysian female students, as it will in turn increase their intentions to pursue STEM education.

The present study has some limitations. Firstly, the data was gathered from only two states of Malaysia including Selangor and Kuala Lumpur. Hence, one should be cautious to generalize the results of the study to the whole country. Further, the data was collected from only 211 secondary school female students in Form 4 and 5. It is important to enhance the scope of future studies by including more respondents from different levels of education. Female students from other states in Malaysia should also be included in the study. Furthermore, it is important to examine more variables in order to holistically understand the precursors of female participation in STEM education.

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APPENDIX

Appendix 1

Questionnaire

STEM Self-Concept (Kulm, 1973)	
Item	Coding
How good a student am I in STEM subjects?	SC1
How much am I learning in STEM subjects?	SC2
How comfortable do I feel in STEM subjects' classes?	SC3
How often do I take part in class discussions?	SC4
How well do I stick to STEM subjects' problems without giving up?	SC5
How well do I remember what I learn in STEM subjects?	SC6
How often do I volunteer in STEM subjects' class?	SC7
How well do I do on STEM subjects quizzes?	SC8
How often do I ask questions when I don't understand?	SC9
How often do I do assignments on time?	SC10
How many good ideas do I have in STEM subjects' class?	SC11
How well am I doing compared to others in class?	SC12
How well am I able to concentrate on STEM subjects?	SC13
How much do I enjoy myself in STEM subjects' class?	SC14
How much do I like STEM subjects?	SC15
How much attention do I pay in STEM subjects' class?	SC16
How easily do I learn STEM subjects?	SC17
How often do I go ahead with problems on my own?	SC18
How well do I understand STEM content in class?	SC19
How well am I able to apply what I learn?	SC20
How often do I get homework problems done correctly?	SC21
How calm do I feel when called on in class?	SC22
How confident am I that I can learn STEM subjects?	SC23
How interested am I in STEM subjects?	SC24
How well do I keep up with assignments?	SC25
How little do I worry about tests in STEM subjects?	SC26
How much do I care about learning STEM subjects?	SC27

Attitude towards STEM (Mahoney, 2010)

Item	Coding
I do not like STEM subjects.	ATT1
I enjoy learning about STEM subjects.	ATT 2
I am curious about STEM subjects.	ATT 3
I am not interested in STEM subjects.	ATT 4
I like STEM subjects.	ATT 5
STEM subjects are appealing to me.	ATT 6
STEM subjects are difficult for me.	ATT 7
I do well in STEM subjects.	ATT 8
I am not confident about my work in STEM subjects.	ATT 9
I have a hard time in STEM subjects.	ATT 10
Assigned work in STEM subjects is easy for me.	ATT 11
I cannot figure out STEM subjects.	ATT 12
STEM subjects are important to me.	ATT 13
I feel there is a need for STEM subjects.	ATT 14
I do not need STEM subjects.	ATT 15
It is valuable for me to learn STEM subjects.	ATT 16
STEM subjects are good for me.	ATT 17
I do not care about STEM subjects.	ATT 18
I will continue to enjoy STEM subjects.	ATT 19
I am not interested in a career involving STEM subjects.	ATT 20
I am interested in alternative programs in STEM subjects.	ATT 21
I would like to learn more about STEM subjects	ATT 22
I do not wish to continue my education STEM subjects.	ATT 23
I am committed to learning STEM subjects.	ATT 24

Gender Stereotypes (Maryann and Patience, 2017)

Item	Coding
Girls are assigned more domestic duties in the house than boys.	GS1
Girls do not have adequate time to study in the house.	GS2
My parents advise me not to choose science and technology courses for my future career.	GS 3
I do not get enough support from my parents to tackle problems in science and technology.	GS 4
Science and technology teachers do not encourage girls to aspire for science and technology careers.	GS 5
Girls are usually intimidated in the class by boys when girls perform better in science and technology courses.	GS 6
Science and technology teachers ask boys questions more often than girls in the class.	GS 7
I am not free to express my opinions in the science class without fear of ridicule from the boys.	GS 8
The science teacher acknowledges, encourages and motivates boys more than girls.	GS 9
In my society, girls are brought up with the notion that the study of science and technology are for boys and tough girls.	GS 10
In my culture, women are regarded as weak and incapable of aspiring for challenging courses like science and technology.	GS11
Women in science and technology are seen as rebellious and too strong for men to marry.	GS12
Female models are seldom seen in science and technology.	GS13
Many important scientists in my country are males, so this means science and technology courses are mainly for males.	GS14
I see science and technology courses as male subjects.	GS15
Girls feel discouraged and often tend to admit that boys are better than girls in science and technology courses.	GS16
Girls believe they cannot study engineering or mathematics or any technology course.	GS17
Girls are weaker than boys and so cannot do tough courses in science and technology.	GS18
I think the only science subject a woman can do well in is Biology.	GS19

Motivation (Edzie, 2014)	
Item	Coding
I enjoy mathematics.	MT1
I enjoy science.	MT2
I see great career opportunities in STEM.	MT3
I have strong desire to pursue Science and engineering.	MT4
My mother works in a STEM field	MT5
My father works in a STEM field.	MT6
My school counselor encouraged me to take up STEM subjects.	MT7
I want to help others.	MT8
My high school teacher encouraged me.	MT9
I think that there are great salary opportunities in the STEM field.	MT10

Self-Efficacy (Jenson et al, 2011)	
Item	Coding
How confident are you that you can...	
Get good grades in your STEM courses this semester?	SE1
Get help with assignments or study if needed?	SE2
Get needed accommodation necessary for full participation in courses?	SE3
Do well in your STEM classes as other students?	SE4
Persist in your STEM courses even when faced with criticism?	SE5
Remain calm and relaxed during tests?	SE6
Remain calm and relaxed when expected to complete a challenging assignment?	SE7

Teacher Stereotypes (Ertl, Luttenberger, & Paechter, 2017)	
Item	Coding
Teachers are more likely to encourage boys to take STEM subjects.	TS1
Teachers are more likely to encourage girls to take STEM subjects.	TS2
Teachers are more likely to discourage boys to take STEM subjects.	TS3
Teachers are more likely to discourage girls to take STEM subjects.	TS4

Intention (Salleh , 2013)	
Item	Coding
I will take up STEM subjects in Upper Secondary level.	IN1
I will learn STEM subjects to get a job.	IN2
I will learn STEM subjects to gain more scientific knowledge.	IN3
I will learn STEM subjects if I get good grades in science examination.	IN4
Career Outcome Expectancy (Springer et al., 2001)	
Item	Coding
If I pursue a STEM-related career, I will get a feeling of accomplishment,	COE1
If I pursue a STEM-related career, I will be somebody special in the job,	COE2
If I pursue a STEM-related career, it will be easy to make friends with people at my place of employment.	COE3
If I pursue a STEM-related career, I will get recognition/ praise for the things I do.	COE4
If I in pursue a STEM-related career, I will do something that makes full use of my abilities.	COE5
If I pursue a STEM-related career, my supervisor will communicate his/her expectations well.	COE6
If I work in a STEM related workplace, I will have good working conditions.	COE7
If I pursue a STEM-related career, I will have an opportunity for self-advancement.	COE8
If I pursue a STEM related career, I will be able to try out my own ideas.	COE9
If I pursue a STEM-related career, I will be able to make decisions on my own.	COE10
If I get a job in an STEM-related career, the employers will provide for my continuing employment.	COE11
If I get a job in an STEM-related career, my supervisor/boss will back me up.	COE12

Career Outcome Expectancy (Springer et al., 2001)

Item	Coding
If I pursue a STEM-related career, people of my ethnic origin will be accepted and will have good job possibilities.	COE13
If I pursue a STEM-related career, I will do something different every day.	COE14
If I work get a job in an STEM-related career, I will do things for other people	COE15
If I pursue a STEM-related career, my salary will be comparatively better compared to others.	COE16
If I pursue a STEM-related career I will not be bored.	COE17
If I get a job in a STEM-related career, my work hours will be flexible to meet the needs of the family.	COE18
If I pursue a STEM-related career, I will direct other people's activities.	COE19
If I pursue a STEM related career, I will be able to work independently.	COE20
If I pursue a STEM related career, I will not be required to act in ways that are morally wrong.	COE21
Careers in STEM are not family friendly.	COE22
Careers in STEM are not in line with the traditional role of women.	COE23
Workplaces in STEM are not very women- friendly.	COE24



The Mediating Effects of Resilience in the Relationship of Sexual Involvement and Romantic Relationship Dissolution

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ABSTRACT

Romantic relationship dissolution (RRD) can be perceived as an upsetting or momentous event and the most stressful and unsettling events that one can encounter in life. The aim of this study to investigate the relationship between sexual involvement in a relationship and romantic relationship resolution and the role of resilience as mediators of this relationship. Two hundred ninety-three emerging young adults (ages 18 to 29) from Klang Valley have participated in this study. The present study used the Resilience Scale (RS), the Core Bereavement Items (CBI), and demographic information items. Obtained results indicated a significant difference in sexual involvement in a relationship on the level of reactions to romantic relationship dissolution. The sexual involvement in the relationship was positively and significantly correlated with romantic relationship dissolution. Specifically, sexual involvement was negatively correlated with resilience, which was, in turn, negatively associated with romantic relationship dissolution. Additionally, results also show that mediation effect for sexual involvement in resilience to romantic relationship resolution was significant. The practical implications for helping professionals were also discussed in this work.

Keywords: Emerging young adults, Malaysian, resilience, romantic relationship dissolution, sexual involvement

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INTRODUCTION

In recent years, Malaysia has been startled by the growing percentage of parasuicide, suicide cases, and mental health matters such as anxiety and depression. Adolescents and young adults aged from 15 to 34 have been identified as a high-risk group for suicide with the highest suicide rates in

which seven people may attempt suicide per day (Aishvarya et al., 2013; Ali et al., 2014). Globally, the World Health Organization (WHO) described this as a public health issue that occurs throughout the human lifespan. It was reported that approximately 800,000 people die worldwide due to suicide almost every year (Ali et al., 2014). In Malaysia, The National Suicide Registry Malaysia (NSRM) reported 425 suicide cases in 2010, with an average of 60 cases recorded monthly and two cases daily whereby youth presented the highest percentage group (Aishvarya et al., 2013; Chan et al., 2017; Jin & Lee, 2011; Ministry of Health Malaysia [MHM], 2009). Also, along with years, research findings demonstrated that younger adults frequently relate to higher suicidal behaviour risk, which comprises suicidal attempts, suicidal ideation, and complete suicide (Armitage et al., 2015; Lantagne et al., 2017; Maniam et al., 2014).

Young adults' suicidal ideations are associated with psychological distress, depression, gender, relationship problems (notably, intimate relationship), an abusive relationship, drug and substances abuse, and social-environmental factors (Ahmad et al., 2014; Chan et al., 2020; Lantagne et al., 2017; Maniam et al., 2014; MHM, 2009). Besides initiating and maintaining a romantic relationship, one of the emerging adulthood's developmental tasks is learning how to deal with relationship dissolution (Arnett, 2004). Furthermore, research studies of adolescents and young adults also revealed extreme reactions to relationship

dissolutions are associated with negative consequences include increased risk for health problems, suicidal attempts (Ahmad et al., 2014; Chan et al., 2020; Davis et al., 2003; Lantagne et al., 2017; MHM, 2009), the pervasiveness of major psychiatric illness (such as Major Depression), a decline in psychological welfare, deterioration of academic performance, and down-fall of human relationships, including short and long length relationship (Armitage et al., 2015; Chan et al., 2017; Evan et al., 2004; Johari et al., 2011). In the present study, we observed that individuals might experience grief or sorrow following romantic relationship dissolutions. Specially, we proposed that individual personal resilience will act as a mediator in facing romantic relationship dissolution (Shulman & Connolly, 2013; Wagnild, 2012).

Given the emotional pain caused by romantic relationship dissolutions, it is frequently viewed as troubling and the most unsettling events that one can encounter in life. In other words, romantic relationship dissolutions are a great extent of loss in a person's life chapter, and it might generate a grief action (Lantagne et al., 2017). Therefore, it is a struggle for every individual to cope with unpleasant feelings and distressing events. Bowlby (1980) presented the grief process into four parts: progression of initial disbelief or numbness and protest, yearning and seeking, disorganization and hopelessness, and continuing self-reconstruction and reorganization. On the other hand, young adults' romantic relationships may give

openings for human being's utmost cultivating quality of mental and emotional life's happenstances such as love, joy, happiness, contentment, and gratification (Arnett, 2000, 2004). Undoubtedly, there were ups and downs, and even happiness can dissolve. Eventually, the same once happy relationships might become the cause of individuals' most significant excruciating psychological breakdowns. Everything is balance within a relationship. When it breaks down, or there is trouble within it, all sorts of problems can arise (Lantagne et al., 2017), and for some, it led to suicidal behaviour (Armitage et al., 2015). In the present study, we examine the degree of the capability to deal with disturbing emotions and events, also known as resilience (Blum, 1998; Shulman & Connolly, 2013; Wagnild, 2012).

In a romantic relationship, after some time commitment, the desire to become one with the partner arises, and eventually, sexual involvement has become an essential foundation to hold a relationship (Furman et al., 1999; Muniruzzaman, 2017; Perlman & Duck, 1987; Roche, 1986). In the present study, sexual involvement comprises sexual activities, sexual interaction, or sexual intercourse. Romantic sexual act becomes an expression or sign of love and caring, attractions (Hill, 2002; Lee et al., 2006; Muniruzzaman, 2017), a great sign against instabilities (Simpson, 1987), and proves that the partners belong to each other as one person in romantic relationships. Subsequently, a romantic relationship becomes severe and committed if the

intimate relationship was sexually involved. Hence, higher expectations were to be affected upon more commitment in the relationship (Shulman & Connolly, 2013).

Consequently, psychological distress following relationship dissolution may worsen contact engaged with sexual act than relationships without sexual act involvement (Kahn & London, 1991; Shulman & Connolly, 2013). Therefore, when intimate relationship stability is shaken and ended, it might lead to distress (Davis et al., 2003; Felmlee et al., 1990; Lantagne et al., 2017). For instance, the increased possibility of suicidal ideation and attempts among emerging young adults is connected with having had sexual interaction or intercourse in the premarital relationship (Armitage et al., 2015; Kahn & London, 1991; Maniam et al., 2014; Shulman & Connolly, 2013). Benton et al. (2003) indicated that 50% or more college students presented issues related to a relationship when they went to a college counselling psychotherapy centre. Hence, it should be no surprise that most emerging young adults often shared problems related to the termination of a significant romantic relationship with their therapists or counsellors (Chan et al., 2017).

The literature discussed that sexual involvement or act of sex was a personal (private) subject and cannot be shared openly or publicly (Bogart et al., 2000). This belief applies in Malaysia, too (Lee et al., 2006; Zulkifli & Low, 2000). Some cultures (especially in the eastern country) and people may even abstain from sexual involvement in relationships mainly because of the

diversity in some social norms, moral values, terrors of getting pregnant, and sexually transmitted diseases (Muniruzzaman, 2017). However, as years passed, young individuals have become more lenient when it concerns sexual activities and sexual intercourse involvement during an ongoing intimate relationship (Muniruzzaman, 2017; Peplau et al., 1977; Zulkifli & Low, 2000). Subsequently, it shifted the norm, which contradicted the previous decades' customs in which females were expected to keep their virginity until their marriage night (Peplau et al., 1977; Zulkifli & Low, 2000). There were gender differences considering sexual involvement in an intimate relationship. Men are frequently looking forward to sexual activities and sexual involvement (Lee et al., 2006), whereas women are looking for emotional connection and interdependence (Canary & Emmers-Sommer, 1997). In other words, women were engaged in sexual interaction and involvement to fulfil the need for emotional intimacy, whereas men tend to satisfy only their sexual desires. Past research indicated a rising statistic of couples who engaged in sexual contact even though they have just started a relationship (Lee et al., 2006; Moore & Rosenthal, 1993; Muniruzzaman, 2017; Peplau et al., 1977; Zulkifli & Low, 2000).

Present Study

This study investigated the relationships between sexual involvement in a relationship, resilience, and romantic relationship dissolution for Malaysian emerging young adults. Structural Equation

Modeling is an analytical approach that allows researchers to build a model of the processes that give rise to the observed data (Little, 2013). Hence, it has been applied to examine the relationship between sexual involvement, resilience and romantic relationship in this study and to explore the following hypotheses:

Hypothesis 1: Sexual involvement in the relationship would be positively associated with romantic relationship dissolution.

Hypothesis 2: Resilience would mediate the relationship between two variables: sexual involvement and romantic relationship dissolution. Specifically, sexual involvement in a relationship would be correlated with resilience negatively, which would, in turn, be negatively correlated with romantic relationship dissolution.

METHODS

Participants

In this study, the sample encompassed 293 Malaysian young adults. Of 293 participants, 125 were males (42.7%), and 168 were females (57.3%). Participants were from ages 18-29, with a mean of 23.98 ($SD = 2.59$). According to Arnett (2000, 2004), emerging adulthood (ages 18-29) is a stage where individuals at this developmental stage are involved in a more intimate and long-term romantic relationship than their previous experiences during the adolescent stage. Therefore, emerging adulthood's developmental task is to initiate and maintain a romantic relationship and learn how to

deal with relationship dissolution (Arnett, 2004). In this study, participants were engaged in a romantic relationship that (1) ended over the last twelve months, (2) the romantic relationship has lasted for no less than three months, (3) sexual involvement in a relationship was a consented contact. Past research showed that most people were adjusted to the relationship termination within one year, while a well-established timeframe for grieving following a breakup or relationship loss was yet supported (Bursik, 1991; Wang & Amato, 2000).

Measures

The Resilience Scale Short Form (RS-14; Wagnild, 2009). The short form of RS-14 comprises 14 items from the original measures. This instrument measures an individual's ability to bounce back from hardship or adversity. It contains two subscales, which are Personal Competence and Acceptance of Self and Life. The examples of items for the Personal Competence subscale are, "I feel proud that I have accomplished things in life," "I usually take things in stride." The samples item of the Acceptance of Self and Life subscale are "Keeping interested in things is important to me," "I can get through difficult times because I've experienced difficulty before." Participants in the study were asked to respond to all the items of RS-14 with 7 points Likert-type scale from 1 (strongly disagree) to 7 (strongly agree). Wagnild (2012) reported that the concurrent validity of this measure was obtained by correlated the RS scores with

measures of life satisfaction ($r = .37, p = .001$), depression ($r = -.41, p = .001$), morale ($r = .32, p = .001$) and health ($r = -.26, p = .001$). Substantially, in a review of 12 studies that used this RS scale, the results reported that the internal consistency was high, with Cronbach's alpha coefficients ranging from .85 to .94 (Wagnild, 2009). The internal consistency of the total score was .95. for this study.

The Core Bereavement Items. (CBI; Burnett et al., 1997). The CBI was used to measure the construct of romantic dissolution. The CBI consists of 17 items with a 4-point Likert scale (0 = never, 1 = A little bit of time, 2 = Quite a bit of time, 3 = A lot of the time/ Always/ Continuously). Three subscales and the sample items of this measure include: Images and Thoughts (e.g., "Do thoughts of "x" come into your mind whether you wish it or not?), Acute Separation (e.g., "Do you find yourself looking for "x" in a familiar place?), and Grief (e.g., "Do the reminders of "x" such as photos, situations, music, places, etc. cause you to feel loneliness?). In this study, participants were described that "x" relates to their partner with whom they experienced a romantic relationship dissolution. Only one item particularly mentioned death, which included under the subscale of "Images and Thoughts." For the current study, this item was modified from "Do you experience images of the events surrounding "x" s death?" into "Do you experience the image of the event surrounding the breakup with "x"?" as suggested by Docherty (2009).

The CBI is a suitable and dependable tool to measure the level of reactions to romantic relationship dissolution (Docherty, 2009). Holland et al. (2013) found a relationship between ICG-R with Thoughts, $r(755) = .66$, $p < .001$, and Emotional Responses, $r(755) = .80$, $p < .001$ as concurrent validity. The Cronbach alpha for the CBI's total score is .91 (Burnett et al., 1997). The internal consistency of the total score was .92 for this study.

Sexual Involvement in the Relationship.

Consistent with previous research (Simpson, 1987), the sexual involvement nature of participants' previous dating relationship was measured with an item inquiring about whether they had engaged (consented contact) in sexual intercourse with their partner (coded 1 if yes, 0 if no).

Procedure

This study has received IRB approval by the university research committee, which abides by ethical research guidelines. Participants were recruited using a purposive sampling method. First, participants were contacted through key contacts, e-mail,

and internet groups. Next, each identified potential participant was administered with a consented form and a set of questionnaires. An informed consent document was developed and distributed to the participants before answering the questionnaires. The informed consent comprised a general description of the research project, information on confidentiality and its limits, and information regarding the participants' choice to withdraw anytime during the study. The questionnaire consisted of demographic items, the Resilience Scale (RS), and the adapted Core Bereavement Items (CBI).

RESULTS

Preliminary Results

Table 1 presented the mean, standard deviations, and intercorrelations of the measures. Gender was measured as a dichotomous variable (0 = male; 1 = female). The sexual involvement in the relationship was positively and significantly correlated with romantic relationship dissolution. Hence, Hypothesis 1 was supported. The romantic relationship dissolution was also significantly and negatively related to

Table 1
Means, standard deviations, and intercorrelations among measures

Measure	N	M (SD)	Range	1.	2.	3.	4.
1. CBI	293	16.34 (14.95)	0-51	–	-.75**	.19**	-.08
2. RS-14	293	71.86 (13.25)	14-98	–	–	-.17**	.03
3. SEX	293	.59 (.49)	0-1	–	–	–	-.12*
4. Gender	293	.57 (.50)	0-1	–	–	–	–

Note. CBI = The Core Bereavement Items; RS-14 = The Resilience Scale - Short Form; SEX = Sexual involvement. Gender: 0 = male; 1 = female.

* $p < .05$; ** $p < .01$

resilience and sexual involvement in the relationship. Resilience was significantly and positively related to sexual involvement in the relationship. Gender was significantly correlated with the sexual involvement nature of the relationship. Males reported significantly higher in sexual involvement nature of relationships than females. There was no missing data for this study.

Data Analytic Plan

In this study, structural equation modelling was used with the software Mplus 7.2 (Muthén & Muthén, 1998-2012) to test the hypothesis model (see Figure 1). Structural equation modelling was applied in this study because it is useful for studying direct and indirect effects and the relationship between the variables involved in this study (Kline, 2016). First, we evaluate whether the manifest variables adequately

represented the latent variables by testing the measurement model. Next, to test the research hypothesis on the relationship between the variables, we analyzed the structural model.

The maximum likelihood estimator with robust standard errors (MLR) was applied in the analysis since MLR can have the capacity for multivariate normality violations. To reduce the number of variables, we decided to utilize item parcelling. The strength of item parcelling includes a more reliable model fit and fewer parameters (Little et al., 2002). Two item parcels grounded by the RS-14 subscales formed the latent variables of resilience. On the other hand, romantic relationship dissolution was indicated by three-item parcels reflecting the CBI subscales. However, item parcelling was not applied for sexual involvement in the relationship because SEX has only 1 item.

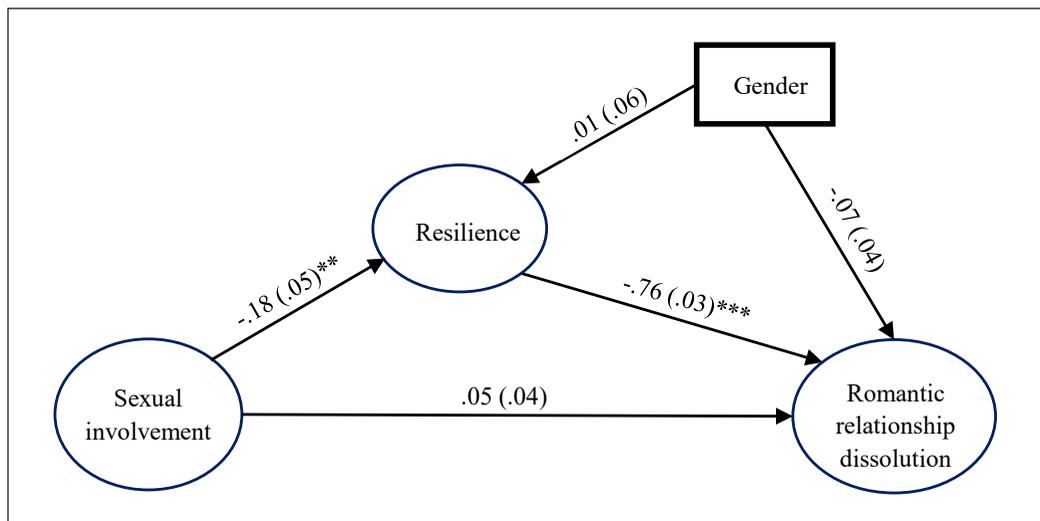


Figure 1. Structural equation model (Model B)

Note. To facilitate readability, indicator variables are omitted from this figure. The numbers outside and inside the parentheses represent standardized coefficients and standard errors, respectively.

* $p < .05$; ** $p < .01$; *** $p < .001$.

In this study, to test the hypothesized mediation effects, bias-corrected bootstrapping was applied. We produced 5,000 bootstrap samples utilizing random sampling by replacement. The mediation effects have been measured significantly with the condition where zero was not included in the 95% confidence intervals. Finally, we applied Hu and Bentler's (1999) two-index presentation strategy to determine the model's model fit. Following Hu and Bentler (1999), the several combinations comprised: i) NNFI of .96 or higher and an SRMR of .09 or lower; ii) RMSEA of .06 or lower and an SRMR of .09 or lower; iii) CFI of .96 or higher and an SRMR of .09.

Main Results

The measurement model (Model A) showed adequate fit (see Table 2), and the factor loading was all significant, $p < .001$. By default, Mplus tests the correlations among latent variables. With the findings of the measurement model, we then continue to test the hypothesized structural mediation model. The hypothesized structural model (Model B) also achieved adequate fit from

the analysis presented in Table 2. Sexual involvement and resilience both together explained 59.3% of the variance of romantic relationship dissolution.

As presented in Table 2, resilience mediated the relationship between sexual involvement and romantic relationship dissolution, supporting Hypothesis 2. Specifically, sexual involvement was negatively correlated with resilience, which was, in turn, negatively associated with romantic relationship dissolution. Our hypothesis 2 was supported. Interestingly, the direct effect from sexual involvement to romantic relationship dissolution was not significant, $\beta = .05$, $SE = .04$, $p > .05$. Additionally, the mediation effect for sexual involvement in resilience to romantic relationship dissolution was significant. Thus, resilience was the full mediator for this model.

DISCUSSIONS

This study intended to investigate the relationships among sexual involvement in relationship, resilience, and romantic relationship resolution among Malaysian

Table 2
Goodness-of-fit indices and mediation effects in structural equation models (N = 293)

Model	<i>df</i>	Scaled χ^2	RMSEA [CI]	CFI	SRMR
A: Measurement model	4	9.67	.07 [.01, .13]	.99	.01
B: Hypothesized structural model Value (Figure 1)	10	23.60	.06 [.03, .10]	.99	.01
Mediation Effects (based on Model B)			Unstandardized Mean Indirect Effect (<i>B</i>)	Unstandardized 95% CI	
Sexual involvement → resilience → Romantic relationship dissolution			1.58	[.58 2.65]	

Note. RMSEA = root-mean-square error of approximation; CI = 90% confidence intervals for RMSEA; CFI = comparative fit index. All scaled χ^2 values were significant at $p < .001$.

emerging young adults. Specifically, we examined the relationship between sexual involvement in a relationship and romantic relationship dissolution and the role of resilience as mediators of this relationship.

Sexual Involvement in the Relationship and Romantic Relationship Dissolution

The present finding showed that sexual involvement in the relationship was positively and significantly correlated with romantic relationship dissolution. In other words, the result showed that there was a significant difference between sexual involvement in a relationship and non-sexual involvement on the level of reactions to romantic relationship dissolution. The result was consistent with some research findings whereby consented sexual involvement creates commitments which will cause misery when the relationship is unstable and when it is terminated (Felmlee et al., 1990; Fine & Sacher, 1997; Kahn & London, 1991; Maniam et al., 2014; Shulman & Connolly, 2013; Simpson, 1987; Sprecher, 2002).

Psychological anguish subsequent from relationship dissolution may worsen in a relationship involving sexual involvement than relationships without sexual commitment (Kahn & London, 1991; Muniruzzaman, 2017; Zulkifli & Low, 2000). Sexual involvement or act of sex was a personal (private) subject which cannot be shared openly or publicly (Bogart et al., 2000), particularly in an eastern country like Malaysia (Lee et al., 2006; Zulkifli & Low, 2000). As Malaysia is a country with

cultural diversity, some cultures and people may even denounce young people who sexually involved in relationships mainly because of the differences in particular social norms and moral values (Muniruzzaman, 2017). This social reaction may lead to suicidal behaviour following by romantic relationship dissolution (Lee et al., 2006; Maniam et al., 2014). Therefore, when intimate relationship stability has shaken and ended, it might increase psychological distress (Bogart et al., 2000; Felmlee et al., 1990; Fine & Sacher, 1997; Lantagne et al., 2017; Shulman & Connolly, 2013; Simpson, 1987; Sprecher, 2002).

Furthermore, the current study indicated an impact of sexual involvement in gender on romantic relationship dissolution. Specifically, male students reported higher sexual involvement during romantic relationships in our research. Hence, the finding is consistent with past research, which indicated gender differences, considering the act of sexual involvement in an intimate relationship (Canary & Emmers-Sommer, 1997; Davis et al., 2003; Lee et al., 2006; Maniam et al., 2014). Men are frequently looking forward to sexual interaction or sexual intercourse, whereas women are looking for emotional connection and interdependence (Canary & Emmers-Sommer, 1997; Muniruzzaman, 2017). Nevertheless, women were engaged in sexual interaction or sexual intercourse to appease emotional intimacy, whereas men are inclined only to meet their sexual desires. Subsequently, a romantic relationship becomes more severe and unswerving if

the intimacy relationship was established on sex, and some may perceive sexuality as an emotional investment reward in a connection (Kahn & London, 1991; Peplau et al., 1977; Muniruzzaman, 2017; Shulman & Connolly, 2013).

Resilience as Mediator

Practically, the finding of this study demonstrated the mechanisms that describe the relationship between sexual involvement in a relationship and romantic relationship resolution. The result indicated that resilience is the significant full mediator for the relationship between sexual involvement and romantic relationship resolution. Besides, resilience is also depicted as a mediator between risk factors and adverse outcomes (Ahern et al., 2006; Everall et al., 2006; Helgeson, 1994; Wight et al., 2005).

Gilligan (2007) asserted that resilience is termed as an individual's capacity to respond, conduct a proper manner in context to adversity, achieve even with the appearance of negativity, and significantly exceed ambitions in the presence of negativity. Moreover, resilience was also described as a construct used to differentiate individuals who succeeded with the company of adversity and individuals who abated in the same circumstances (Arnett, 2004; Bowlby, 1980; Wagnild, 2003). In the current study, resilience is defined as a person's capability to "bounce back" in the face of adversity, which leads to a productive and satisfying life and prevents the possible destructive effects of negative stressors (Wagnild, 2012).

Romantic relationship dissolution can be stressful, upsetting, and momentous events one encounters in life (Demir, 2008; Lantagne et al., 2017; Stephen, 1987). Therefore, once they understand how to respond to this loss in life with resilience, downturns are not so overwhelming, defeating, or destructive (Overbeek et al., 2003; Perlman & Duck, 1987; Wagnild, 2012). Substantially, the degree and nature of the reaction to romantic relationship dissolution are varied for every individual (Lantagne et al., 2017; Spanier & Castro, 1979). On the contrary, the adjustment may come with more significant ease and might comprise thoughts of relief or a feeling of freedom to delve into new chances. The dissolution or termination of romantic relationships can sometimes lead to personal growth, personal well-being, and positive life transformation, even though the ending may have happened relatively recently (Buehler, 1987; Helgeson, 1994; Seligman & Csikszentmihalyi, 2000; Shulman & Connolly, 2013; Tashiro & Frazier, 2003).

Personal resilience has various implications for the course of grief, despair, and readjustment after each relationship dissolution (Simpson, 1987). Substantively, relationship termination or dissolution is perceived as a process instead of episodes. Different people apply diverse coping approaches to recapture the connection or cater to the introduced changes (Lantagne et al., 2017; Shulman & Connolly, 2013; Sprecher & Fehr, 1998). Therefore, personal resilience is the principle of the readjustment and grief process in counselling and

psychotherapy. Essentially, the results revealed from the current study will help provide a holistic understanding of young adults' resilience in encountering their romantic relationship dissolution. Although the term resilience has been defined in many ways, mainly, it was a combination of individuals' attributes (resources) and life events (protective factors). In other words, resilience was also perceived as a set of traits (Ahern et al., 2006). Hence, to bounce back from the process functioning at the equivalent stage as they were before the adversity, this set of combinations is applied.

Limitations and Future Directions

The present research study indicated some limitations linked to the proposition of future directions for the research study. Firstly, we utilized only one item to measure the sexual involvement nature of the relationship. In future studies, efforts could be made to select a more appreciate questionnaire on sexually involved terminated intimate relationships. Next, our study used a self-report format. Thus, we propose a prospective study to collect multiple sources or multiple wave data as this format of the questionnaire might have instigated standard method bias (Zhao et al., 2016). Thirdly, we applied cross-sectional data in the study, making it unfeasible to deduce causal conclusions about the structural model's pathways. Lastly, potential studies may examine the variables and the model identified in this study using longitudinal or experimental methods and qualitative design.

Practical Implications

Nevertheless, the findings of the current study carry significant implications for helping professionals such as counsellors, psychotherapists, psychologists, and social workers to understand the types of indicators that may enhance young adults' romantic relationship resolution. Substantially, personal growth programs can be designed to promote the crystallization of resilience. For instance, counsellors and psychotherapists could emphasize the building, enhancing, and strengthening existing individuals' strengths and resiliency instead of repairing damage or illness as the goal in treatments (Seligman & Csikszentmihalyi, 2000). Therefore, the findings provide valuable knowledge and information in theoretical and applied studies to explore the most beneficial prevention and examine suitable assessment and various intervention alternatives while assisting clients with suicidal ideation due to relationship termination.

Moreover, relationship dissolutions may be a painful experience for some individuals. Personal resilience may play a role as a mediator between adversity and psychological agony. For instance, individuals with a higher level of resilience were aware of their inner strengths to effectively manage their problems. Therefore, they were able to bounce back from the distressing and upsetting emotions of romantic relationship dissolutions. Substantially, interventions centred on self-care intervention can be applied in counselling sessions to develop a client's

resilience. Given the importance of the relationship's meaningful nature, young people identify their romantic relationship as one of the most compassionate kinds of connections in their lifecycles (Furman & Buhrmester, 1992). In other words, they perceived a romantic relationship as a very significant relationship. Therefore, relationship termination or dissolutions were more prone to be harder, especially for people who have yet to experience such a loss. The findings may help professionals design coping and adjustment approaches upon understanding how young adults respond to dissolution in a healthy and non-self-harm way.

Other than that, to alleviate psychological pain or distress following relationship dissolution, both relationship factors (i.e., commitment, satisfaction, sexual involvement, initiator status) and person-related factors (i.e., resilience, self-esteem) should take into consideration. Professional mental health practitioners such as counsellors, clinical psychologists, psychotherapists, and college professors may utilize individuals' characters such as emotional resilience and characteristics of their relationship as one of the facets in the helping process to deal with relationship termination issues. Substantially, counsellors and therapists should be aware that sexual involvement in romantic relationships has become a significant issue in most individuals, especially late adolescents and emerging young adults. Due to that point, romantic relationship dissolution may

generate considerable concerns. Therefore, by taking into account these relationships and people who involved in it, related topics in the process of intervention, including the first evaluation, the case conception, and the application of treatment strategies, would result in a facilitative outcome for individuals to go through rumination and emotional anguish after the end of a relationship.

The literature showed that adolescents and young adults were susceptible to exposure to the first episode of major depression after the dissolution of a romantic relationship (Overbeek et al., 2003). The current study indicated the correlation between resilience and reactions to romantic relationship dissolution. Participants with lower levels of resilience might be more inclined to higher dissolution scores and demonstrated higher levels of depression. Thus, personal resilience may serve as scanning and filtering factors for therapy and counselling interventions in adolescents and young adults. Besides, helping professionals shall consider providing clients with lower resilience levels, additional guidance subsequent from romantic relationship dissolution. Given that personal resilience was associated with romantic relationship dissolution or termination, it is notable for including the constructive effect on supplementing approaches to intensify the effectiveness of the therapy process while managing depressed persons following relationship dissolution.

CONCLUSIONS

In conclusion, the study suggests a positive association between the sexual involvement of nature and romantic relationship resolution. It also supports a structural mediation model. It has explained how resilience could enhance the romantic relationship resolution. The findings of the current study have empirically established new pathways to improve the romantic relationship dissolution. Despite its limitations, this study presents several vital implications for professionals in helping professions and mental health professions, such as counsellors, therapists, social workers, psychologists, and clients. Due to the occurrence of relationship dissolution and the aftermath triggered by it, it is crucial for helping professionals understand the pathway of healing and facilitate clients to sail through the therapeutic process.

A further research study is crucial to heighten knowledge of the association between the current study variables. A parallel investigation in which including disparate populations would be advantageous. As proposed, a longitudinal study may well be beneficial given that relationship dissolution is a progression, and reaction to that experience usually changes over time.

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Grotesque, Shadow and Individuation: A Jungian Reading of Selected Short Stories by Tunku Halim and Edgar Allan Poe

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ABSTRACT

In examining Malaysian literature in light of the global canon, one cannot miss the numerous parallelisms between literary works by Tunku Halim bin Tunku Abdullah and Edgar Allan Poe. Both writers are preoccupied with grotesque realities of mentally deranged individuals, and similarly visualize the darkness and animality of human consciousness. This article aims at conducting a comparative analysis of the dynamics of personality and of the psyche of fictional characters in selected short stories by the two writers. To this end, the study draws upon Jung's notions of the Shadow and the Individuation to explore the key psychological motives behind the characters' behaviour patterns, as well as to examine their level of subjectivity and agency in harnessing the same motives. Notwithstanding the seemingly different ways of presenting the narrative patterns of the characters' journey towards Individuation, the selected stories are marked with similar examples of characters' failures in the process of self-realization. While some characters remain trapped in the obscure and perplexing world of the Shadow, others achieve a minimal level of maturity as they begin to realize their own being. In the case of Halim's stories, however, the characters are additionally held back by cultural and structural forces that constantly affect their realities. It is concluded that this particular difference accounts for Halim's uniquely hybrid style of writing that merges Western horror genre with more local folklore.

Keywords: Edgar Allan Poe, grotesque, individuation, shadow, Tunku Halim

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INTRODUCTION

In examining Malaysian literature in light of the global canon, one cannot miss the numerous parallelisms between literary works by Tunku Halim bin Tunku Abdullah

(b. 1964) and Edgar Allan Poe (1809–1849). A remarkable prolific writer of dark fantasy and horror genre, Halim is regarded as one of the canonical writers of South East Asian gothic and a talented writer who has both benefited from the rhetoric and conventions of Western gothic and embellished his narratives with Malay folklore. As a former lawyer who has also published books on weight loss and cooking, Halim's personal life has been fairly different from Poe's dejected time on earth which was adversely affected by alcohol addiction, loneliness, and destitution. Regardless, there are certain themes and motifs that are constantly repeated throughout both writers' writings: monstrosity, madness, and loss of the self (Lee, 2007). Both writers defy the literary and narrative styles of their contemporary era and explore grotesque realities of mentally deranged individuals. According to Connelly (2003), grotesque is an "aberration from ideal form or from accepted convention, to create the misshapen, ugly, exaggerated or even formless" which, in the world of fiction, suggests the celebration of the "confused and excessive" (pp. 2-7). The various elements of grotesque as used by both writers underline the similar strategies that they have adopted to contest and disrupt the established norms of society.

The generic designation of grotesque has already been applied by a few scholars on the works of both writers. Poe is generally believed to be "the point of origin for the American grotesque" (Balkun, 2009, p. 828), and hence the abundance of critical examinations of his oeuvre in relation

to this element (Bryant, 2017; Burwick, 1998; Renzi, 2013; Roas, 2009). Within the existing body of scholarship on Halim's works (Akam & Yahya, 2018; Eng, 2015; Jafni & Yahya, 2015; Jafni et al., 2016; Toh, 2020), however, it is mainly his major novels that have attracted critical attention, leaving his short stories as a fertile ground to be explored. Drawing upon a diverse array of theoretical and conceptual frameworks, each critic attempts to shed light on a particular aspect (for example: settings, themes, and imageries) by taking one element in the novels and extrapolating it to a total explanation. Yet, what is noticeable in these individual ventures into giving a rational explanation of the texts is the lack of an analytical focus on the original causes and psychological traits of characters, in particular those of Halim's short stories. This study seeks to fill the lacuna by employing Jungian psychoanalytic theory to conduct a comparative investigation of a number of short stories by both writers. The selected narratives are Halim's "Haunted Apartment," "The Rape of Martha Teoh," "A Labor Day Weekend," and "Night of the Pontianak" from his collection of short stories titled *Horror Stories* (2014), and Poe's "The Premature Burial," "The Black Cat," "The Tell-Tale Heart," and "Berenice" from his *Complete Tales and Poems* (2013). More specifically, Jung's notions of Shadow and Individuation will be applied to fathom the hidden motives and complexities of the portrayed characters' behavioural and personality traits.

Two notable points need to be clarified here. First, the comparative approach in this study does not by any means intend to hold Halim's writings against a perceived Western "norm" of excellence, but rather to underline the complex nuances of character development through a cross-cultural understanding. Therefore, the comparative investigation in this study is a practice that Childs and Fowler (2006) succinctly described as one where "a work of literature yields a richer significance when placed alongside another, each serving as a way of talking about the other" (p. 29). Second, the underlying incentive in this study to analyse Halim and Poe's works comes from the former's honest appreciation of Poe's influence on his literary endeavours. In an interview, Halim reveals to us that he prefers his works to be described with "Poe-like phrases such as 'tales of darkness and imagination' or the more concise but less precise 'dark fantasy'" (Lee, 2007, para. 13). Furthermore, in an interview with Elaine Chiew, he names Poe as one the Western writers that influenced his works (Chiew, 2019). That said, two remarkable advantages can be gained from this study. First, it will highlight literary and cultural commonalities by unravelling the ways in which Halim's characters are formulated and influenced by those of Poe's. And most significantly, it will underscore the culturally specific and individual traits of both writers' characters.

LITERATURE REVIEW

Literary scholars have employed a wide array of theoretical and conceptual

frameworks to analyse Poe and Halim's fictional writings individually. Noting the scarcity of research that evaluates the similarities between the two writers' literary works as well as the sporadic research pertaining to the characters' inner traits in Halim's short stories, in this section we limit the review of literature to the critical studies that specifically examine the element of grotesque as well as the Jungian notions of Individuation and Shadow in both writers' works.

That Poe has used the element of grotesque in nearly all his creative writings is a matter of unanimous agreement among his scholars. Critics like Roas (2009) has pointed to the various functionings of grotesque such as parody and satire to maintain that with their carnivalesque incarnation, Poe's stories also reflect the changes insinuated in the modern grotesque. The grotesque world of perversity, as Lippit (1977) explains, is graphically illustrated in Poe's crime stories such as "The Black Cat" and "The Tell-Tale Heart". In both narratives, the protagonists commit sadistic, unjustified crimes which are usually accompanied with self-annihilating confessions. A similar pattern occurs in "The Premature Burial," in which the hero generates feelings of the utmost horror and pain of death (Poe, 2013). Y. J. Jung (2010) examines Poe's "Berenice" with a Lacanian perspective and argues that the story is "one of his most morbid and grotesque tales" in which the monomaniacal narrator becomes interested in fatally afflicted Berenice (p. 227). It is the insatiable desire

of the narrator that makes the story to be gruesome and repulsive. In a similar study, Conner (2019) points to the re-emergence of the dead bodies from “graves, walls, and other forms of entombment” to argue that Poe’s characters in these tales “hover between sanity and insanity, reality and fantasy, childhood innocence and adulthood sexuality, or life and death while attempting to navigate their own changing identities” (p. 77).

Critics of Halim generally agree that, like other gothic writers, he began his writing career under the spell of Poe, whose influence is seen in most of his stories (Byron, 2012). The major themes of Halim’s stories are the fear of death, the realization of perversity or savagery as inherent human traits, and the sado-masochistic quest for elegance. Even though Halim’s works are similarly infused with the element of the grotesque, the way it is depicted throughout his oeuvre is believed to be distinctive (Wagner, 2006). Due to the lack of critical studies on his short stories, the following review looks into the element of grotesque as depicted in Halim’s other writings. In his novel *Juriah’s Song* (2008), for example, Halim uses the grotesque in relation to nature (Jafni et al., 2016). Here, grotesque is exploited to demonstrate how the main characters’ relationship contests and breaks down the rules of nature as one character is a human and the other a demon. This element of grotesque is further reinforced by their unmarried relationship that challenges cultural norms and religious principles. In this manner, the fictional characters

and the grotesque appear to have a strong relationship because the latter “helps to shed light on the social and psychological difficulties and maladjustments” (Turnbull, 2018, p. 3).

Eng’s (2015) analysis of Halim’s novel *Last Breath* (2014) through the lens of Individuation offers unique insights into the characters’ psyche and presents them as humans worthy of our understanding and sympathy regardless of their unpleasant actions and behaviours. The characters complete the journey towards Individuation in such a way that we see them becoming humans through experiences that break down the social, economic, and ethnic barriers separating them from others. According to Akam and Yahya (2018), heroic effort is required for one to go through the journey towards Individuation as it is often a strenuous and dangerous task. In their analysis of the character Jessica of “A Sister’s Tale” (2014) in one of Halim’s works, they observe that her journey towards Individuation fails because the Shadow has been too dense for Jessica to be able to overcome. Thus, Individuation is deemed as the positive outcome that is expected to come out from a character’s journey. What remains unattended, therefore, is the notion that the journey towards Individuation can have its own challenges and difficulties. In this regard, Wakeman (2012) affirms that the process of Individuation will often bring the characters to “confrontations with archetypes, especially the Shadow, a part of the Self that is denied by the ego” (p. 66).

The concept of the Shadow, according to Ladkin et al. (2016), offers further depth to an understanding of how mature personality might be realised. This standpoint confirms the line of argument that Jung's notion of Shadow plays a decisive role in comprehending the characters' personality. Moores (2006) claims that the characters in Poe's works are linked to the notion of Shadow by showing the usual attributes that makes Shadow material as part of the character's value system. Instead of taking Shadow as an outside element, detached from the characters, his research understands Shadow as inhabited in them. As for the main characters of Halim's novels, according to Akam and Yahya (2018), the Shadow proves to be having a leading role. Yet the exploration and manifestation of it in Halim's short stories remain untouched. In the following sections, the study seeks to employ the notions of Shadow and Individuation to analyse the elements of grotesque in Halim and Poe's short stories. But before we begin, a brief review of the three terms is beneficial.

According to C. G. Jung (1943/1991), the Shadow represents anything subliminal that a person does not want to recognise about himself, and yet it is consistently "thrusting itself upon him directly or indirectly" (p. 285). It is understood as the active part of the personality that "cannot be argued out of existence or rationalized into harmlessness" (p. 20). From this perspective, all the aspects of the self which the subject usually avoids remembering—such as the way it feels inferior, immoral, infantile, or in other ways unwanted—are represented by the Shadow

(Fordham, 1960). In other words, the Jungian Shadow possesses and represents emotional qualities that an individual wishes to bury and prevent from resurfacing into the conscious world (Butchart, 2019). Although the Shadow is typically considered as a negative figure, sometimes it contains certain positive attributes and connections. For example, the Shadow can be one's repressed emotions towards a love object that cannot be attained. In this case, even though the desire is repressed, it is not necessarily adverse and dark. Furthermore, the Shadow finds expression by means of projections, whereby as an alternative of looking at the displeasing Shadow elements as present inside the personal unconscious, the individual projects these traits onto others. The act of projection may include both negative and positive traits, though there is a higher possibility of projecting the negative ones, depending on the individual and the kind of repressed thought stored in the personal unconscious. Notwithstanding, Jung was convinced that the way to a person's psychological health and meaning is through this mysterious aspect of the psyche (Young-Eisendrath & Dawson, 2008). According to him, the Shadow that is not given attention will in time become unsafe to the psychological health of an individual and may eventually steer towards neurosis (C. G. Jung, 1940/1958). The process of maintaining balance between the positive and negative, or the conscious and the unconscious mind, leads us to the act of Individuation; and hence, the second concept that this study utilizes.

The objective of the Individuation process is therefore the synthesis of the Self, which is made up of both the conscious and the unconscious. The two parts of the psyche do not make a whole piece when either of them is repressed or concealed by the other. The conscious is ruled by the ego and conceals one's true desires while "the unconscious produces dreams, visions, fantasies, emotions, grotesque ideas, and so forth" to re-enact and realize the same wishes (C. G. Jung, 1936/1969, p. 283). The unconscious is represented by the Shadow as the storehouse of one's repressed memories. To achieve Individuation, not only one must identify and overcome the assertive and annihilating forces of the Shadow in a continuous process throughout their life but they also must create balance between the two opposing realities. Hence, Individuation refers to the process wherein a person acknowledges their own individuality and becomes a subject that is entirely unified (C. G. Jung, 1936/1969). It is a process of self-understanding and wholeness that takes place when a person understands "himself for what he naturally is" rather than of what he desires "to be" (Jacobi, 1973, p. 132). From Jung's perspective, the individual's ultimate goal must be the attainment of psychic harmony which is the result of the Individuation process (Pridgen, 2001). This, however, does not mean that the journey towards subjectivity is without interventions from the Shadow and conscious mistakes made by the subject. Besides, the process of achieving Individuation, in general, is not a process that can be finished in a given

time frame. Rather, as Tricarico (2016) affirms, Individuation should be pursued through dialogue with the contents of the unconscious, in particular with those stemming from the collective unconscious.

Both the Shadow and the Individuation form the analytical bedrock of the present study. Yet, unless one understands the element of grotesque, one would not be able to appreciate the application of the two terms. Kayser (1957/1963) defines grotesque as "the expression of a strange and alienated world that is familiar from a perspective which suddenly renders strange (presumably, this strangeness may be either comic or terrifying, or both" (p. 18). Over the years, grotesque has found its place in arts and literature. Connelly (2003) argues that even though grotesque has numerous meanings from one state of affairs to another state of affairs, these meanings are not mutually exclusive, and "their range of expression runs from the wondrous to the monstrous to the ridiculous" (p. 2). Grotesque can cross religion, culture, and class boundaries by showing and appealing to a mixture of spectators from different beliefs, social classes and areas of living (Hadi & Asl, 2021; Sumali & Asl, 2019). Even being rebellious, blasphemous, and not following the moral conduct, religious faith, and beliefs of one's own religion can be considered as grotesque. Therefore, we can conclude that grotesque is considered as something extreme and distorted from the usual reality that surrounds us. The Shadow has a close connection to the elements of grotesque as it is strange and goes

against the norms of the society through the repressed desires that the characters have.

MATERIALS AND METHODS

Research Objectives

The aim of this research work is to conduct a comparative study to examine the patterns of usage and the functioning of the element of grotesque in Tunku Halim and Edgar Allan Poe's fictional writings. To achieve this focal aim, two pivotal objectives are to be pursued: First, to analyse the key psychological motives behind the portrayed characters' behaviour patterns; second, to examine the character's level of subjectivity and agency in negotiating the same motives.

Methods

The study uses a Jungian psychoanalytical approach to perform a textual analysis of selected short stories of Tunku Halim and Edgar Allan Poe. Pertinent to the central objectives of this study is Jung's theories of the Shadow and Individuation that shed light on the enigmas of human mind and the mysterious and unknown depths of its personality. A Jungian approach is adopted as it comprehends "the idea of the unknown self" as being autonomous and independent from the controlling force of the ego. In other words, the unknown self "is itself the ultimate, controlling power within (or around) the psyche" (Cox, 1964, p. 166). Besides, Jung also acknowledges the self as a relative thing, not as totally directed by the hidden psychic forces but somewhat in control of the ego. Both these angles

are reflected in his notions of the Shadow and Individuation, respectively, which are manifested in turn through the element of grotesque. The study entails only a close reading of the narratives to interpret the fictional representations of the characters' psychic motives as well as their agency. This means that the principal method of data collection will be a textual analysis of the selected works. The advantage of this approach is that it bases the interpretations on evidence from the text (Asl, 2019, Ying et al., 2021), leaving the context aside as a secondary matter of importance (Asl, 2018, 2020). Hence, the reading will be limited to identifying and analysing examples of behaviour patterns of major characters to make sense of the underlying motives in ways that lead for likely interpretations. Finally, the examples will be compared to identify the similar ways of representation.

Materials

The underlying rationales behind the selection of the short stories are as follows. First, as the central focus of this study is on the element of grotesque, the material under scrutiny has to be directly preoccupied with this topic. Of all the works of the two writers, the selected stories are the ones that fully revolve around the notion of grotesque. They also have a thematic commonality in that the menace of death, the recognition of barbarity as human nature, and the sado-masochistic desire for beauty form the underlying message of the stories. Second, previous studies have explored this element only in some of the major works of

the two writers—in particular, a few of the stories by Poe (Bloom, 2009; Hayes, 2002; Lawson, 1966; Ravvin, 1992; Rico, 2011), and some of the novels of Halim (Akam & Yahya, 2018; Eng, 2015; Jafni & Yahya, 2015; Jafni et al., 2016; Toh, 2020). Hence, the criteria for the selection of the material is the fictional works that have remained under-researched.

RESULT AND DISCUSSION

Earlier, it was mentioned that monstrosity is one of the focal preoccupations of both writers. Monsters and beast-like figures, according to Byron (2008), “police the boundaries of the human and consequently allow us to define the politics of the normal” (p. 32). Throughout their creative writings, one of the salient ways that both Halim and Poe have utilized the monstrous is in the service of revealing and evolving the mysteries and the unknown of the Shadow and of leading to the discovery of the self. Within the selected narratives, the monstrous is situated in a fiendish past or positioned in a diabolical Other in the present. In either case, the dark and the bestial pave the ground for the characters to complete an internal journey. The ways in which this pattern is established and portrayed in Halim’s stories are replete with cross-cultural resonances. In particular, the imagery of trapped spirit in a jar, or the fear of the number four as associated with death, are rooted in Chinese traditions.

In this regard, what gives Halim’s “Haunted Apartment” much of its significance is locating monstrosity in a

cultural structure. The Shadow archetype in this story is depicted through the female character Pamela who feels constantly threatened by strange voices at 4:00 a.m. everyday. Her paralyzing fear of this particular hour is further aggravated by her own mother who frequently tells her of the negative connotations of the number four in the Chinese belief system. As she tells us,

And then it dawned on me. The Chinese superstition. 4 o’clock. Four was the numerologist’s nightmare. Four was death to the Chinese. My mother, being Chinese, always warned me of that number. She avoided that number whenever possible. ... Four was death and death was four (Halim, 2014, p. 57).

Pamela’s personal unconscious is further shaped by ample words of warning from Mrs. Razak, who recounts to her the fatal incidents that happened to the previous occupants. Despite Pamela’s attempts to forget about the incidents as she “didn’t want to be afraid for no reason” (Halim, 2014, p. 54), Mrs. Razak’s horrifying stories kept resurfacing in her thoughts “...you might be in danger. ... It has something to do with the apartment” (p. 56). In both cases, the grotesque is formed in a present-day alien other. For Pamela, the Shadow is also presented in a few grotesque imageries. For instance, an animal that is mad and angry, a “crazy menacing laugh” that sounds like a demon riding the animal and the pool water that turns deep red and bloody (p.

58). Here, the Shadow is portrayed as something that appears disturbing towards the main character. The dark threatening wind, sense of the evil thing, and something that is whispering and calling her down are the interferences which can be associated with the Shadow permeating through her conscious mind. All of these grotesque imageries are seen as forceful elements that are coming to her fast and wildly. This shows that the Shadow is trying to lure her further away from achieving her goal in the journey towards self-realization, or Individuation. In addition to all the grotesque imageries that are portrayed, the voice that says “no” also comes from Pamela’s Shadow. However, it does not inflict any harm to her since it is the voice of her own father. As she tells us, “It was my father! It was my father’s voice!” (Halim, 2014, p. 61). In Jungian psychology, the Shadow does not necessarily impact negatively. The Shadow can be one’s repressed emotions towards others that they love and adore but cannot acknowledge. In Pamela’s case, her father’s voice cautions her not to fall into the Shadow. Hence, Individuation appears to be a successful process in her case because Pamela manages to overcome her Shadow by not jumping into the water when something welcoming and inviting calls her down to the pool. After this progressive incident, she even believes that the apartment “felt different”. Her journey towards Individuation is completed when she begins to believe that what Mrs. Razak said about the ghost is not true, and that she will never wake up at 4 a.m. again.

As she explains, “I somehow knew that I would not be waking up at 4 o’clock ever again” (Halim, 2014, p. 62).

Unlike Pamela whose Shadow is affected by her culture, Martha’s Shadow in Halim’s “The Rape of Martha Teoh” has a rather personal cause and emanates from her implacable and deeply-rooted hatred towards her dead husband. We come to know that Heng Wan raped Martha 35 years ago and kept cheating on her throughout his life. After his death, his ghost continues to haunt her and threatens to hurt both Martha and their maid Emma. Heng Wan’s apparition keeps Martha’s traumatic memories alive insofar as she begins to project on him a multitude of grotesque images. The most distinctive image is of a “lanky and slightly hunched” figure sitting at the dark corner in the house (Halim, 2014, p. 88). Martha develops an irrational fear of him and feels entrapped. This is reflected in her behaviour when she “screamed and ran into the bathroom” and began “shaking and trembling” because of her fear and trepidation. The overwhelming feeling of terror strikes her further as she finds Heng Wan’s voice projected onto her which repeats, “you are mine, you cannot leave here, ever” (Halim, 2014, p. 89). These projections of grotesque images work as alternatives to seeing the unpleasant elements of the Shadow that grow darker as time passes by. All these emanate from her personal unconscious, which is unique to her and unknown to others. These are the obstacles that she faces in her journey to achieve individuation. It is noteworthy

that the apparition in the form of the Shadow reappears partially because Martha keeps thinking about it inasmuch as “her thoughts of him swam in the humid air” (Halim, 2014, p. 87). In other words, the Shadow is projected because she refuses to fight for her own Individuation. Of her passivity, the narrator tells us that “she did nothing about it then and did nothing about it now” (p. 87). In her journey towards Individuation, therefore, Martha refuses to admit that she hates her husband. From a Jungian perspective, the Shadow is a problem of morality that challenges the whole ego-personality, because one cannot become conscious of the Shadow without a moral effort that is significant (C. G. Jung, 1943/1991). Hence, by not acknowledging the Shadow in the past and the present, Martha prevents herself from achieving individuation.

Two other stories of Halim, “A Labor Day Weekend” and “Night of the Pontianak,” follow a rather conventional and similar pattern of the portrayal of the Shadow and the Individuation. Both narratives recount corresponding tales of a journey that ends in the emergence of a bestial figure that causes horror, misfortune and death. In the first story, the Shadow archetype is presented through the male character Hong, who predictably fails to achieve Individuation. Despite his wife’s attempt to dissuade him, Hong goes on a trip with his friend Arul who is famous for his hobby, ghost hunting. His Shadow manifest itself throughout the journey to Melaka as he feels the road is getting darker and they are being watched

by “evil things” (Halim, 2014, p. 71). Hong returns home with an empty bottle which happens to carry an evil being. Unaware of that, as soon as Hong opens the bottle, the evil creature gets out and kills Belinda. In this incident, the Shadow is represented by the grotesque imagery of a “beetle that came out from the jar,” turns into a black cloud and attacks Belinda (p. 79). Hong’s projection of this particular Shadow is rooted in his dissatisfied and hostile feelings about Belinda’s domineering attitude that he has tried to hide and repress. In this regard, Hong’s failure to achieve Individuation is discernible from his inability to find the answer to his wife’s death as well as from the fact that he continues to project the Shadow as grotesque images of the misty figure in a white gown hunching up by the curtains at night (Halim, 2014).

“Night of the Pontianak” relates a similar journey in which the pattern of a demonic figure slaying the human characters is repeated. Three friends namely Fauziah, Julian and Azman set out on a journey to find the ancient creature Pontianak which is finally revealed to have been incarnated in Fauziah the whole time. It is noteworthy that his fiendish creature is firmly rooted in Malay folklore and is, according to Halim, “no Frankenstein monster, Dracula or werewolf of the western horror genre but rather a *hantu jahat* or evil spirit that comes in the form of a Pontianak or vampire—one of the most feared creatures in Malay folklore” (as cited in Byron, 2008, p. 34). Thus, the grotesque is represented through Fauziah, who is at first mysterious but then

becomes a “dark silhouette” (Halim, 2014, p. 35). This gruesome image is further built up negatively through Azman who imagines Fauziah’s body turning rotten and her flesh decaying. The Shadow archetype is thus depicted in Azman on whom the grotesque imageries are projected. This is supported both by the fact that Fauziah keeps haunting him as the Pontianak and by the way the dark school field and the shophouses whisper and stare at him. Yet like Hong of “A Labor Day Weekend,” Azman does not succeed to achieve Individuation as he fails to overcome the Shadows and his personal unconscious and is finally slain by Fauziah.

When we turn to Poe’s stories, we encounter a similar underlying pattern of the depiction of the Shadow and the Individuation. Notwithstanding, the monstrosity in Poe’s selected narratives tends to be more like an “apprehension of the demonic as mere absence, rather than as essentially diabolic” (Jackson, 1981, p, 112). Poe’s “The Premature Burial” is a tell-tale example in which the narrator develops an irrational fear of death. As the story begins, the narrator recounts numerous cases of people dying of natural disasters and hence being buried alive. The growing fear has deranged the character insofar as he transforms their family’s vault into a tomb which he often uses to go into a death-like trance. Hence, both the Shadow and the grotesque are reflected in the narrator who is also afflicted with a mysterious illness that is described as “absolute death” which makes him develop death-like symptoms (Poe, 2013, p. 251).

The more the disease progresses, the more his paralyzing fear grows which finds its ways to constantly resurface in his conscious mind. Consequently, countless “images of gloom” overwhelm him in his dreams (Poe, 2013, p. 251). As an active participation to successfully complete the journey towards Individuation and escape the Shadow, the narrator renovates the family’s vault into a tomb. Though the trance continues to strike him, the narrator finds a creative way to step out of his fear of death and premature burials, and hence overcome the obstacle in the process of achieving Individuation.

In both “The Black Cat” and “The Tell-Tale Heart,” the Shadow and the grotesque are reflected through the unnamed narrators. Both stories are murder tales in which the murdered returns to haunt the murderer and overwhelm them with dreadful feelings of guilt and remorse, which poses insurmountable obstacles in their path of achieving Individuation. In the first story, the vision of the slain black cat plagues the murderer narrator as the Shadow archetype insofar as he “experience[s] a sentiment half of horror, half of remorse, for the crime of which I had been guilty” (Poe, 2013, p. 188). This narrative is replete with grotesque imageries. The most horrendous example is illustrated on one occasion when after being provoked by the cat, the narrator “grasped the poor beast by the throat, and deliberately cut one of its eyes from the socket!” (Poe, 2013, p. 188). The loathsome image of the grotesque becomes further appalling when he thinks of the ways to hide his wife’s corpse. As we are told, “at one period I

thought of cutting the corpse into minute fragments, and destroying them by fire” (p. 190). Later, when he is haunted by the figure of a gigantic cat with a rope around its neck, the narrator begins to blame it on someone else. The growing fears as well as the futile attempts to repress the gripping emotions are illustrative examples of the Shadow archetype that he fails to overcome. In other words, the narrator fails to achieve Individuation as he fails to acknowledge that it is him who is afraid of the cat and not the other way around.

This particular pattern is repeated in “The Tell-Tale Heart” in which the narrator perpetrates a similar evil deed by killing an old man and hiding his body. After the incident, strange sounds that look like the old man’s heartbeat torment him mentally. Here, the narrator’s Shadow returns in the form of a load of guilt about the old man’s death that he struggles to repress. Furthermore, the ghastly image of the grotesque in this story is represented in his horrifyingly remorseless way of murdering the old man. As the narrator tells us, “I dismembered the corpse. I cut off the head and the arms and the legs” (Poe, 2013, p. 287). It is the insanity of the crime, however, that the narrator seeks to be described as. His unsuccessful journey towards Individuation begins as he tries to prove that he is not mad. In the process, he even asks for readers’ support by raising the question, “would a madman have been so wise as this” (Poe, 2013, p. 286), and confesses to the crime, “I admit the deed!—tear up the planks! here, here!” (p. 288), only to demonstrate

his sanity. Hence, instead of realizing his Individuation, the narrator finds himself falling into a deeper Shadow. As we are told, “I was singularly at ease. They sat, and while I answered cheerily, they chatted of familiar things. But, ere long, I felt myself getting pale and wished them gone” (p. 288). The momentary feeling of being at ease and the fleeting sense of achieving Individuation thus gives its way to a greater feeling of misery and wretchedness.

The deranged psyche, the loss of self and the grotesque that are associated with the Shadow archetype are most notably embodied in Egaeus, the narrator of Poe’s “Berenice”. A demented eccentric man who is afflicted with a mental illness called “monomania,” which is described as “muse for long unwearied hours” on ordinary objects like “the embers of a fire” or “perfume of a flower” (Poe, 2013, p. 291). This abnormality is vividly demonstrated through its difference and by its juxtaposition to Berenice’s normal and healthy state of mind. Egaeus is aware of this dissimilitude as he tells us, “[y]et differently we grew—I, ill of health, and buried in gloom—she, agile, graceful, and overflowing with energy” (p. 291). Due to this consciousness, Egaeus does his best to conceal his affliction from others; a practice that indicates his illness serves as the representation of the Shadow archetype that he seeks to overcome. Egaeus is depicted as the epitome of the nefarious aspect of the grotesque. Mentally ill, his obsession with certain objects drives him to extract Berenice’s teeth from her grave. While digging the grave, he gets heavily

smearred “muddy and clotted with gore” and his hands are “indented with the impress of human nails” (Poe, 2013, p. 294). Besides, though Poe does not describe how the teeth got in the box, it is eerily implied that Egaeus took them out using “instruments of dental surgery” that fell out from the box (p. 294). What these deeds indicate is not a progressive movement on the part of the subject towards Individuation but is his failure to overcome the obstacles posed by the negative side of the Shadow. His personal unconscious thus takes over his conscious life inasmuch as we find him wondering what he has done. As he confesses, “I had done a deed—what was it?” (Poe, 2013, p. 294). Since he fails to achieve Individuation, Egaeus eventually finds himself in a state much worse than before.

CONCLUSION

This study applied the Jungian notions of the Shadow and Individuation on selected short stories by Tunku Halim and Edgar Allan Poe to examine the hidden motives for the characters’ grotesque behaviour and their level of subjectivity in negotiating such motives. The comparison reveals that the shadow poses a similar moral problem in the works of both writers in such a way that it contests the ego-personality of the main characters. To overcome the challenge, the characters need to obtain self-knowledge and acknowledge the vile and immoral features of their human nature as present and real. The analyses also indicate that monstrosity is one of the primary motives

in behaviour patterns as both writers employ demonic figures to expose the enigmatic forces of the Shadow and shed light on the difficult path towards self-discovery. Among the difficulties encountered is also the character’s lack of autonomy or impotent agency in mastering both their shadows and their light simultaneously in such a way that they see themselves from two sides and hence get in the middle. Despite the seemingly different ways of presenting the narrative patterns of the characters’ journey towards Individuation, the selected stories are marked with similar examples of character’s failures in self-realization. While some remain trapped in the obscure and perplexing world of the Shadow, others achieve a minimal level of maturity as they begin to realize their own being. In the case of Halim’s stories, however, the characters are additionally held back by cultural and structural forces that constantly affect their individual subjectivities and social realities. This particular point accounts for his unique hybrid style of writing which merges Western horror genre with more local gothic tradition. Therefore, in both groups of works, the dark characteristics of the Shadow and the ensuing futile attempts to confront them in the process of Individuation produce strange and alienated worlds that can be best described as grotesque.

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The Cold War, Old and New: A Preliminary Comparative Study of Polarity, Polarisation, and Elements of (In)stability

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ABSTRACT

Recently, the term ‘new Cold War’ has become popular among the media and in academia as a description of contemporary world politics, in general, and major-power relations. Despite the connotations of its name, the Cold War period, sometimes referred to as the long peace, was associated with stability and the avoidance of an all-out world war. This study offers a preliminary examination of the extent to which 21st-century world politics reflects the features of the old Cold War. The findings show that the polarity and polarisation inherent in the current international system are similar to conditions of the early Cold War period (1947–1962), which can be classified as both power bipolar and cluster bipolar. Theoretically, this systemic condition is neither most nor least prone to war. However, similar to the pre-1962 Cold War period, when the implicit rules of the major-power game had yet reached maturity, little consensus on the proper conduct of American–Chinese relations has been reached at present, making current major-power politics highly uncertain and prone to conflict that may lead to war.

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INTRODUCTION

Francis Fukuyama’s (1992) triumphalist work *The End of History and the Last Man* captured the post-Cold War *zeitgeist* and the imagination of the American

intellectual class. In this book, Fukuyama heralded the triumph of liberal democracy, the market economy, and the end of the great power rivalries, which had been the major framework through which international relations scholars understood geopolitics. Fukuyama and other Western intellectuals' hubristic reactions to the end of the Cold War were, however, short-lived (Bunyavejchewin, 2012). Whereas many liberals expected perpetual peace to be the result of the fall of the Berlin Wall, the renowned political scientist John Mearsheimer (2014) argued, "... the possibility reminds us that the threat of great-power war has not disappeared" (p. 2). Accordingly, the notion that great-power competition has been consigned to the ash heap of history is simply not true. Rather, this competition is an obvious characteristic of international relations today. The occurrence of conflicts among major powers, which are caused by the changing structure of the international system, has opened the debate on new resonances of the old Cold War.

As a matter of fact, there is a wide range of explanations for major-power competition and the brink of a new Cold War. For instance, Allison (2017) warns that the United States and China are on the verge of falling into the Thucydides trap. In this perilous scenario brought about by the ongoing rivalry between the Americans and Chinese, war would be inevitable (Allison, 2017). Similarly, Mearsheimer (2014) asserts that "[t]here are no status quo powers in the international system, save for the occasional hegemon that wants to maintain

its dominating position over potential rivals" (p. 2). In other words, states inherently have revisionist intentions and, certainly, China has an incentive to shift the international balance of power in its favour.

In his debate with the former US National Security Advisor Zbigniew Brzezinski, Mearsheimer argued that China can transform its economic wealth into military power and has constantly been attempting to dominate Asia (Brzezinski & Mearsheimer, 2005). Further, China's attempts to dominate this region will leave the United States with no choice but to "... behave toward China much the way it behaved toward the Soviet Union during the Cold War" (Brzezinski & Mearsheimer, 2005, p. 48). In a similar comparison of China with the Soviet Union, Westad (2019) writes, "China's determination to hack away at the United States' position in Asia is more tenacious than anything Stalin ever attempted in Europe" (p. 93). Further, he notes that "[e]ven though the United States currently enjoys far greater military superiority over China than it did over the Soviet Union, Beijing has the potential to catch up much more quickly and comprehensively than Moscow ever could" (Westad, 2019, p. 90).

Recently, amid the coronavirus disease (COVID-19) pandemic, Singapore's Prime Minister Lee Hsien Loong (2020) observed in his *Foreign Affairs* article that "... the pandemic is exacerbating the U.S.–Chinese rivalry, increasing mistrust, one-upmanship, and mutual blame. This will surely worsen if, as now seems inevitable,

the pandemic becomes a major issue in the U.S. presidential election” (p. 63). Further, many renowned political scientists like Stephen Walt (2020) have highlighted the impact of unit-level factors, such as domestic political institutions in major capitals, on the strengthening of the new Cold War.

The new Cold War narrative, which is becoming increasingly prevalent today, is not limited to the American–Chinese rivalry. Russia’s role in world politics, particularly after Moscow’s use of force against Ukraine in Crimea and Donbass, became a key issue in the debate over the new Cold War (e.g., Fisher, 2019; Legvold, 2014; Lucas, 2008). Although most discussions focus on the Sino-Russian axis, some analysts mention the possibility of the establishment of a new *modus vivendi* between the United States and Russia to counter China (e.g., Blackwill, 2020; Miller, 2020; Sokolsky & Rumer, 2020).

This discussion indicates that the debate over the new Cold War has not led to a consensus on the use of this historical analogy. Arguably, the Cold War period was relatively peaceful, since a third world war was avoided during the four decades of superpower peace (Gaddis, 1986). Therefore, is it correct to describe the current state of affairs as a new Cold War? This study examines the extent to which the events shaping 21st-century world politics are the modern resonances of events that occurred during the early Cold War period. For this purpose, we address two questions:

- Is the contemporary structure of the international political system analogous to either the pre- or post-1962 periods of the Cold War?
- Do Cold War–like factors that increase stability currently exist in international politics?

The comparisons between the contemporary period and Cold War era, especially the post-1962 years, will help us anticipate future events. By understanding the characteristics of the earlier system, which has been described by renowned historian John Gaddis (1986) as the ‘long peace’, we can better understand the complexity of the new system and clarify whether the near future will hold vestiges of past stability.

Definitions, Concepts, and Assumptions

This study draws primarily on Wayman’s (1984, 1985) concept of power and cluster polarity to describe the relationship between the distribution of power in the international system and states’ war-proneness. Gaddis’ (1986) concept of the long peace is also used to describe the conditions that brought about the relative stability of the Cold War. This section begins by looking at the distribution of power in the international system.

The distribution of power within the international system coalesces around major powers, or poles. It is not constant over time; variations in the polarity, or the number of poles, within the international system can help us explain states’ behaviour and changes in the international system itself (Waltz, 1979). Two definitions of polarity is relevant

to this discussion: power polarity and cluster polarity. Each gives a different picture of the international system. Power polarity refers to the concentration of capabilities within the international system—that is, whether power is concentrated in relatively few states or diffused across several states. Using this definition, we can identify two distinct configurations of the international system: a bipolar system (in which such capabilities are concentrated in the hands of two major powers) and a multipolar system (in which such capabilities are more evenly distributed among three or more major powers).

By contrast, cluster polarity refers to the presence of mutually exclusive blocs or clusters of aligned states in the number of poles within the international system. From this perspective, polarisation arises when

there are coalitions within but not across clusters. By this definition, we can identify two more mutually exclusive configurations of the international system: cluster bipolarity (in which almost all states in the system are tightly aligned with considerable and mutual hostility), and cluster multipolarity (in which the system is made up of multiple blocs with overlapping membership).

Garnham (1985) and Wayman (1985) suggest that we should combine these definitions. Doing so yields a two-by-two matrix containing four different configurations of the international system (detailed in Figure 1):

- Power multipolar and cluster multipolar, a system in which multiple major powers form

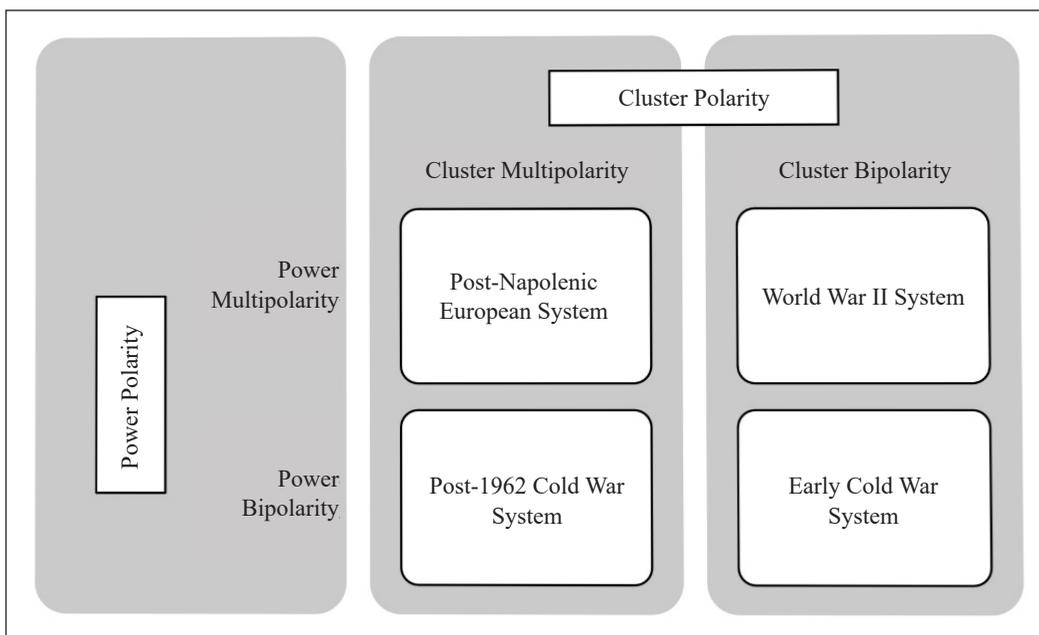


Figure 1. Types of international systems based on the conceptual combination of power polarity and cluster polarity proposed by Wayman (1985)

- multiple blocs of alliances (e.g., post-Napoleonic Europe);
- Power multipolar and cluster bipolar, a system in which multiple major powers are aligned into two hostile blocs (e.g., World War II);
 - Power bipolar and cluster multipolar, a system in which there are two superpowers, but some nations are aligned in a third, separate bloc (e.g., the post-1962 Cold War system);
 - Power bipolar and cluster bipolar, a system in which there are two superpowers and the rest of the world is divided into respective, opposing blocs (e.g., the pre-1962 Cold War system).

However, these configurations of the international system do not include true unipolarity, as a system is not completely unipolar when counterbalancing by other states is feasible (Wohlforth, 1999).

Which of these systems is most stable—that is, which can best preserve the status quo without recourse to war? Although stability does not equal peace, a stable system makes crises less likely and conflicts less dangerous (Cashman, 2014). Wayman's (1985) statistical study showed that power multipolar and cluster bipolar systems are more war-prone than power bipolar and cluster multipolar systems. For instance, the Cold War international system after 1962 was power bipolar, which reduced great powers' uncertainty (Quackenbush, 2015), and cluster multipolar due to the Sino-Soviet split, which made international alliance

commitments somewhat unambiguous and reduced the likelihood of war (Singer et al., 1972).

Wayman's picture of the Cold War is similar to Gaddis's (1986) concept of the long peace. Gaddis identified seven factors that contributed to the relative stability of the Cold War, especially after the 1962 Cuban Missile Crisis: (a) bipolarity, (b) the mutual independence of the US and the Soviet Union, (c) the restrained domestic politics of each superpower, (d) their nuclear arsenals, (e) the presence of reconnaissance technologies (because they made surprise attacks impractical), (f) the moderation of each side's attempts to restructure the international order, and (g) the rules of the superpower game (Gaddis, 1986). The rules of the superpower game included implicit rules that became norms over time, such as (a) mutual respect for one another's spheres of influence, (b) avoiding direct military confrontation, (c) determination to use nuclear weapons only as last resort, (d) a preference for predictable anomalies over unpredictable rationality, and (e) a tacit agreement not to undermine the other side's domestic authority (Gaddis, 1986, 1989). Those rules, however, evolved over time. Because of such rules, which became more efficacious after the 1962 crisis, the actions each side could expect from the other were implicitly defined, and this encouraged stability. The lack of stability in the early Cold War might be explained by the fact that the rules took years to become embedded (Gaddis, 1989).

Using the concepts discussed earlier, we make the following assumptions:

Assumption 1: A system that is power bipolar and cluster multipolar will most likely be stable, as the probability of warfare tends to be minimal. By contrast, a power multipolar and cluster bipolar system is least likely to be stable, as the probability of serious warfare is greatest in this scenario.

Assumption 2: When the major powers adhere implicitly to more rules of the game, the chance of systemic stability increases.

Assumption 3: The post-1962 Cold War system was characterised by a very stable international structure, which reduced the probability of large-scale wars.

METHODS

This study uses case study methods, specifically the combination of over-time case comparisons and explanatory typologies, to address the research questions (Bennett & Elman, 2007). In this study, the unit of analysis is the international system; that is, we compare certain systemic attributes for three different periods: the present (2000–2020), the pre-1962 Cold War (1947–1962) and the post-1962 Cold War (1962–1989).

Building on Wayman’s (1985) framework, we categorise the structure of the current international system using an explanatory typology with two dimensions, power polarity and cluster polarity. The

rows and columns of the matrix classify the system’s polarity dimensions, and each cell in the space is associated with predicted values of stability as per Assumption 1 (see Figure 1). Then, quantitative data from the Correlates of War (COW) Project datasets (Singer et al., 1972) are used to locate the contemporary structure of the international system within the typology to determine how similar it is to the Cold War era.

The study used two measurements of power concentration. One is the concentration index of major-power capabilities (CON) developed by Singer et al. (1972). Capability concentration affects the uncertainty in the system; higher concentrations mitigate a decision-maker’s uncertainty (e.g., fear of misperception), whereas lower concentrations increase it (Singer et al., 1972). This index is calculated using the standard deviation of the capabilities of nations within the major-power system, as classified by the COW Project. The formula for the index is as follows:

$$CON = \sqrt{\frac{\sum_{i=1}^n (Si)^2 - \frac{1}{n}}{1 - \frac{1}{n}}}$$

Where,

n = number of major-power nations

Si = nation i ’s share (from .00 to 1.00) of major-power capabilities

The CON value is 1 when one major power holds 100% of the capabilities. CON values are calculated using Composite Index

of National Capability (CINC) scores from the COW National Material Capabilities v5.0 dataset (Singer et al., 1972). CINC scores are calculated using six variables: the total population, urban population, iron and steel production, energy consumption, military personnel, and military expenditure of all states.

Since the number of major powers is an important aspect of CON, it is worth noting that the term ‘major power’ refers strictly to a state designated by the Correlates of War Project (2017) as a major power. According to Sarkees and Wayman (2010), major powers are defined as “... states with especially high levels of material capabilities, so that their military reach is global; they are also those that are informally treated as great powers by the other members of the great power club” (p. 34). The great-power club is also termed the major-power subsystem, which is treated as a subset of the international system, in the COW database. Hence, some states, despite recording high levels of capabilities, are technically not considered major powers. Some examples are Australia and India.

The second power concentration index, which is derived from the foregoing dataset, is the percentage of major-power capabilities owned by the two mightiest nations (TWOCON). The two indices are used to compare global bipolar power concentration. Since the earlier COW dataset covers only the duration 1816–2012, we also examined qualitative evidence, particularly on coalitions and alliance bonds, to clarify the tendency of polarity

changes. Further, qualitative inquiry may be particularly beneficial in cluster detection, which is very difficult (Ray, 1990).

The aforementioned discussion clarifies our approach to address the first research question. To address the second research question, we engaged in qualitative analysis of the current system to identify rules of the big-power game that might be like the Cold War era, especially the post-1962 period, in accordance with the account of the long peace provided by Gaddis (1986). The behavioural variables that determine whether the game is rule-based are as follows:

- V1: Respect spheres of influence.
- V2: Avoid direct military encounter.
- V3: Use nuclear weapons only as a last resort.
- V4: Prefer a predictable anomaly over an unpredictable rationality.
- V5: Do not seek to undermine the other side’s domestic authority.

Although these are unmeasured variables, the emergence of any rules would reflect the international system’s maturity and a higher likelihood of international stability.

RESULTS AND DISCUSSION

This section presents the results of our computations using the COW dataset and the qualitative findings on the systemic features of the current international system. Subsequently, the section discusses whether Cold War-like rules exist in contemporary major-power relations. Finally, it addresses the questions raised by this study.

Polarity and Polarisation

Before describing our analyses, we first discuss the list of major powers. As demonstrated in Table 1, during the Cold War period, there were five major-power nations: (a) the United States, (b) the United Kingdom, (c) France, (d) the Soviet Union, and (e) China. From 1991 to 2016 (the latest year for which COW data are available), Japan had a place in the major-power club, and Russia was also listed as a major-power. However, the COW list of major powers is a static record and, therefore, may not reflect a new dynamism in world politics. For instance, although the roles played by Australia and India in international politics have expanded in recent years and the countries have conducted several military activities, such as joint military exercises, they are not mentioned in the COW list.

As shown in Table 2, the CON figure changed from 0.321 in 2000 to 0.436 in 2012. In addition, during 2009–2012, the figures surpassed the highest CON value

(.409) during the Cold War. Based on this finding, we can reasonably infer that from 2013 onwards, the system's capabilities became highly concentrated in the hands of very few major powers. For instance, from 2009 to 2012, China and the United States together held 74% of the system's major-power capabilities (see Table 3). We will discuss this TWOCON index in detail later. At this point, the consideration of the CON index alone reveals that the fluctuations in systemic capability concentration since the mid-2000s have been comparable to some extent to the fluctuations of the early Cold War years, though with an increasing rather than decreasing trend.

Table 3 reveals a long-term trend of bipolar power concentration in the major-power system for the period 2000–2012. In 2000, China and the United States, the two mightiest powers at the time, held 63% of the system's major-power capabilities; subsequently, in 2012, they held 74%. Based on this trend, we infer that from 2013 onwards, power polarity changed in the direction of a greater bipolar concentration, where TWOCON was higher than .74. Considering this power-polarity dimension alone, we can say that the system that has been prevalent since 2005, the year during which TWOCON was .68, is similar to the early Cold War system. In both systems, capabilities are so unevenly distributed that two hostile major powers are more powerful than all other states combined, which to an extent ensures their autonomy in self-defence. Consequently, using the two indices discussed earlier, we conclude

Table 1
Entry and exit dates of major-power states

State name	Duration
United States	1898–2016
United Kingdom	1816–2016
France	1816–1940; 1945–2016
Germany/Prussia	1816–1918; 1925–1945; 1991–2016
Austria-Hungary	1816–1918
Italy/Serbia	1860–1943
Russia/USSR	1816–1917; 1922–2016
China	1950–2016
Japan	1895–1945; 1991–2016

Note. Data from the Correlates of War Project (2017)

Table 2
Capability concentration

Year	CON	Year	CON	Year	CON	Year	CON
1939	.235	1958	.320	1977	.319	1996	.283
1940	.221	1959	.317	1978	.316	1997	.292
1941	.272	1960	.306	1979	.312	1998	.304
1942	.292	1961	.318	1980	.315	1999	.312
1943	.365	1962	.325	1981	.320	2000	.321
1944	.355	1963	.321	1982	.328	2001	.325
1945	.436	1964	.316	1983	.330	2002	.338
1946	.452	1965	.317	1984	.325	2003	.342
1947	.408	1966	.327	1985	.330	2004	.357
1948	.409	1967	.334	1986	.327	2005	.368
1949	.390	1968	.336	1987	.324	2006	.377
1950	.332	1969	.333	1988	.323	2007	.388
1951	.373	1970	.324	1989	.307	2008	.394
1952	.374	1971	.321	1990	.299	2009	.421
1953	.378	1972	.319	1991	.246	2010	.420
1954	.352	1973	.316	1992	.266	2011	.428
1955	.355	1974	.312	1993	.283	2012	.436
1956	.344	1975	.317	1994	.273		
1957	.341	1976	.319	1995	.277		

Note. Data computed from Singer et al. (1972). CON = concentration index of major-power capabilities.

that the power polarity of the current international system appears similar, but not identical, to the international system of the early Cold War period, since both systems are power bipolar.

The identification of cluster polarity, or polarisation, is very difficult and often contested. However, we argue that the present-day international system is deviating from cluster multipolarity, since the nascent trend of big-power competition has shifted closer to alliance bipolarisation. This signifies the clustering of the system into two major-power blocs, one led by the United States and the other by China, which have relatively loose alliance structures. The

clustering of the aligned major-power and medium-power nations is further evidenced by the recent realignment of major-power postures in flashpoint regions, particularly in the Indo-Pacific region. Now, we examine the ongoing alliance bipolarisation in detail.

In the major-power subsystem, the United Kingdom, France, Germany, and Japan have historically been US allies. The United States and the three Western European powers have been members of the North Atlantic Treaty Organization (NATO) since the Cold War period. Japan has conventionally been considered the anchor of the US hub-and-spoke system in the Indo-Pacific and was designated

Table 3
Shares of the major-power capabilities held by the two strongest powers

Year	1stcap	2ndcap	TWOCON	Year	1stcap	2ndcap	TWOCON
1939	USA	GMY	.50	1976	RUS	USA	.66
1940	USA	GMY	.49	1977	RUS	USA	.65
1941	USA	GMY	.59	1978	RUS	USA	.65
1942	USA	GMY	.60	1979	RUS	USA	.64
1943	USA	GMY	.65	1980	RUS	USA	.64
1944	USA	GMY	.66	1981	RUS	USA	.65
1945	USA	RUS	.68	1982	RUS	USA	.65
1946	USA	RUS	.77	1983	RUS	USA	.66
1947	USA	RUS	.78	1984	RUS	USA	.66
1948	USA	RUS	.81	1985	RUS	USA	.67
1949	USA	RUS	.81	1986	RUS	USA	.66
1950	USA	RUS	.69	1987	RUS	USA	.66
1951	USA	RUS	.72	1988	RUS	USA	.66
1952	USA	RUS	.72	1989	USA	RUS	.64
1953	USA	RUS	.73	1990	USA	RUS	.63
1954	USA	RUS	.72	1991	USA	CHN	.51
1955	USA	RUS	.72	1992	USA	CHN	.56
1956	USA	RUS	.71	1993	USA	CHN	.58
1957	USA	RUS	.70	1994	USA	CHN	.57
1958	USA	RUS	.68	1995	USA	CHN	.58
1959	USA	RUS	.68	1996	CHN	USA	.59
1960	USA	RUS	.67	1997	CHN	USA	.60
1961	USA	RUS	.69	1998	CHN	USA	.61
1962	USA	RUS	.69	1999	CHN	USA	.62
1963	USA	RUS	.69	2000	CHN	USA	.63
1964	USA	RUS	.68	2001	CHN	USA	.64
1965	USA	RUS	.68	2002	CHN	USA	.65
1966	USA	RUS	.69	2003	CHN	USA	.65
1967	USA	RUS	.70	2004	CHN	USA	.67
1968	USA	RUS	.70	2005	CHN	USA	.68
1969	USA	RUS	.69	2006	CHN	USA	.69
1970	USA	RUS	.68	2007	CHN	USA	.70
1971	RUS	USA	.67	2008	CHN	USA	.71
1972	RUS	USA	.67	2009	CHN	USA	.74
1973	RUS	USA	.67	2010	CHN	USA	.74
1974	RUS	USA	.66	2011	CHN	USA	.74
1975	RUS	USA	.65	2012	CHN	USA	.74

Note. Data computed from Singer et al. (1972). 1stcap = the system's largest military power, measured by CINC score; 2ndcap = the system's second largest military power, measured by CINC score; TWOCON = the percentage of major-power capabilities held by the two strongest powers; USA = United States; RUS = Russia/USSR; GMY = Germany/Prussia; CHN = China.

a major non-NATO ally (MNNA) of the United States. In addition, the Big Three, that is, London, Paris, and Berlin, have signed various defence agreements and treaties with one another. However, Russia has arguably aligned itself with China. Both nations signed the Sino-Russian Treaty of Friendship in 2001. In the same year, they jointly formed the Shanghai Cooperation Organisation (SCO), or Shanghai Pact. There are no major-power bonds across the two main blocs; rather, intra-cluster bonding has prevailed among them. This discussion indicates the presence of bipolarisation within the great-power club.

Further, recent trends in coalitions and alliances, particularly among major and medium powers, focus on cluster bipolarity. As depicted in Figure 2, it is possible to identify two well-defined blocs of big-power allies with many multilaterals within each bloc. For instance, several medium powers with democratic regimes, notably Canada, Australia, and New Zealand, have traditionally aligned themselves with the United States. They have participated in several United States–led multilateral institutions, including the ANZUS Pact; the Five Eyes (FVEY), which is an intelligence alliance; and NATO. In contrast, medium

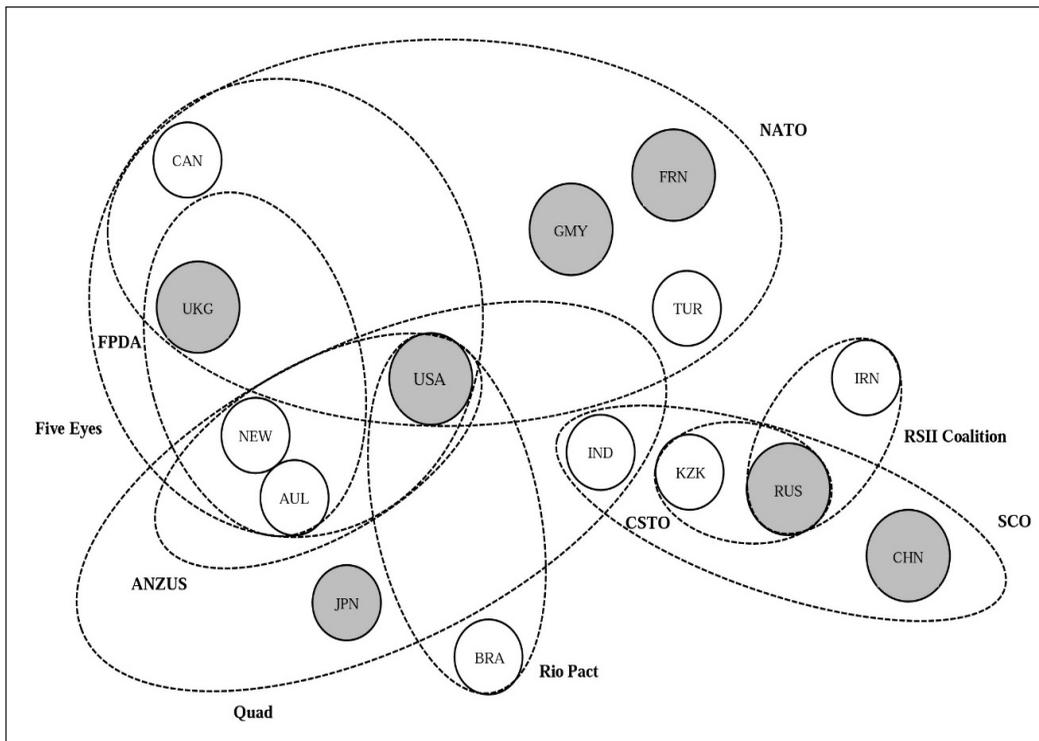


Figure 2. Multilateral coalitions and alliances led by major powers
 CAN = Canada, FRN = France, GMY, Germany, USA = United States, IND = India, JPN = Japan, CHN, China, KZK = Kazakhstan, RUS = Russia, BRA = Brazil, ANZUS = Australia, New Zealand and United States Security Treaty, CSTO = Collective Security Treaty Organization, FDPA = Five Powers Defence Arrangements, NATO = North Atlantic Treaty Organization, SCO = Shanghai Cooperation Organisation.

powers with illiberal regimes, such as Kazakhstan, have always tended to align themselves with the China-led bloc, in which Russia is China's junior partner. Although China has not formed any NATO-like alliances, military cooperation is ensured by the SCO, which has resulted in a loose coalition sometimes called the Shanghai Pact. Unlike China, which has not created any organisations, Russia formed the Collective Security Treaty Organization (CSTO), which is a formal alliance led by Moscow.

Overall, India tends to support both opposing blocs; accordingly, New Delhi joined the SCO in 2017. However, India's SCO membership appears to be part of Russia's balancing act against the preponderance of China's power in the coalition (Jiang, 2020). Further, since China is India's perennial antagonist, the Indian presence in the SCO cannot be considered a reflection of New Delhi's alignment with the Chinese side. In addition, China's rapidly expanding ties with nations in South Asia and the Indian Ocean, areas that are historically considered to be within India's sphere of influence, have prompted India to align itself, at least tactically, with the American bloc.

India's support for the Americans is evident from the country's decision to advocate the revival of the Quadrilateral Security Dialogue (QSD), or the Quad, along with Australia, Japan, and the United States. The revival of the Quad is expected to deter China's efforts to alter the territorial status quo in disputed areas from the South

China Sea to the Himalayas through military action. Accordingly, the Quad can be considered an anti-China alliance of like-minded Indo-Pacific powers (Heydarian, 2020).

This discussion establishes that the current international system is shifting toward cluster bipolarity, where the alliance configuration is divided into two main blocs led by the United States and China. By considering both the power and cluster polarity of the current period, we argue that today's systemic conditions are moderately similar, but not identical, to those of the pre-1962 Cold War system, where big-power politics was divided into two camps and non-bloc major powers were absent.

Features of the Major-Power Game

Five unmeasured variables, identified by Gaddis (1986), are considered as indicators of the game being played by the implicit rules. The contributions of these variables to international stability were delineated a priori in this analysis. Our findings revealed that—except for avoiding direct military conflict and the use of nuclear weapons—no indications could be observed in 21st-century world politics. The findings derived from the synthesis of qualitative evidence are as follows:

Respect Spheres of Influence. This normative code of conduct was implicitly endorsed by both the United States and the Soviet Union, allowing unnecessary war to be avoided. For instance, in 1968, Washington did not exploit the Prague

Spring to undermine Soviet control of Czechoslovakia (Gaddis, 1989). However, this does not appear to be the case in the 21st century. The denial of *droit de regard*, which is exerted by other major powers, is perhaps best exemplified by NATO's expansion in Eastern Europe, which is traditionally considered to fall within Russia's sphere of influence. In 2014, Moscow retaliated against the United States-led NATO expansion by unilaterally annexing Ukraine's Crimean Peninsula and thereby making this region a flashpoint for major-power confrontation (Carbonnel, 2014).

China's expansion of its strategic influence in Eastern Europe, Central and South Asia, and Latin America is another example of the countries' disrespect for each other's spheres of influence. Eastern Europe and Central Asia are regions traditionally considered to be within Russia's sphere of influence, whereas South Asia is an area over which India has long claimed political rights (Pande, 2018). The last region, Latin America, which is perhaps the most important among all the regions, has long been a part of the US sphere of influence. Further, the Chinese expansion implemented through massive Belt and Road Initiative projects could be perceived as an attempt by Beijing to alter the status quo in the relevant regions unilaterally; such actions inherently heighten the risk of militarised conflict (Chan, 2020; Nurgozhayeva, 2020).

Avoid Direct Military Encounter. At no point during the post-1962 Cold War period

did the United States and the Soviet Union directly confront each other militarily. Both superpowers were prudent and well aware of chain-ganging, which can cause conflict through ties to third parties (Gaddis, 1989). However, in recent years, the actions of major-power states vis-à-vis one another have appeared to be much less cautious. Arguably, the United States and China, in particular, have been on opposing sides in issues ranging from Hong Kong's crisis to East Asia's maritime disputes (Borger & Graham-Harrison, 2020). The latter issue, which involves the South China Sea, has become the most important flashpoint between the two nations (Stashwick, 2019). The troubled waters of the South China Sea have repeatedly been listed as the fault line with the greatest risk for the start of a third world war (e.g., Farley, 2018). Today, serious displays of force by China and the Quad have created an inherently tense, war-prone situation (Hadano, 2020; Moriyasu & Khan, 2020). Despite being a war-prone pair, there has been virtually no serious armed conflict involving Washington and Beijing.

Washington and Beijing are not the only war-prone dyad. The recent (mid-2020) skirmishes in the Himalayas, which are a continuation of a decades-old boundary dispute, have risked fuelling China-India confrontation along the Line of Actual Control (LAC), which is an imprecise demarcation line between Asia's nuclear giants. In 1962, Beijing and New Delhi had gone to war over this contested boundary, which ended with a truce that

established the 3,488-km-long LAC border. The international community has blamed China for the most recent border conflict. China's recent moves in the Himalayas were allegedly designed to change the status quo line of demarcation unilaterally (Taneja, 2017). Further, the latest skirmish can be interpreted as being a part of China's efforts to push its territorial claims, including its claims in the East and South China Seas, amid the COVID-19 pandemic (Sibbal, 2020).

In addition, with Russia's annexation of Crimea by force in 2014 and the expansion of the United States and NATO in Eastern Europe, the prospects of a direct military confrontation between the United States and Russia have become real. Moscow is expected to react in a hostile manner to the American-led alliance operating at the country's border (Marten, 2017). Moreover, experts say that further unilateral annexations by Russia are distinctly possible. The country's targets reportedly include Georgia and Belarus (Blank, 2019; Goble, 2015). Incidents at the front lines can result in militarised encounters and potentially drag major powers and their alliances to a large-scale war.

Use Nuclear Weapons Only as a Last Resort. After the Cuban Missile Crisis occurred in 1962, regardless of the political rhetoric from the White House or Kremlin, both superpowers strictly reserved their nuclear weapons for the worst-case scenario of war. In these countries, the tradition of maintaining a sharp delineation between

nuclear and conventional arsenals evolved following the Hiroshima and Nagasaki atomic bombings. The feeling of absolute power engendered by possession of nuclear weapons created mutual fears of conflict escalation. Further, moral sensibilities among US policy elites, which were strengthened by the unprecedented devastation caused by nuclear weapons, played an important role in discouraging their use, particularly during the early Cold War years. This pattern of caution contributed to the development of the nuclear Non-Proliferation Treaty (NPT), which was ratified by the United States and Soviet Union. Moreover, the two parties signed the bilateral Intermediate-Range Nuclear Forces (INF) Treaty in 1987.

The risk of a nuclear war between major powers is higher today than the early Cold War period (Saradzhyan, 2019). The United States withdrew from the INF Treaty with Russia in 2019; currently, it only adheres to the New START Treaty, which will expire in 2021. Concurrently, China is planning to double the number of its nuclear weapons within the next decade. Further, it has allegedly built nuclear facilities near its disputed border with India (Bhat, 2020).

Despite the risks and uncertainties that are prevalent today, big powers seem to agree tacitly that nuclear arsenals must be used only in the extreme circumstance of a total, rather than limited, war, since the stakes of using nuclear weapons are immensely high for all sides. Hence, a big-power nuclear war is not likely, at least in the near future.

Prefer a Predictable Anomaly over an Unpredictable Rationality. One of the remarkable features of the Cold War era is the extent to which the superpowers and their allies tolerated “a series of awkward, artificial, and apparently unstable regional arrangements” (Gaddis, 1989, pp. 61-62). Several anomalies that appear to be wildly and illogically improvised include the division of Germany, separation of the Korean peninsula, and existence of a Soviet-aligned Cuba approximately 150 km from the US soil. All of these anomalies lasted until the end of the Cold War; this indicates that the superpowers were not interested in trading familiar anomalies for something more rational but unpredictable (Gaddis, 1989).

The Cold War’s unusual political artefacts, for example, the divided Korean peninsula, have become a normality in contemporary world affairs. Therefore, no Cold War-like formulas of major-power toleration appear to exist today.

Do Not Seek to Undermine the Other Side’s Domestic Authority. During the Cold War period, leadership crises occasionally occurred in Washington and Moscow including, for example, Richard Nixon’s resignation in the wake of the Watergate scandal. Still, neither the American nor the Soviet side seriously exploited the other’s domestic vulnerability. This restraint from subverting each other’s regimes was a clear feature that stabilised Cold War politics (Gaddis, 1989).

However, today, such reciprocal tolerance does not appear to be a dominant characteristic of international politics. Rather, major-power nations always seem willing to undermine other states’ internal leadership. This is best exemplified by Russia’s meddling in the 2016 US presidential election (Baines & Jones, 2018). Apart from Russia, China has reportedly attempted to meddle in the US elections and infiltrate big-power parliaments, such as those in Australia and the United Kingdom (Gardner, 2020; Martin, 2019).

Assessment

Our findings show that the international system has become power bipolar since the mid-2000s and has recently been shifting towards cluster bipolarity, characterised by two mutually exclusive blocs headed by the United States and China. Comparatively, the current system tends to be parallel to the early Cold War system. Because of the occurrence of polarity and polarisation, the Cold War analogy of contemporary world politics appears broadly relevant. However, strictly speaking, it is more analogous to that of the pre-1962 Cold War period.

Perhaps the most obvious early Cold War resonance of our time is that the new round of major-power rivalry is a chess game being played with the same pieces as during 1947–1962. Specifically, both periods are characterised by the competition between two opposing blocs, one of which is led by the United States; however, the leader of the opposite bloc has changed from Soviet Russia to China. In contemporary

politics, Russia has been drawn into the Chinese orbit to become China's junior partner within the same allied dyad. Yet, the current Kremlin has greater independence than newly born China did in the 1950s. Its role is, therefore, equally important to the present superpowers.

Our analysis of systemic stability is based on Wayman's (1985) conceptual explanation. We infer that the present-day international system is, at least for now, moderately stable, because a system that combines power and cluster bipolarity is neither the most nor the least prone to war. Nevertheless, this does not mean that contemporary world politics does not involve militarised international disputes. Rather, it simply means that the current system tends to preserve the status quo without great risk of an all-out world war.

Notwithstanding the relatively positive picture provided by the aforementioned discussion, the ongoing major-power game does not appear to be rule-based, due to the limited predictability of behaviour by each side. This, in turn, can lead to a crisis of misperception and mistrust among the major powers, which unavoidably contributes to a higher probability of conflict and, thereby, war. "What stability does require is a sense of caution, maturity, and responsibility on both sides", writes Gaddis (1989, p. 62). However, without adherence to a set of effective, implicit Cold War-like rules of the game, such a requirement cannot be satisfied; therefore, the picture of major-

power relations drawn from the second question appears to be darker and gloomier.

Finally, it should be noted that, given contextual differences between then and now from the number of key players and their relative strengths to globalisation, adopting a holistic approach to analysing major-power politics is hardly possible. We also acknowledge some study limitations, including relying heavily on Gaddis's (1986) decades-old thesis, which is certainly debatable, as a starting point for comparison. Accordingly, our findings should be regarded as preliminary evidence, and further in-depth analyses are needed.

CONCLUSION

This study examined whether contemporary world politics reflects the characteristics of the Cold War periods. In other words, it examined whether the popular new Cold War analogy has some relevance to the old Cold War reality. Our answer to this question is a qualified 'yes'.

Today's systemic conditions are similar, although not identical, to the conditions of the pre-1962 Cold War system. In terms of polarity and polarisation, the current international system is power bipolar, and is shifting closer to cluster bipolarity. Additionally, the key players and their allies are almost the same as the players during the early Cold War period. The central differences between the periods are that Soviet Russia opposed the US in the past, but China does so now and that

Putin's Russia is much stronger than Mao's China. This allows Moscow to retain some autonomy from Beijing. Arguably, these systemic power configurations suggest that contemporary world politics does not set the stage for either the best or the worst possibility for international stability.

Still, the power game currently played by major powers is not predominantly rule-based. Sino-American politics has not yet to become mature, although a limited, tacit consensus regarding the non-use of nuclear weapons has been reached. This differs from the post-1962 Cold War period, during which the superpowers adhered to a set of implicit rules, a key ingredient of the long peace. The current situation is thus likely to lead to growing uncertainty and destabilisation. Militarised disputes, particularly in flashpoint regions from the South China Sea to the Himalayas, should be expected. Despite this, a third world war is extremely unlikely to occur in the near future.

Even if history does not repeat itself, the turning point of world politics in the current period, we argue, will be a new Sino-Soviet split. In such a circumstance, the international system will become power bipolar and cluster multipolar, which is arguably the least war-prone situation. Finally, this condition will probably lead to a new long peace, which is the most peaceful scenario that can be achieved in our anarchic world.

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Revisiting the Metanarrative of ‘Two-nation’ Theory: A Postmodern Study of Salman Rushdie’s *Midnight’s Children*

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ABSTRACT

In 1947 India was violently partitioned into the States of India and Pakistan. The political leaders behind this partition justified their decision based on the two-nation theory which had presented the two major religions namely Hindu and Muslim as two distinct civilizations that could not coexist. By marginalising and ignoring other important aspects of Indian society, and by magnifying only the religious aspect, they successfully created the metanarrative that would strengthen the ‘imagined’ border. Salman Rushdie, a postmodernist at heart, in *Midnight’s Children* artistically brings the minute details of common Indian lives to the fore and thereby compels the readers to reanalyse the validity of the theory. This study, thus, by referring to the postmodern theory propounded by Jean François Lyotard, has tried to examine the legitimacy of two-nation theory in the light of the micronarratives portrayed in the *Midnight’s Children*.

Keywords: Jean François Lyotard, partition, postmodernism, Salman Rushdie, two-nation theory

INTRODUCTION

“At the stroke of the midnight hour, when the world sleeps, India will wake to life and freedom” – With this speech by Pt. Jawaharlal Nehru, delivered on the midnight

of 14th August 1947, India gained its long-awaited freedom (Dalal, 2003, p. 5). But this event was not a happy one for all; with independence, India was brutally partitioned into two nations – India and Pakistan. Based on the religious beliefs of the people, Pakistan was created for the Muslim population, and India was created for the Hindus. Some political leaders of undivided India had propounded the “two-nation” theory and asked for a partition. The theory proposes that Hindus and Muslims are radically different from each other,

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they are from different origins, they have different bents of mind and therefore they cannot coexist. In other words, it would not be safe for a minority population of Muslims to live in a nation where the majority of the population is Hindu. Several arguments were produced in support of this theory but in practice the effect of this theory was devastating, as we find in various partition literature, *Midnight's Children* being one of them. It was followed by anarchy, bloodshed, rapes, robbery, and ruthless violence; the reason behind this devastation lies within the very narrative of the theory, which this paper explores.

India has its long tradition of 'unity in the midst of diversity'. People from different ethnicity, language, caste, and religion come together and coexist to make the colourful fabric of the Indian subcontinent. But when such a hypothesis was executed in reality, it created an incredible sensation among the individuals. The people were perplexed regarding the future course of action and many of them didn't know whether their homes lay in Pakistan or India. Salman Rushdie bases the plot of his novel *Midnight's Children* on this chaotic situation in India during the partition. Rushdie himself was very critical of the two-nation theory and did not support the creation of Pakistan (Rushdie, 2008). In this novel, he portrays incidents before and after the independence of India and takes the common people of the society as the characters to show their agonies. Being a historical novel, *Midnight's Children* incorporates several incidents that are historically true and this article will try

to examine how Rushdie (2012) in his novel depicts the impact of the two-nation theory.

The two-nation theory is a fabricated metanarrative that was meant to establish a political partition at the expense of innocent lives. It created such a debate from local to an international level that even today we go back to this concept whenever the two nations confront each other. Possessing the first-hand experience of the aftermath of the partition, Rushdie has portrayed the emotions and incidents as realistically as possible, and thus *Midnight's Children* seems to be the most suitable literary piece which we can read closely, analyse critically and explore to find those mini-narratives which will provide the real truth, not the distorted one. In the subsequent analysis, this study will bring forth the skilfully portrayed micronarratives of common Indian lives. The paper will look at these narratives from a postmodern perspective and observe whether these people or their life experiences legitimise the propositions of the theory.

LITERATURE REVIEW

Salman Rushdie, being a postmodernist (Luburić-Cvijanović & Muždeka, 2016), was aware of the Lyotardian concepts of narratives and knowledge-power relationship, and could never accept the partition. In the novel *Shame*, he mentioned that the creation of Pakistan in 1947 was a failure because it was just "insufficiently imagined" (Rushdie, 2008, p. 16). For his own part, he believes that religion is something that makes one's identity static,

and prevents people from mingling with each other. In order to create the division between self and the other, religion must stereotype the other by creating metanarratives. That's why in his personal life he says

I lost my faith... at school in England... during a Latin lesson... to prove my newfound atheism, I bought myself a rather tasteless ham sandwich, and so partook for the first time of the forbidden flesh of the swine. No thunderbolt arrived to strike me down. I remember feeling that my survival confirmed the correctness of my new position.... [F]rom that day to this, I have thought of myself as a wholly secular person, and have been drawn to the great traditions of secular radicalism – in politics, socialism, and its offspring” (Rushdie, 1991, p. 405).

As a result of this 'secular, pluralist and eclectic' attitude, Rushdie could objectively view the lives of the common Indians, their daily struggles, the part that religion played in their societies, and the effects of partition in their lives. Getting rid of the metanarratives that two-nation theory made us believe, Rushdie has tried to delve into the real problems of India, and show how all of these were erased from the main discourses in the name of religion and partition. *Midnight's Children* is a living example of this endeavour which Droogan (2009) mentions, “The questions at the heart of *Midnight's Children* are how, in

the absence of religion or any ultimate principles, can a person know the world, or know themselves?” (p. 202) He further says that Rushdie's rejection of religious restrictions symbolises his alienation from the colonial education which was based upon modernist ideals and also from the Eastern values of tradition, beliefs, and faith. In *Midnight's Children*, he seeks the truth by breaking the shell of religion-based identity and encourages the readers to find the real history of India (Droogan, 2009).

S. Kumanan (2016), in his article, touches upon India's partition and Saleem's symbolic connection with the fate of the new nation, as portrayed by Rushdie. Referring to the *Midnight's Children* Conference and other instances, Kumanan presents the history that Saleem subjectively believes. But as Rao (2008) mentions, “Saleem creates the special type of history of an unbelievable narrator, as he has his own perspective of history. He combines 'fiction' with 'facts' to emphasize the ambiguous nature of history” (p. 11). Thus the study fails to provide any concrete reason behind the partition, the role of the two-nation theory, or the effect that it had upon the common people.

Todd Giles (2010), similarly, brings Rushdie's art of writing and chutnification in the focus of his article. History, written by anyone, is bound to have subjective bias and historians always try to present their observations as much objectively as possible. But Rushdie (2012), on the contrary, instead of taking any objective attitude, redraws history from the subjective

view of Saleem Senai, the protagonist – “[I]n a country where truth is what it is instructed to be, reality quite literally ceases to exist, so that everything becomes possible except what we are told in the case” (p. 453). Giles (2010) thus observes that sometimes things are arranged “in such a way that the reader takes them as truths, as much as, say, he or she takes what appears to be factual dates and occurrences as truth, most of which are in actuality only half-truths, false histories” (p. 183). The author makes the reader aware of the mixing of reality and imagination in writing this historical novel, yet avoids indicating any direction to derive the real historical facts out of it.

O. P. Dwivedi (2009) also looks into the historical aspects of *Midnight's Children*, but his prime focus is on the process of nation-building. He shows how Rushdie has connected the imaginary future of Saleem Senai to the real future of India, with an unthinkable dexterity. He says that when a nation is inappropriately imagined it creates a lot of problems for the people and that every nation, in order to exist, must have its strong historical base. However, this article strangely keeps mum on the question of India's emergence as a nation. The focus shifts in finding the historical elements in Rushdie's novel, but it does not comment on how the historical facts contributed to the process of partition.

After reading different critics one can say that the origin and execution of the two-nation theory consist of an important chapter of Indian history, and it is, in fact, the major cause for the birth of today's

India and Pakistan. *Midnight's Children*, being a partition novel, tries to capture the social, economic, and mental condition of the then common people of India. Several critics have discussed Rushdie's handling of history, narrative style, the art of mixing imagination with reality, and the different aspects of memory and religion as portrayed in his novel; but no significant study has been found which solely focuses on how Rushdie strongly yet artistically refutes the propositions of two-nation theory in his novel. We argue that Rushdie bases his narration on the arguments of Lyotard's postmodernism and has portrayed numerous trivial but important micronarratives of common Indian lives that show the simple lifestyle, cordial relationships, interactions, altercations, the happy moments, and a life free from any boundary and religious hatred. This article thus tries to focus on those micronarratives from *Midnight's Children* and thereby shows how Rushdie dismantles the two-nation theory and compels readers to critically revisit this part of Indian history anew. The following sections of this article will first discuss the methodological approach of this study, and then it will venture into finding and analysing critically the acceptability of the theory with references from the novel.

METHODS

This study is analytical and exploratory in nature. It has used critical discourse analysis to critically examine the discourse that emerged out of the socio-political situation following partition which has been portrayed

by Rushdie in his novel. The paper uses the close reading technique and critically analyses instances and evidence which challenge the validity and legitimacy of the metanarrative, i.e. the two-nation theory. The everyday incidents and the normal activities of the common people of India, as depicted in Rushdie's novel, are used as an instrument to bring out the incongruousness of the two-nation theory. The data have been collected from the novel itself, while the theoretical perspective adopted to strengthen the arguments is postmodernism propounded by Jean François Lyotard in 1984.

32 years after the partition, French philosopher Lyotard published his groundbreaking work *The Postmodern Condition: A Report on Knowledge* (1984). The uniqueness of postmodernism lies in its rejection of following the traditions, hierarchies, and the worship of unknown authority or power. Postmodern theory strongly condemns the use of metanarratives to validate any social, political, or philosophical knowledge. These metanarratives seem to be imperfect and biased in the modern society as they always present a generalised view of any fact; and to generalise they try to marginalise, cover-up and eliminate all odds or exceptions, and thereby present an imperfect, idealised view of the fact, not the real fact. That is why Lyotard (1984) affirms: "I define postmodern as incredulity towards metanarratives" (p. xxiv); and in place of metanarratives what he argues to introduce in the process of legitimisation of narrative knowledge is the micronarratives. He says

that postmodern knowledge "refines our sensitivity to differences and reinforces our ability to tolerate the incommensurable" (p. xxv).

Lyotard's postulate applies to the politico-historical phenomenon of the "two-nation" theory too. In India, such a metanarrative was created and circulated in a way that the religious diversity of the country was perceived by the people as a threat to their lives. The propagators of the two-nation theory only focused on the religious aspect of human identity and left out the other important aspects. Thus it is necessary to analyse the then socio-political situation of India wholly, without ignoring any of the micronarratives, in order to explore the truth of the two-nation theory.

Leo (1988) rightly says, "one of the biggest transformations marking the disjunction between modernism and postmodernism is the collapse of the 'master narratives' or 'grand stories'" (p. 342). Salman Rushdie, being a critic of the two-nation theory portrays the lives of the common people in India. He deliberately brings the Hindu and Muslim characters together in *Midnight's Children*, so that through their interactions we get a different glimpse of India and its people. Seemingly trivial and insignificant events and facts of this novel turn out to be important and serve as the micronarratives that prick the bubble of the metanarrative of the two-nation theory. In the following section, we will attempt to investigate some such instances in this novel and thereby try to question the validity of the two-nation theory.

RESULTS AND DISCUSSIONS

Salman Rushdie was born in Bombay on 19th June 1947, the very year when India gained independence from British rule. The similarity of Rushdie's year and place of birth to that of Saleem provokes a group of critics to presume that Saleem in *Midnight's Children* is Rushdie's reflection of himself. Saleem is the central character of the novel and as the novel begins Senai says "...my destinies [are] indissolubly chained to those of my country" (Rushdie, 2012, p. 3). Here the word "my country" is notable because at the time of Saleem's birth partition had already taken place and being a Muslim Saleem, according to the theory, should feel an affinity with Pakistan; but instead of this he calls India "my country".

Before coming to the story of Saleem, the novel takes the readers back to the time of his grandfather Aadam Aziz. Aadam was a Kashmiri and he had a very good friend named Tai who was a boatman. Both of them had great respect for each other. Amazed by the unchanging nature of Tai's age Aadam used to ask "How old are you really, Taiji?" (Rushdie, 2012, p. 14) Religion or religious rituals never had any serious importance in Aadam's life. One day, while praying, Aadam hit his nose to the ground, which caused three drops of blood to come out of his nose, and he was so disturbed with this incident that "he resolved never again to kiss earth for any God or man" (p. 4). There is hardly any reference in the text to Tai's religion. Tai loved to make up stories and often he made fun of the mythological tales. One day he claimed to Aadam that he

had met Christ when he came to Kashmir and explained, "Isa, when he came, beard down to his balls, bald as an egg on his head.... And what an appetite.... Saint or devil, I swear, he could eat a whole kid in one go" (p. 13). Thus he presented a comical gluttonous figure of Christ. Aadam, mesmerised by this description, instead of showing any doubt or offence, ran to his parents to tell them every word that he had listened; but to his disappointment, they had no time to pay any heed to such "gas". These examples show that although people in India were concerned about their religious faiths, it scarcely attained such significance to necessitate violence or partition. Aadam's life in Kashmir symbolises the age-old Indian tradition of tolerance, simplicity, and openness of mind, which undoubtedly goes against the proposed grain of the two-nation theory.

The two-nation theory argues "...a Muslim of one country has far more sympathies with a Muslim living in another country than with a non-Muslim living in the same country" (Quaid-e-Azam & MRT, 1992, p. 176). Now, this was not only a metanarrative but a false statement if seen from the perspective of the citizen-nation relationship. This argument was criticised vehemently by the then social activists from all the spheres of society; Rushdie, in line with them, has thus produced a cluster of instances in his novel, which makes this argument unconvincing and questionable.

In his Kashmir days when Dr. Aziz was a bachelor, Ilse Begum, one of his German friends, had come to visit him and mysteriously drowned in the lakes of

Kashmir while taking a ride with Tai. Now, if Jinnah's observation was true, Dr. Aziz would have taken legal action against Tai, the non-Muslim, on suspicion of killing Ilse Begum who was a Muslim, but he did not accuse Tai, and instead, put his trust in him.

Adam got married to Saleem's grandmother Naseem and settled down with her. While leaving Kashmir, they could see the temple of Shankara Acharya and Takht-e-Suleiman standing one atop another on a mountain and representing religious cooperation in pre-partition India (Rushdie, 2012). Naseem was a bit conservative but Dr. Aziz did not possess any hatred for other religions. The greatest example of religious harmony is evidenced when the curtains at the hotel room caught fire and Adam shouted frantically for help, "...about thirty five Sikhs, Hindus and untouchables [thronged] in the smoke-filled room" for rescue (p. 39).

These pictures present before us the kind of relationship that existed among different religions in India before the partition. Rushdie has been very explicit in pointing out the different faiths of the rescuers who rushed in. While two-nation theory only talks about the Hindu-Muslim binary, Rushdie's incorporation of other religious communities like Sikhs and untouchables in his novel adds another layer of micronarratives that help us to understand the nature of Indian society and infer the attitude of people before partition.

While living in Agra, the narrator describes a few instances of religious stereotyping (Rushdie, 2012); Dr. Aziz or

his family by contrast had never indulged in such practices, neither had they faced such attacks. Dr. Aziz was a man of reason and rationality. When Dr. Aziz found that the *maulvi* (a teacher of Islamic law) appointed for the children's religious teachings, was teaching his children to hate others' religion, he fired him straightaway (Rushdie, 2012). A worshipper of optimism, he always loathed the Muslim League's intention to divide the country based on religion. He believed that the leaders were not actually thinking for the common Muslim population, but they had some other vested interest. His conviction was confirmed when he found people like the Hummingbird, Nadir Khan, and Rani of Cooch Naheen around him, who were also against the League's questionable activities, and ironically Muslims speaking against the so-called Muslim organisation. Rani expressed her disdain for the League by crying:

That bunch of toadies! Landowners with vested interests to protect! What do they have to do with Muslims? They go like toads to the British and form governments for them, now that the Congress refuses to do it.... Otherwise, why would they want to partition India? (Rushdie, 2012, p. 55).

These vested interests who constructed the metanarrative of Hindu-Muslim disharmony were further exposed by Joseph D'Costa when he explained to Mary, "The independence is for the rich only; the poor are being made to kill each other like flies.

In Punjab, in Bengal...” (Rushdie, 2012, p. 139) Thus Rushdie, by presenting these micronarratives of pre-independence India, not only challenges the validity of the theory but also exposes the reality behind this.

The theory of two nations had been discussed by the Hindu Maha Sabha, under the presidency of V. D. Savarkar, who accepted that Hindus and Muslims were radically different. In this context, B. R. Ambedkar (1945) mentioned, “Mr. Savarkar...insists that, although there are two nations in India, India shall not be divided into two parts” (p. 69). It was sixteen years later that Jinnah demanded the partition based on this theory and during the 1940s political activists voiced the demand for partition. On 23rd March 1940, Jinnah in his Lahore speech proposed that Muslims and Hindus were from two different religious philosophies. They had no intermarriage and their ideas and perspectives of life and society were also very conflicting. “Their outlook on life and of life was different and despite thousand years of history, the relations between the Hindus and Muslims could not attain the level of cordiality” (Wolpert, 2005 p. 48). But this was merely a sweeping statement. Saleem, the protagonist, for example, mentioned the name of Padma several times. She takes care of him in his ‘last days’. Though Padma belongs to the Hindu faith, the cordiality and care between them invariably draw our attention. Padma is a critic of Saleem, but she also loves him – “Padma: strong, jolly, a consolation for my last days” (Rushdie, 2012, p. 24). Padma is

the one who listens to Saleem’s story. They truly love each other and at the end of the novel we get to know that despite Saleem’s sterility, they have decided to marry. This depiction nullifies what Jinnah had said about Hindu-Muslim marriage and cordial relationships. Rushdie has intentionally paired the character of Padma with Saleem to highlight that cordiality outside one’s own community was very common in India and intermarriage scarcely posed any problem to anyone’s life or identity.

In Bombay, where Saleem and his family lived, the people had created a colourful social fabric with different faiths, cultures, and socio-economic backgrounds (Rushdie, 2012). It was Dr. Narlikar, a Hindu friend of Ahmed Senai, who helped in the birth of Saleem at a critical time (Rushdie, 2012). Saleem also had a number of Hindu and Muslim friends among whom Parvati is notable. Parvati had saved his life more than once and provided him with the necessary shelter when he needed it most. She wanted to marry Saleem but his infertility dissuaded her. She subsequently had a physical relationship with Shiva (a Hindu) but he deserted her once she fell pregnant (Rushdie, 2012). Saleem, out of concern and genuine love, decided to marry her and become the father of her child (Rushdie, 2012). These instances point out that religion cannot be the only parameter to define one’s life and identity. It is quite natural for two people belonging to different religions to be good friends or spouses, and if any discord is to happen it can even happen between individuals from the same

religion. Thus, what Jinnah had posited on Hindu-Muslim relationships is misleading. These examples bring forth a fundamental question – did religion really play such a crucial role in common Indian lives that it necessitated the country to be partitioned so brutally? If not, then why did the partition happen? We are thus compelled to revisit history, analyse it anew and evaluate the historical and political facts. The truth seems elusive and we are left undecided.

Two-nation theory argued that the Muslims could not achieve justice and fairness in such independent India, where their adversaries, the Hindus would have a majority. The Muslims in India "...had to... take full control of their destinies. They were not simply a religion, but a distinct cultural and national community" (Vershney, 2009, p. 7). But all these were again a totalising view – in terms of Lyotard, metanarratives which were meant for satisfying some political interests. The fact is that the partition was not meant for the sake of the common Muslim population, but it was for the political leaders and rich class of the society who were eager to profit out of a chaotic situation. Akbar (2008) says, "Muslim elites in British India, particularly landlords and capitalists, manipulated the incipient ideology of the Muslim League, and fuelled it with incendiary sentiment in order to create a state where they could protect their vested interests" (para. 4). Chengappa (2008) analyses this further and opines that while a group of orthodox Muslims doubted religion as the basis of nationhood, "the Western-educated Muslim

elites stated that their common religion of Islam was adequate to form a nation" (p. 2156). In order to create a separate state for Muslims, the most important step was to form the All India Muslim League in 1906. Chengappa (2008) adds, "The Muslim elites who feared Hindu domination in a democratic system based on majority rule established the League" (p. 2160). That is why Rushdie makes his readers aware of the metanarrative of two-nation theory again and again through the words of his protagonists like Rani of Cooch Naheen and Joseph.

To talk about justice, it was never denied entirely, but there was an undercurrent of anti-Muslim propaganda among the Hindu population also, which turned the situation in favour of the Muslim League and resulted in its popularity and success. The movie *Gai-Wallah*, for example, was produced to tickle up religious hatred and it caused hullabaloo among the people of Delhi – "The film was made for Hindu audiences; in Delhi it had caused riots" (Rushdie, 2012, p. 61). Confirmed of the news of Pakistan's origin, a new band of hooligans, named after the notorious Hindu villain Ravana, appeared; they targeted Muslim merchants and demanded money from them; they set fire to the estate and property of those who did not fulfill their demands. Terrified by their activities, Ahmed Senai left Delhi and settled in Bombay where again his property was seized because of his religious identity – "freeze a Muslim's assets, they say, and you make him run to Pakistan, leaving all his wealth behind him" (Rushdie, 2012, p. 185).

However, justice was not denied to him. He fought at the court and finally recovered all his wealth.

Yet India was divided, and the supporters of partition interpreted the terrible massacre and violence perpetrated by the Hindus and Muslims upon each other during the partition to justify their claims that Hindus and Muslims were indeed so different that they could never live together peacefully in a nation. But this interpretation is incomplete and faulty as Vershney (2009) states that in order to understand the cause of the violence we must look at the consequences first. He says, "The violence only proved that once Partition was accepted, unspeakable havoc was unleashed on the masses, even though they had little to do with its creation. Post-Partition violence cannot demonstrate that Partition was a voluntary choice of the Muslim masses on an ideational, or ideological, basis" (Vershney, 2009, p. 10). Eaton (2014) calls this whole incident a 'partition drama' by mentioning that the religious differences between Hindus and Muslims were politicised and transformed into metanarratives, and were presented as if they were independent and disconnected civilizations since time immemorial. Once they were successful in establishing this argument, it was an easy task to validate the partition as a requirement to end the civilizational conflicts (Eaton, 2014). And finally, the hatred that Muslim League wanted to impose upon the Muslims started to show its colour. Common men were polarised. There is an instance of a mob of Muslims chasing a poor, Hindu Peep-

shower. On the other hand, there were people like Amina who in spite of her pregnancy came forward to save the man (Rushdie, 2012).

The true essence of independence, mixed with the sadistic pleasure of partition, riots, and stains of blood created an awful atmosphere on midnight of 14th August. Stricken by this situation Saleem recapitulates:

This year... there was an extra festival on the calendar, a new myth to celebrate, because a nation which had never previously existed was about to win its freedom.... India, the new myth – a collective fiction in which anything was possible, a fable rivalled only by the two other mighty fantasies: money and God (Rushdie, 2012, p. 150).

When a group of people, happy with their newly born nation celebrated the day with sweets and crackers, another group of people was witnessing their worst nightmares in the frontiers – "I shall not describe the mass blood-letting in progress on the frontiers of the divided Punjab (where the partitioned nations are washing themselves in one another's blood...)" (Rushdie, 2012, p. 150). Not only in India but also in Pakistan the situation was the same – "while trains burn in Punjab, with the green flames of blistering paint and the glaring saffron of fired fuel... the city of Lahore, too, is burning" (p. 155). If this was the condition of the common people, then

who were the beneficiaries and how were they benefitted? The answer becomes clear when we see Major Zulfikar at that time was amassing assets, by buying refugee properties at unbelievably low prices, which would even make the Nizam of Hyderabad jealous (Rushdie, 2012). Now we understand why Joseph had insisted that the independence was for the rich and the poor had nothing to do with the partition (Rushdie, 2012).

Two-nation theory and partition had watered the seed of hatred into a full-grown tree and this only caused misery to the people belonging to religious minorities in both nations. Mahatma Gandhi was assassinated in 1948 and nobody was sure who had killed him, but the Muslims in India surely knew that if a Muslim was involved in it, the entire Muslim community would be effaced from India (Rushdie, 2012). On the other side of the border, Major Zulfikar, with his peers, was also preparing to chase the Hindus back to India and secure Pakistan only for the Muslims (Rushdie, 2012). Finally, the politicians and supporters of the two-nation theory were successful in connecting their thoughts to the lives of the common people and thereby created such distrust and a gap that could not be bridged completely even seventy-three years after the partition.

However, the most important micronarrative that completely demolishes the claims of this metanarrative took place in 1971 when a group of Pakistani Muslims tried to take over another group of Pakistani Muslims over the language conflicts and

unleashed ruthless torture upon them. East Pakistan was predominated by Bengali-speaking people while most of the people in West Pakistan spoke Urdu. When the Government decided to declare Urdu as the national language, East Pakistanis were offended and became furious. They started protesting and demanded a separate nation based on their language. However, the government was adamant and decided to take military action to suppress the protest (O'Brien, 1988). Dacca was invaded by the Pakistani army; approximately ten million refugees were forced into 'Hindu' India, making it "the biggest migration in the history of human race" (Rushdie, 2012, p. 498). Saleem was rescued from Dacca by Parvati, and he took shelter at his uncle Mustapha's home (Rushdie, 2012). Now, if religion occupied the only important place in people's lives then why was Pakistan again partitioned? The two-nation theory does not have an answer to this question as it really had missed many important aspects of human identity in order to enforce its hypothesis. All these instances are very much perplexing for the supporters of the two-nation theory, and by this, our doubt against its propositions are also strengthened.

According to critics like David Gilmartin (2015), the problem lies in the very concept of nationalism that the colonial rule had brought with it. It aims at creating borders and partitions by magnifying the differences and dissimilarities. Maulana Azad, one of the influential leaders of the Indian National Congress, criticised Jinnah's idea by saying

that to be a Muslim one did not need to oppose the entire Indian heritage. One could practice Islam by being a proud Indian as well. In his words:

Eleven hundred years of common history have enriched India with our common achievement. Our language, our poetry, our literature, our culture, our art, our dress, our manners and customs, the innumerable happenings of our daily life, everything bears the stamp of our joint endeavour. There is indeed no aspect of our life, which has escaped this stamp (Jay, 1991, p. 241).

Dwivedi (2009), on the other hand, in line with Benedict Anderson's (2006) definition of the nation, mentions that 'imagination' is the most important requirement for the formation of a nation. Since imagination and reality are two different things, it is often seen that a nation that is not properly imagined faces disastrous conflicts and wars. What forms a nation is always debatable. We have witnessed migrants from different parts of the world coming together to form a nation; on the other hand, there is the example of the Union of Soviet Socialist Republic (erstwhile USSR) which fragmented into as many as fifteen countries in 1991. According to Anderson's (2006) definition, a nation is marked by its boundary, but now there are numerous examples where we see migrant citizens successfully following the customs

and rituals of their country of origin. This thus brings us to question as to whether India and Pakistan were properly imagined.

The flaw in the propositions of the two-nation theory becomes clear when Pakistan, imagined as an Islamic nation fell apart into two in 1971 because of the linguistic conflicts (O'Brien, 1988). The incongruousness of Jinnah's theory became apparent when he demanded that the Muslim people of the regions which he declared to be Muslim dominated, would only have the rights to decide whether they wanted to stay in India; and ironically, with a few exceptions, those regions were constituted by nearly 50% of Hindu population (Hasan, 2004). And finally in 1971 when the Bengali-speaking Muslim people sought recognition for their language, the Government of Pakistan took military action against them. In the novel, we see that Saleem was sent to Dacca as a representative of the Pakistani army (Rushdie, 2012). There he witnessed the cruelty of the army men. They burned the town which was already rippled with bullets; and as they passed by, they slaughtered and raped people. Pakistan was again divided and the nation of Bangladesh emerged. The point is that imagining nations on the basis of religion only, was not a justified decision imposed on the common people by the national leaders. It caused a lot of bloodshed and the loss of innocent lives.

CONCLUSION

In the final analysis, we can see that the relationship between Hindus and Muslims

was not actually as bitter as portrayed by the politicians. India was partitioned. And what came out of it? We got two ever fighting enemy nations, never to come to peace. Saleem lost his entire family except for his own and his sister's life in such a war between the two nations. Religion – which was the basis of the two-nation theory also failed to imagine a whole nation and two decades later Pakistan was again partitioned. If we consider Saleem as a representative of India's fortune in *Midnight's Children*, then we must consider his family members, friends, kith, and kin to be the representative of all the common people of India. From this perspective, all the examples mentioned previously may serve as the micronarratives that dismiss the validity of the metanarrative of two-nation theory. The political leaders had some different intentions in mind, and to materialise those interests they introduced the theory of "two-nation" in which they brought differences, discriminations, and disharmony where there was none. However, *Midnight's Children*, as a novel depicting the social scenario at the time of partition, completely debunks the relevance and positivity of the theory, and we, the readers, by reading this novel also get a comprehensive critique of the theory and become disillusioned by it.

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A Soft War Against the Church: Reading Dan Brown's *The Da Vinci Code* as a Didactic Novel

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ABSTRACT

Many works of literature are devoted to giving readers explicit or implicit instructions or teachings about a philosophy, an ideology, a craft, a lifestyle, or other ends. These works are supposed to entertain and teach and, accordingly, they are labeled as didactic literature. Dan Brown's *The Da Vinci Code* (*DVC*) is a highly controversial novel that has been largely debated and discussed because of its content and intended message. In this novel, Brown intentionally presents an alternative understanding to Christianity which is received mostly as heretic and blasphemous. In many occasions, Brown avers that the visions he gave in his *DVC* are the findings of his research on Christian doctrines and institutions. Thus, they are accurate facts though they are written in a piece of fiction. He also emphasizes that he aims to share newly acquired knowledge with his audience through the pages of his work. This paper is an attempt to study Brown's *DVC* as a didactic novel. It ultimately aims to show how Brown manipulated the didactic theory of sugar-coated pill in his *DVC* to teach Christians about the theology and history of their religion. Adopting a descriptive-analytic method, the study first tackles Brown's Christian ideology. Then, it analyzes his *DVC* showing how he used different devices and techniques of didactic novels for the purpose of instructing his readers. The study concludes that *DVC* is not a mere piece of fiction but a didactic novel that used fiction as a cover to pass historical and theological teachings.

Keywords: Bible, Christianity, church, didactic, Da Vinci, Jesus, Magdalene

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INTRODUCTION

Didactic literature includes works of literature that are intended to instruct about the procedures and principles of a craft or a branch of knowledge or to embody a

moral, philosophical or religious doctrine or theme in a fictional or imaginative form using examples and proofs. These works are generally distinguished from fundamentally imaginative works in which the materials are arranged and rendered, not to reveal and enhance the appeal of the doctrine they represent, but to enhance the inherent importance of the materials themselves and their ability to touch an audience and give it artistic enjoyment (Abrams & Harpham, 2012).

Unlike Aestheticism, which advocates that literature should be aesthetically pleasing and literary texts are ends in themselves, Didacticism legislates that literature is didactically useful and literary texts can be used as a vehicle to pass teachings of different kinds to the audience (Nisbet & Rawson, 2005). Etymologically speaking, the adjective “didactic” is derived from a Greek stem which means “used for teaching” or “instructive” (Klein, 1971, p. 211).

In the eighth century BC, the Greek poet Hesiod wrote *Works and Days* which combines moral precepts with a farming manual and *Theogony* which is an account of creation and the gods (Cuddon, 2013). In the first century BC, the Roman poet and philosopher Titus Lucretius Carus wrote his didactic poem “On the Nature of Things” to elucidate and popularize his ethics and naturalistic philosophy. In the same epoch, the Roman poet Virgil wrote his *Georgics*, in which the poetic components add aesthetic value to an appreciation of rustic life and the instructions of a practical management of a farm (Abrams & Harpham, 2012).

The Middle Ages provided the majority of Europe’s didactic literature and much of it was in verse and expounded doctrines of the Church in works like guides of holy living, manuals to the good life, gnomic verses, charms and proverbs (Cuddon, 2013). As for the Renaissance, much of its literature was didactic in intent. The eighteenth century witnessed the revival of didactic literature when a group of poets, imitating Virgil, wrote georgics, describing in verse practical arts such as making cider, running a sugar farm and shepherding. Alexander Pope’s poems *Essay on Criticism* (1711) and *Essay on Man* (1733-4) are didactic works intended to instruct poets on the subjects of moral philosophy, literary criticism and verse craft (Abrams & Harpham, 2012).

Although didactic novel flourished in the late eighteenth century, works of fiction written before had long embraced didactic themes. The most well-known of these is Miguel de Cervantes’s *Don Quixote* (1605, 1615) which bizarrely warns against the perils of reading. Many eighteenth-century novels, such as Daniel Defoe’s *Robinson Crusoe* (1719), Henry Fielding’s *Amelia* (1751), Samuel Richardson’s *Pamela* (1740), *Clarissa* (1747-8), *Sir Charles Grandison* (1753-4), contain didactic ingredients (Havens, 2017).

After the dominance of Romanticism and Aestheticism in the nineteenth century, Didacticism was disapprovingly regarded as alien to real art (Baldick, 2001). However, some prominent didactic novels were well-known. Prominent examples are Jane Austen’s *Northanger Abbey* (1817), which teaches female readers how to act like a

good young lady, and *Emma* (1815), which teaches about social issues (Abrams & Harpham, 2012).

During late modern and post-modern periods, didactic literature has undergone some change. On one hand, the limitations of didactic literature have been open to argument because both the prominence and presence of doctrinal material or content are typically subject to various interpretations. Most satires and allegories, broadly, implying a political or moral viewpoint may be reckoned as didactic, along with a variety of works in which the theme incarnates certain philosophies or beliefs of the author (Baldick, 2001). On the other hand, literature with explicit Didacticism has not been very much appealing to readers and critics respectively. Therefore, some writers, like Albert Camus, D.H. Lawrence, Ernest Hemingway, and Dan Brown, started to disguise Didacticism through a number of devices and techniques to make it more digestible and more appealing (Hunter, 1990).

Works of literature in which Didacticism is exaggerated or heavy-handed are regarded as works which sacrifice art in favour of form. However, didactic literature is usually artistically pleasing (Galens, 2009). In fact, Brown (1964-) presents *DVC* (2003) as a didactic novel intended to impact the readers with its intellectual components. Yet, he never sacrifices the literary qualities of genuine literature (Nuaimi & Abu-Jaber, 2013). It is not surprising at all that *DVC* is thought-provoking, enlightening and entertaining simultaneously (Zhu & Zhang, 2016).

Brown was raised in an artistic, religious and scientific environment. His father was a distinguished mathematician and his mother was a professional church organist. The two parents were ecclesiastical choirmasters and members of a Symphony Chorus that had many tours worldwide (Thomas, 2011).

To people who questioned his Christian upbringing, Brown responds, "I was raised Christian, I sang in the choir, I went to Sunday School and I spent summers at church camp. To this day I try to live my life following the basic tenets of the teachings of Christ" (Thomas, 2011, p. 160). Brown is actually a religious man, Christian, but in his own terms. When Stephen Sackur the host of a BBC show entitled *HARDtalk*, asks him whether he was antireligious or not, his response is as follows: "Not antireligious in that way. Religion does an enormous good to the world." He adds, "What I become uncomfortable with, I realized later, is not religion. What I become uncomfortable with is the banner of religion being waved as some kind of immunity for having to endure rational scrutiny" (Van, 2017).

Before writing *DVC*, Brown conducted much research about Christianity (Haag, 2009). *DVC* is essentially a detective-mystery thriller which follows its American protagonist, a symbologist, historian, and university professor, Robert Langdon and his friend, a French National Police cryptographer, Sophie Neveu while they do an investigation on the murder of Jacques Saunière, the curator of the Louvre museum in Paris who is also Sophie's grandfather and the Grand Master of the Priory of Sion. They

uncover two secret societies, Opus Dei and the Priory of Sion, engaged in a life-and-death brawl over the probability that Jesus was married to Mary Magdalene and their descendants are still living to the present day (Thomas, 2011).

DVC mixes fact with fiction in a brilliant and intentional manner as it comes to history and religion. Brown wants his readers, after reading *DVC*, to launch a quest for knowledge about the essential beliefs of Christianity and its organizations (Silvey, 2006). Brown affirms that he looks for topics in non-fiction books hoping to learn new things and *transfer* knowledge he acquires to his readers in an appealing manner. He says to Ashwin Sanghi (2014) in an interview, “I read almost no fiction. I read non-stop but I read almost exclusively non-fiction. I am always reading, whether it is science, or philosophy, or religion, or history. I am always looking for new ideas and trying to formulate my ideas.” He adds, “The reason I choose topics that require research is because I like to learn and you can’t learn without changing your mind. That’s almost the definition of learning.” When Sanghi asks him whether he has an objective in his mind when he writes or it is simply he wants the reader to get to turn the page, Brown answers, “well, that’s certainly a part of it. you want the reader to turn the page. I absolutely have an objective which is *to share ideas and information that are fascinating to me, but do it in a way that you don’t feel it happening.*” He adds, “A woman said to me, ‘*your books are like eating my vegetables but it tastes as ice-cream*’” (emphasis added).

LITERATURE REVIEW

Brown’s *DVC* is one of the best-selling thrillers known to the world. This novel, though controversial, is largely praised and applauded. Simultaneously, it is angrily dispraised and condemned. Much of the anger comes from Christians, authors and readers, who consider it a blasphemous treatment to the tenets of Christianity and its organizations.

Some authors value the cultural significance of *DVC*. They agree to some extent with Brown and consider the “facts” that *DVC* gives as facts that entail actual reconsideration (Eburne, 2018; Gandolfo, 2007; Jafarli, 2020; Persaud, 2010). In between are the authors who admit the artistic value of *DVC*. However, they gently disagree about the “facts” that Brown propounds (Bock, 2004; Ehrman, 2004; Gumbel, 2006; Zane, 2015). Some of them attempt to “rectify” the theological and historical “errors” that Brown “committed” (Dunn & Bubeck, 2006; Easley & Ankerberg, 2006; Garlow, 2006; Hanegraaff & Maier, 2004; Paull & Culwell, 2006; Williams, 2006). While others lay the errand of sorting fact from fiction in *DVC* upon their shoulders leaving the choice for the reader to decide the historical and theological value of Brown’s “claims” (De Flon & Vidmar, 2006; Gunn et al., 2006; Kirkwood, 2006). Authors of Arthurian interests are more concerned, though negatively, with the Holy Grail legend and its relationship with King Arthur legend (Giannini, 2008; Lacy, 2004). Brown’s representation of Mary Magdalene as a sacred feminine has also captivated

some authors (Kennedy, 2012; Knight, 2005; Propp, 2013).

However, some authors stand against *DVC* considering it as a punch of heresies and fallacies that historians and theologians previously refuted (Beverley, 2005; Burke, 2013; Palmer & Dunn, 2006; Solomon, 2006). Olson and Miesel (2004) suggest that *DVC* is a novel with anti-Christian agenda behind it.

This study hypothesizes that there has not been a properly comprehensive and focused study which tackled Brown's *DVC* as a didactic novel. Therefore, it tries to fill up this gap.

METHODS

Using a descriptive-analytic method to describe Brown's Christian views and analyze them in his *DVC*, this study attempts to show how Brown manipulated sugar-coated pill theory in his *DVC* to make Christians "correct" their understanding in Christian theology and history. Simply put, sugar-coated pill theory is a methodology by which an author sweetens a bitter moral to make it more digestible to hoodwink the readers and make them learn (Nisbet & Rawson, 2005). Some authors (Hunter, 1990; Morris, 1994; Newsom, 2003; Nuaimi & Abu-Jaber, 2013) theorize that if a novel has a number of specific qualities of didactic narratives, it is no longer a mere fiction. Rather, it is a vehicle to convey a message under the cover of its artistic charm, and this is actually the essence of the didactic theory of sugar-coated pill.

RESULTS AND DISCUSSION

In *DVC*, Brown delineates his images of two Christian categories. The first category represents the fundamental premises of Christianity; Christianity itself, the Bible, Jesus Christ and Mary Magdalene. The second category represents Christian institutions such as the Vatican, the Knights Templar and Opus Dei. In many occasions, Brown confirms that his ideas about Christian beliefs and institutions mentioned in the novel are the findings of backbreaking researches and studies he conducted, and he wants to transfer them to his audience in a piece of art. This study manifests that *DVC* is a didactic novel whose writer wants his readers to learn new knowledge about their Christianity both theologically and historically.

Brown uses his two main characters, Robert Langdon and British Grail historian Sir Leigh Teabing, while conversing with Sophie Neveu, as focalizers for his own opinions on themes which pertain to Christianity. He also uses Sophie as a replica for readers. One useful technique for a didactic novel is the use of focalization (Morris, 1994). To put it simply, focalization is a modern term in narratology used to refer to the point of view or the perspective from which readers witness the events of a story which could be done through the perspective of a character within the narrative (Baldick, 2001). One significant advantage of focalization is to increase sympathy inside readers who are intended to be taught or instructed (Morris, 1994). It also provides an epistemic ground for

them to stand on (Lahey, 2016). Thus, they put themselves in Sophie's shoes and *listen* carefully to teachings. "What I try very hard to do," Brown says to Sackur on HARDtalk, "is to take real documents, real art, real history and interweave fictional characters discussing it and have their own ideas and they debate these topics" (Van, 2017). Confirming this tenet, Brown says, while lecturing Sharjah International Book Fair on November 6, 2014, "I have a very strong message for mankind. *I am always trying to say something through my fiction*" (emphasis added). He adds, "In that novel [*DVC*], fictional characters debate a very simple question. The question is this: What it would mean to Christianity if Jesus was not literally the son of God? What if He's simply a man? A mortal prophet?" (Taryam, 2014). In fact, the didactic role that Brown plays, through Teabing and Langland, and his authorial interventions and presence throughout *DVC* affirm that he questions Christian theology and history subjectively (Howard-Laity, 2011).

Lectures and speeches are another significant device for a didactic novel (Nuaimi & Abu-Jaber, 2013). Most of the information that Brown presents in his *DVC* is given in the form of lectures and speeches delivered by a university professor, Langdon, and a historian, Teabing, to a hearer, Sophie.

Three centuries after Jesus' crucifixion, Teabing commences lecturing Sophie, Christians grew in number and warring started between them and the Roman sun-worshippers, which divided Rome into two

camp. The pagan Emperor Constantine, being a man of brilliance, realized the high heel of Christianity; therefore, he sided with Christians. Then, in 325 A.D, he managed to fuse true Christianity with the Roman religion of sun-worshiping and the result was a type of hybrid religion which was accepted by both Christians and sun-worshippers. Many pagan aspects were fused in Christianity; symbols such as the halos of saints and the pictogram of the Virgin Lady nursing Baby Jesus, holidays such as Christmas and Sundays, and rituals such the altar, the miter, communion and the doxology, and the act of 'God-eating' (Brown, 2003). To make new Christianity solid and strong, Constantine holds an ecumenical assembly known as the Council of Nicaea and in this gathering "many aspects of Christianity were debated and voted upon—the date of Easter, the role of the bishops, the administration of sacraments, and, of course, the *divinity* of Jesus" (Brown, 2003, p. 312). Brown, here, vividly asserts through his mouthpiece, Teabing, that the roots of today's Christianity did not begin with the crucifixion, burial, resurrection and ascension of Jesus in 33 A.D., as believed by Christians nowadays. However, they really began with the Roman Emperor Constantine and his Council of Nicaea in 325 A.D. (Ramsay, 2006).

An old device used in didactic novels is the use of hagiographies (Howard-Laity, 2011). Hagiographies are the sacred writings of the lives of saints and holy men (Cuddon, 2013). Brown follows this tradition but in his own way. He first starts with the

hagiography of Jesus and he then gives the hagiography of Mary Magdalene.

Before Constantine, Teabing explains to Sophie, Jesus was regarded by Christians as “a mortal prophet” and “not the Son of God.” It is Constantine and his assembly that made Jesus a deity (Brown, 2003). Jesus was “a historical figure of staggering influence, perhaps the most enigmatic and inspirational leader the world has ever seen. As the prophesied Messiah, Jesus toppled kings, inspired millions, and founded new philosophies” (p. 310). Constantine “took advantage of Christ’s substantial influence and importance. And in doing so, he shaped the face of Christianity as we know it today.” Jesus as a Messiah, Teabing clarifies, was necessary for the Catholic Church and the Roman state because it gave them power. Thus, “the early Church literally *stole* Jesus from His original followers, hijacking His human message, shrouding it in an impenetrable cloak of divinity, and using it to expand their own power” (p. 313). Brown, here, avers, again throughout his mouthpiece Teabing, that Jesus’ divinity is the result of a conspiracy that Constantine originated and the early Church supported. Ironically, both wanted power and earthly benefits (Eskola, 2011).

Teabing points out, while Sophie is listening, that there were gospels which chronicle Jesus as “a *mortal* man.” Since Constantine “upgraded Jesus’ status”, he decided to omit those gospels from the Bible (Brown, 2003, p. 313). Thus, they “were outlawed, gathered up, and burned” (p. 314). He, then, collated gospels which portray

Jesus as a deity to be “the fundamental irony of Christianity! The Bible, as we know it today.” These gospels are actually what Jesus’ followers, like Matthew, Mark, Luke and others, wrote about Him. Mockingly, Teabing propounds that “the Bible did not arrive by fax from heaven” and “did not fall magically from the clouds.” It is “a product of *man* ... not God. Man created it as a historical record of tumultuous times, and it has evolved through countless translations, additions, and revisions. History has never had a definitive version of the book” (pp. 309-310). Brown, here, clearly declares, again throughout Teabing, that the Bible is a human book with no divine value or significance (Burstein, 2004).

Fortunately, as Teabing reflects to Sophie, some gospels survived Constantine’s and the Church’s frenzy and they were found in the twentieth century; they were the Dead Sea Scrolls found in Jordon and the Coptic Scrolls found in the town of Nag Hammadi in Egypt. Since they spoke of Jesus as a human, they confirmed that “the modern Bible was compiled and edited by men who possessed a political agenda—to promote the divinity of the man Jesus Christ and use His influence to solidify their own power base” (Brown, 2003, p. 314). Now, Langland stops nodding and explains to Sophie that the Vatican tried to suppress these gospels and regarded them “false testimony.” Teabing concludes that “almost everything our fathers taught us about Christ is *false*” (p. 315). “A spiritual storm,” say Dunn and Bubeck (2006), addressing the readers and referring to Brown’s didactic

theories, “is coming your way and it is inevitable. At the eye of this storm is the message: What the church has taught you about Jesus is wrong” (p. 12). It is worth mentioning that *DVC* mentions passingly Jesus’ crucifixion and says nothing about His resurrection because Brown himself, seemingly, has no doubts about them.

Using the device of hagiographies and turning to the Holy Grail, Brown explains, throughout Teabing and Langland, that the Grail is a metaphor used to protect Jesus’ wife, Mary Magdalene who “carried with her a secret so powerful that, if revealed, it threatened to devastate the very foundation of Christianity!” (Brown, 2003, pp. 319-320). While Sophie is listening, Teabing explains that the Church reputed Mary as a prostitute to cover up her relationship with Jesus. Gospels that speak of their marriage were eradicated because a deity cannot marry, only humans do. Fortunately, as Brown reflects, some gospels which spoke of Mary and Jesus as a married couple survived; such as The Gospel of Philip and The Gospel of Mary Magdalene which are parts of the Coptic Scrolls (Brown, 2003). Brown, here, puts forth a new claim that Jesus and Magdalene were related in holy matrimony which re-asserts Jesus’ human nature with all its implications (Jones, 2012).

According to The Gospel of Philip and The Gospel of Mary Magdalene, the Church was also against Mary Magdalene because Jesus ordered Mary, not Peter, to establish the Christian Church. Langdon speaks of a threatening gesture Peter made targeting

Mary that Leonardo Da Vinci (1452–1519) embedded in his painting *The Last Supper* where Mary sits next to Jesus’ right. The threatening gesture is repeated in Da Vinci’s *Madonna of Rocks* (Brown, 2003). In fact, Brown took the whole idea of embedding a message in a work of art from the works of Da Vinci. He was instigated by Da Vinci’s theory that Christian history has a radical alternative version (Olson & Miesel, 2004). Brown mentions the suppressed Gospels and Da Vinci’s paintings to add more depth to his didactic message because using examples and proofs is an intrinsic device in didactic literature.

The stand of Catholic Church against Mary Magdalene, as Langdon tells Sophie, is an episode of brutality against women in general. The Church’s notorious arm known as the Spanish Inquisition burnt five million women under the accusations of their being witches. After exposing this horrifying information, Teabing explains that Jesus was married to a woman of royal descent. He himself was a descendent of King Solomon. Mary was a descendant of the powerful House of Benjamin (Brown, 2003). They represent “a potent political union with the potential of making a legitimate claim to the throne and restoring the line of kings as it was under Solomon” (p. 332).

Continuing Mary Magdalene’s hagiography, Teabing points out that Mary Magdalene was pregnant at the time of Jesus’ crucifixion. To protect her child, she fled to France and gave birth to a daughter which she named Sarah. They lived safe as royals among the Jewish community

(Brown, 2003). In the fifth century, Christ’s and Mary’s descendants came to be known as “the Merovingian bloodline” (p. 342).

Teabing affirms that the royal bloodline of Jesus was chronicled in detail by historians. Then, throughout Teabing, Brown, following the device of proofs in didactic novels, lists four actual sources that he himself has read and adopted as sources in *DVC*:

THE TEMPLAR REVELATION:

Secret Guardians of the True Identity of Christ

THE WOMAN WITH THE ALABASTER JAR:

Mary Magdalene and the Holy Grail

THE GODDESS IN THE GOSPELS

Reclaiming the Sacred Feminine

.....

HOLY BLOOD, HOLY GRAIL

The Acclaimed International Bestseller (Brown, 2003, pp. 336-337).

“I began as a skeptic,” Brown says to Liz Hayes, the host of ‘60 Minutes Australia’ (2019), “as I started researching *The Da Vinci Code*, I really thought I disprove a lot of theories about Mary Magdalene and the holy blood, all of that, I became a *believer*” (emphasis added).

The Merovingian, *children of Christ*, as Teabing narrates to Sophie, increased in number and founded Paris. However, the Vatican issued an non-negotiable resolution to erase them from existence and many killings happened such as the assassinations

of the Merovingian French Kings Dagobert and Godefroi de Bouillon, the founder of Priory of Sion. King Godefroi’s son, Sigisbert, managed to survive the massacre and fled with some of the Knights Templar with the Sangreal documents (Brown, 2003).

The Holy Grail, as Teabing and Langdon theorize, is actually Mary Magdalene, her tomb, her bloodline from Jesus and the Sangreal documents (Brown, 2003). Relaying of the technique of proofs, Teabing explains that the Sangreal documents are four categories of tens of thousands of documents. The first category is a “*family tree*” which consists of “a complete genealogy of the early descendants of Christ.” The second category is the *Purist Documents* which are “thousands of pages of unaltered, pre-Constantine documents, written by the early followers of Jesus, revering Him as a wholly human teacher and prophet.” The third category is the “*Q*” *Document* which is “a manuscript that even the Vatican admits they believe exists. Allegedly, it is a book of Jesus’ teachings, possibly written in His own hand.” The fourth category is a manuscript entitled *The Magdalene Diaries* that is “Mary Magdalene’s personal account of her relationship with Christ, His crucifixion, and her time in France” (Brown, 2003, pp. 340-341).

So far, Brown presents the Catholic Church as an evil entity which devastates whatever and whoever threatens its presence. The powerful presence of good and evil is a substantial device for a didactic novel. It leads the readers to binary choices

between them there is no gray area (Hunter, 1990). Brown uses this good-evil binary on different levels. He uses it in the fierce wars the Church launched against Jesus' heritage, "true" Christianity, "true" Bible and Mary Magdalene, or women in general, and those who oppose its ideology. He also uses it in the non-stop killings that the Church and its arm named Opus Dei inflicted upon the Priory of Sion and its arm, the Knights Templar, or upon the descendants of Jesus.

Langdon presents members of the Priory of Sion as a good entity. They are *the keepers of The Holy Grail*. Their Priory is a secret society which suffered all kinds of agonies and torture on the hands of the Church. After originating it in Jerusalem in 1099 after he conquered the city, the French king Godefroi de Bouillon ordered the Priory to pass the Sangreal documents, which were in his family's possession since the days of Jesus, from one generation to another. Therefore, they formulated the Knights Templar who, disguised as guardians of the pilgrims of the Holy Land, were ordered to retrieve the documents from under Herod's temple. They found the documents and travelled to Europe to be declared by Pope Innocent II as an independent army for reasons which are not clear. Then, they grew in number, wealth and power. Saint Clement was after the Sangraal documents which the Knights, seemingly, refused to relinquish even under severe torture. Accordingly, he liquidized them under accusations of debauchery and blasphemy. However, some Knights, fortunately, managed to escape and they put the documents in the hands of the Priory of

Sion. Up to this day, the Vatican conducts onslaughts looking for these documents to destroy them (Brown, 2003).

The modern Priory of Sion, as Langdon clarifies to Sophie, has three jobs to do: The brotherhood must protect the Sangreal documents. They must protect the tomb of Mary Magdalene. And, of course, they must nurture and protect the bloodline of Christ those few members of the royal Merovingian bloodline who have survived into modern times (Brown, 2003, p. 343).

On the other hand, there is Opus Dei, literally "God's Work." Brown defines it in the preface of *DVC* as a "Vatican prelature" and "a deeply devout Catholic sect that has been the topic of recent controversy due to reports of brainwashing, coercion, and a dangerous practice known as 'corporal mortification'" (Brown, 2003, p. 11). It is, as the narrator explains, a congregation founded in 1928 to promote "a return to conservative Catholic values and encouraged its members to make sweeping sacrifices in their own lives in order to do the Work of God" (Brown, 2003, p.46). The headquarter of Opus Dei is a gigantic luxurious tower in New York City whose cost is \$47 million. Its headmaster is Bishop Manuel Aringarosa, a huge man with diamond-gold rings and big belly. Though it is fully blessed and endorsed by the Vatican and the Pope himself, this powerful and wealthy Catholic organization is highly suspicious and scandalous. Some of its members are matched to scandals such as sexual deviance and drugs. A media agency described it as "God's mafia" (pp. 45-48). As it is shown

throughout the whole novel, *Opus Dei*, though breached by a non-religious Teacher, wants eagerly to possess the Holy Grail, not the chalice but the Sangreal documents, to liquidize the descendants of Christ, to erase Mary Magdalene's tomb and, eventually, to eradicate the documents. Thus, it assigned its lethal assassin the albino monk Silas, who failed later, to retrieve the Holy Grail (Johnsrud, 2014).

Most, *if not all*, of the information Brown provides in *DVC* about Christian beliefs and institutions does not match with common Christian knowledge. Much anger is poured upon Brown from the Catholic Church which went so far as a call for banning the novel issued by the archbishop of Genoa (Thomas, 2011). The Vatican officially expressed its anger against *DVC* and consider it as a satanic work filled with manipulations and lies (Taylor, 2005).

Brown (2003) closes *DVC* with the affirmation that death of Sophie's parents in a car accident is one of the ongoing killings that the Vatican committed against the descendants of Jesus and Mary Magdalene. While doing his job as the Master of the Priory, Sophie's grandfather saves no efforts for protecting *Princess* Sophie and her brother. As it turns out, Mary's tomb and the Sangreal lay in peace under the Louvre Pyramid in Paris. Sophie, just like the readers, receives new information about Christianity and the Church and this results in new understanding on her side. The voices of authority within the didactic texts usually attempt to establish authority over the reader (Newsom, 2003). The tones of

authority are very much beneficial because they provide an air of certainty on the part of the readers (Hunter, 1990). Such authority in *DVC* is exerted by Teabing and Langdon on Sophie.

The plot in a didactic novel has an apprenticeship paradigm in which a character moves from the area of error to the area of truth (Newsom, 2003). Throughout *DVC*, Sophie listens to Teabing and Langdon's lectures and speeches, and the readers behind her, and corrects her knowledge about her family and all the topics she listens to. The novel closes with Sophie standing in the area of truth and clarity. As it comes to Sophie and the readers, it is almost a convention in didactic literature that it targets readers who have an insatiable hunger for knowledge (Newsom, 2003). Sophie appears as a complaint reader who is never rebellious not indifferent, but interrogative. She listens and receives knowledge insatiably.

Didactic novels are actually guides for readers who need knowledge. They take the hands of the readers and guide them to the route of enlightenment (Hunter, 1990). As a matter of fact, *DVC* brings into light some controversies that raise questions, *if not suspicions*, about the history of Christianity; among them the absence of any gospels in the Bible which could tell about the first thirty years of Jesus' life, the ruthlessness with which "heretic" sects of Christianity were uprooted in the Middle Ages, and the discovery of hidden gospels that were expatriated by the early Church, namely, Dead Sea and the Coptic Scrolls.

However, Brown presents his own version of Christianity and wishes his readers to comprehend his didactic message. He feels that his readers need this knowledge. If they decide to digest the message behind *DVC*, then, they have to reconsider the knowledge they have about the last two millennia of European history as far as Christianity is concerned. If this reconsideration is done, the novel scores an ultimate success (Ferris, 2005).

An essential feature in a didactic novel is that it presents information that is neither elusive nor contestable, but it is unambiguous and unitary (Newsom, 2003). The information that Teabing and Langdon contend is both crystal clear and coherent. "The reason the book was so controversial," Brown tells Sackur on HARDtalk, "is because for a lot of people the story I told in that novel made more rational sense than the story they heard on Sunday school. And certainly for me, the story I told in *The Da Vinci Code* makes more logical sense to me than the story I learned in Sunday school." He adds, "I'm talking about my beliefs of the story of Jesus Christ. How I tell the story, it's a creative art" (Van, 2017, emphasis added).

Didactic novels usually take the form of treatises (Hunter, 1990). Brown intends his *DVC* to appear like a historical and theological treatise rather than a piece of fiction because his aim is to educate readers about the history and theology of Christianity. "I knew that the book itself was fictional, of course," says Ehrman (2004), "but as I read it ... I realized that Dan Brown's characters were actually making

historical claims about Jesus, Mary, and the Gospels." He concludes, "*the fiction was being built on a historical foundation that the reader was to accept as factual, not fictitious* (pp. xii-xiii, emphasis added). "No longer," says Bock (2004), "is *The Da Vinci Code* a mere piece of fiction. It is a novel clothed in claims of historical truth, critical of institutions and beliefs held by millions of people around the world" (p. 9).

Newsom (2003) believes that didactic novels have a character who "serves as the correct interpreter of meaning and whose judgments are authoritative" (p. 43). He adds, "didactic fiction tends to be 'talkative' genre in which actions are doubled by interpretive commentary" (p. 43). Throughout *DVC*, Teabing and Landon play the role of interpreter of meaning for each other. When Teabing elucidates, Langdon adds explanatory comments or sometimes *consenting* nods. The same procedure happens with Teabing when Langdon explains.

Another device for the didactic novel to be taken into consideration is the tendency "to eliminate superfluous details that are not relevant to the thesis of the work" because "the presence of such details would both distract from the message and might provide a foothold for readings in opposition to the authority structure of the didactic story" (Newsom, 2003, p. 43). All the details presented in *DVC* are relevant to the message that Brown intends to deliver. There is no redundant information nor subplots.

Finally, the rhetoric in didactic novels is usually plain and straightforward because such novels are instruments of persuasion which aim, through the directness and faith of language, to affect the behaviour of the readers (Hunter, 1990). While conversing with Sophie, Teabing and Langdon use plain and direct rhetoric because they want Sophie, and the reader, to easily understand their didactic messages. On his interview with Ashwin Sanghi (2014), Brown states, “what I try very hard to do is *give readers just enough story and just enough research in every moment*. Such that you feel like the plot is always sort of moving forward. But, in the same time, on every page, you maybe *learn* something or had to *think* about something in slightly new way” (emphasis added).

CONCLUSION

Brown, though raised as a “typical” Christian, manages to change his mind about Christianity, the deity of Jesus and the infallibility of the Bible. The change of mind reaches to the supposed chastity of Christian institutions such as the Vatican and Opus Dei. This change comes as a result to painstaking studying and hectic research as Brown himself confirms in many occasions. Since he possesses new information which “fills some gaps” in Christian history and “straightens” some religious fundamentals, he feels that his duty is to make people aware of it.

Christian readers, in particular, will not digest *DVC*'s theories about Christian tenets and institutions easily since they are against

their doctrines, and here is *the twist!* For Brown, this theological indisposition must be healed. Therefore, he uses his novel as a pill coated with the sugar of artistic creativity and brilliance to pass a theological medicine to the minds of his readers. The outcome is magnificent. Christians worldwide bought millions of copies of *DVC* and questions began to be asked.

To present *DVC* as a didactic novel in which the message is clear yet not heavy-handed, Brown depends on a number of old and modern techniques and devices which pertain to Didacticism such as focalization, lectures, speeches, authority over readers, hagiographies, proofs, examples, binary of good-and-evil, clarity, rhetoric, a special kind of plots, intellectual guides, and others.

Brown uses Teabing and Langdon as focalizers for himself and uses Sophie as the reader who receives the focalization. Teabing and Langdon exert intellectual authority over Sophie who shows readiness to receive the new knowledge. Brown also centrally uses hagiographies. However, the hagiographies that Brown presents of Jesus and Mary and their supposed bloodline known as the Merovingian radically contradict with those that Christian literature and the Church popularized throughout ages.

Depending on lectures and speeches delivered by a historian and university professor, Brown presents *DVC* as a clear and coherent historical and theological treatise in which the rhetoric is clear and powerful. He also relies heavily on proofs and examples. He mentions, among others,

names of actual books and Gospels and cites quotations from some books. In so doing, he strengthens his persuasive arguments, solidifies his visions, and instructs readers to do research in these areas and sources. Hence, he presents *DVC* as a guide which takes the readers to the land of gaps in the world of Christianity.

As to the plot of *DVC*, Brown presents two paradigms; the binary of good-and-evil and the apprenticeship model. He foregrounds the paradigm of good-and-evil in the novel and brings to the back the apprenticeship paradigm of narratology expecting his readers, just like Sophie, to move from error to truth. He embeds no redundant details or subplots to keep his readers focused on his didactic messages.

Limitation and Study Forward

This study is limited to Brown's dealings with Christian tenets and originations in his *DVC* and his declared intentions to transfer his opinions about them to his readers throughout an entertaining novel. In the future, scholars may analyze the characterization that Brown uses to delineate monks. For example, he tends to describe Silas as a man with long fingers who speaks in whispers to confirm his Satanic nature. Scholars may also study the resemblance between *DVC* and its sources especially *The Holy Blood and the Holy Grail*. Accusations of plagiarizing the themes and components of *DVC* could be a good topic which may exculpate or condemn Brown depending on the finding of a non-biased academic investigation.

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Use of Language Learning Strategies by Indian Learners of Spanish as A Foreign Language

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ABSTRACT

Learning a foreign language in a non-native context is both a challenging and difficult task. This learning encompasses many processes and follows different trajectories. One of the offshoots of these processes is the strategies used by the learners in their learning route. During the last forty-five years, the research in the learning strategies field has grown many folds and has contributed to our understanding of how learners use these tools in their learning path. This article examines some of the common language learning strategies (LLS) employed by the students while learning Spanish as a foreign language (SFL) at two major Central Universities of India. The present study is carried out by using a mixed-method under the descriptive framework in which the common learning strategies have been analyzed and discussed. In terms of the higher proficient group, the result shows no statistically significant differences in the use of LLS, on the contrary,

concerning the year of study, there were statistically significant differences in the use of LLS among the three groups. Finally, regarding the effectiveness of the use of LLS among the participants, the results underlined a need for explicit or implicit strategic training.

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INTRODUCTION

The field of language learning strategies (LLS) started in the 1970s with the seminal work of Rubin (1975) in which she tried to look at the characteristics of a good language learner and the differential success in the language classroom. This study was followed by several other research works like Stern (1975), Hosenfeld (1976) and Naiman et al. (1978) among others. The research in this area followed a rising path with many volumes published at the beginning of the 21st century. However, the field has been criticized by scholars like Dörnyei and Skehan (2003), Dörnyei (2005), and Tseng et al. (2006), “on the grounds of terminology, definitions, effectiveness, theoretical underpinnings, classification, and research methodology” (Zhang et al., 2019, p. 88). Given the research importance on LLS, there arises a need to explore and examine the LLS used by the Indian learners and at the same time explore the potential of explicit and implicit strategy integration in the Indian classroom for effective and efficient language learning.

In India, the teaching of foreign languages has acquired a new dimension with the implementation of the new education policy of the education commission in 1966, which highlighted the importance and the necessity of teaching and learning foreign languages (Singh, 2009). Hispanismo, or the study of the literature and culture of the Spanish speaking world, has a history of fifty years in this nation compared to China’s seventy and Japan’s hundred and fifteen (de Lucas, 2006). It is common knowledge

that Spanish language is a fast growing language with almost 585 million speakers around the globe. The number of potential speakers of this particular language has increased more than 30% and the amount of students learning Spanish as a foreign language has increased by almost to 60% in the last decade (Instituto Cervantes, 2020). This reality is not different to the Indian subcontinent where there is an increase in teaching and learning of this foreign language at several universities.

However, the opportunities are less for the Indian learners to familiarize themselves with Spanish and its culture, which constitutes a challenge to the learning of a foreign language. They look for opportunities to apply the knowledge learnt in the classroom in the local context (Gadre, 2005). Understanding the strategies employed by learners in both situations, inside the classroom while carrying out a task and outside of classroom in a real communicative context, becomes essential as it could help in their pedagogical process (Habók & Magyar, 2018).

The aim of the present study is to highlight the important strategies as reported by the learners of Spanish as a foreign language (SFL) in two Central universities in India. This is done by comparing strategies based on two factors; proficiency and the year of study. Further, the research takes into consideration the perspective of students on the various aspects of LLS and its effectiveness. The paper illustrates the theoretical underpinning of LLS, considering its definition, principal taxonomy, and the

previous studies on the theme of LLS use, proficiency in Spanish, and the duration of the study. The significance of the study lies in the fact that it does not limit to just reporting the frequency and the use of LLS but also provides the list of LLS and its effectiveness as stated by students. Finally, the limitations and educational implications to the use of LLS in learning a foreign language are reported.

LITERATURE REVIEW

Definition and Classification of LLS

Prominent scholars in LLS have tried to define this concept since the beginning of research in this field, but has not been exempt from criticisms and there has not been a common agreement on some of the issues. For Rubin (1975), strategies were “techniques or devices” (p. 43) and Stern (1983) defined them as “general tendencies or overall characteristics of the approach” (p. 405). Wenden and Rubin (1987) described, “learning strategies as any sets of operations, steps, plans, routines used by the learner to facilitate obtaining, storage, retrieval, and use of information” (p. 19). Oxford (1990) termed strategies as “steps taken by the students to enhance their own learning” and referred to them as “tools for active, self-directed involvement, which is essential for developing communicative competence” (p. 1). Chamot (2004) referred to them as “the conscious thoughts and actions that learners take to achieve a learning goal” (p. 14). Griffiths (2008) defined LLS as “activities consciously chosen by learners for the purpose of

regulating their own language learning” (p. 87). The latest definition of LLS by Oxford (2017), arrived through content analysis of 33 existing definitions involving LLS and similar concepts encompasses all theoretical concepts and provides the evolutionary trajectory of this area. Oxford (2017) defined strategies as “complex, dynamic thoughts and actions, selected and used by learners with some degree of consciousness in specific contexts to regulate multiple aspects of themselves” (p. 48). This selection and use of strategies are directed towards “accomplishing language tasks, improving language performance or use, and/or enhancing long-term proficiency” (p. 48). She further adds that strategies are “mentally guided but may also have physical and therefore observable manifestations” (p. 48). She also highlights the orchestration of strategies according to the learning need and adds that strategies can be taught (which is referred to as strategy instruction, SI). Another important feature that appears in her definition is the contextual use of strategies and finally, she underlines that “appropriateness of strategies depends on multiple personal and contextual factors” (p. 48). This definition provides a comprehensive reflection of the theoretical underpinnings in the historical development of LLS.

Another area of debate is the classification of LLS. Rubin (1981) provided two categories, direct and indirect while O’Malley and Chamot (1990) provided three; metacognitive, cognitive, and socio-affective strategies. Oxford (1990)

classified LLS into six categories consisting of memory, cognitive, compensation, metacognitive, affective, and social in her Strategy Inventory for Language Learning (SILL). Oxford's (2011) S²R (Strategic Self-Regulation) model of learning included four categories: cognitive, affective, sociocultural-interactive, and the master category of "metastrategies" (includes metacognitive strategies). Oxford (2017) opines, "no strategy classification, typology, or taxonomy actually directly reflects how strategies operate, because strategies are complex and have multiple roles" (p. 141). On the other hand, Griffiths (2008, 2013) proposes grouping strategies according to post hoc thematic analyses in place of any *a priori* classification. Oxford (2017) in her latest book has used the term "role or function" of strategies instead of categories because of the flexibility and fluid nature of the strategies.

Previous Studies

The literature review indicates a gradual shift in the research area with some dichotomies and the most important one being the LLS functioning in the cognitivism vs behaviorism theoretical underpinnings. However, as Griffiths (2020) argues the theoretical foundation of LLS is "highly complex, dynamic, and eclectic, drawing inclusively on insights from many different theoretical traditions" (p. 609). Research highlights some approaches that can include the use of LLS for the strategic learner and its role in self/other regulated learning, in a specific task, and its relation to individual

variables like age, gender, motivation, style, and proficiency, including LLS use in "developing language skills and subsystem" (Pawlak, 2019, p. 5). Currently, the discussions to include the concept of self-regulation in the LLS field for a better theoretical foundation and understanding are in place. However, scholars like Thomas and Rose (2019) have questioned the *self* in self-regulation and point out that there is a need to rethink the "current conceptualizations of strategies to allow definitions to encompass both self-regulated strategy use and other-regulated strategy use" (p. 5).

The earlier research studies have shown that experienced language learners use more learning strategies (Green & Oxford, 1995; Oxford & Burry-Stock, 1995; Wharton, 2000). Due to maturational changes, learners of different age groups, with different educational levels and cultural contexts, have different needs and consequently, use different learning strategies (Gavriilidou & Psaltou-Joycey, 2009; Griffiths, 2008; Lan & Oxford, 2003; Peacock & Ho, 2003). Ever since the study of the "good language learner" in the 1970s, high language proficiency is found to correlate positively with the frequency of strategy use. The research studies have shown that proficient language learners often use LLS more frequently and with a greater variety (Anderson, 2005; Bruen, 2001; Chamot & El-dinary, 1999; García & Jiménez, 2014; Green & Oxford, 1995; Griffiths, 2003; Hong-Nam & Leavell, 2006; Martínez et al., 2016; O'Malley & Chamot, 1990; Oxford & Nyikos, 1989; Purdie & Oliver,

1999; Psaltou-Joycey & Kantaridou, 2009; Radwan, 2011; Wharton, 2000). Kamarul (2015) in his study, through multiple regression, found motivation (32.9%) being the first predictor and language achievement (10%) measured through grades as the second predictor contributing to the participants' employment of the LLS.

In the Indian context, the place of this research study, contributions were found mainly in the field of English as second and foreign language learning. Madhumathi et al. (2014) in their study of 60 ESL students at a private university in India reported that all six-strategy categories of research instrument titled Strategy Inventory for Language Learning (SILL; Oxford, 1990) correlated significantly with the total LLS use. A study carried out in India by Feleciya and Meenakshi (2016) among 200 female university students revealed that participants used mostly the metacognitive strategies ($M=4.14$). The successful candidates who achieved language proficiency are those who were capable of planning, gathering materials, organizing, monitoring, and evaluating their learning process. Harish (2014) carried out his longitudinal case study of social learning strategy use involving Malayalee undergraduate students in India. He used interviews and a social strategies inventory for highlighting students' strategies in three locations, in a classroom, outside the classroom on campus, and off-campus. He used the structuralist and sociocultural theoretical framework to show that the participants seemed highly motivated, but argued that

a negative sociocultural learning context might be more pervasive. He showed the importance of context in the employment of LLS. In the field of foreign languages in India, the research works have been carried out on various themes such as teaching methodology (Rai, 2017), stereotypes and cultural shocks in learning Spanish (Ahmad, 2018), use of cinema as didactic tool in language classroom (Singh & Mathur, 2010), and the use of literary texts in classroom for teaching (Kumar & Saumya, 2018), among others. However, there is a lack of research to show the employment of LLS in a foreign language context in India. This research on one hand intends to answer the questions raised in this study and on the other hand, as a contribution aims at filling this gap by investigating self-reported strategies used by the participants through a survey. Oxford (2011) highlights three ways of strategy assessment: 'actual-task strategy assessment', 'hybrid assessment', and 'general assessment'. The first one examines the strategies employed in the accomplishment of a particular task whereas the second one requires the learner to come up with strategies, which would be used by them to complete the task in a given context. General assessment tries to investigate the LLS employed by the learner without indicating any specific task frequently and provides more general information, which then can be used to associate with other learner variables. In the current study, a mixed method approach has been used to investigate the LLS and its use based on proficiency level and the duration of the

study. Further, the study also aims to shed light on students' views on LLS and of how to integrate this tool into their learning process.

Research Questions

The present study aims to respond to the following research questions:

RQ1. Which LLS is used by the students in the learning of SFL in India?

RQ2. Which LLS do they use most and find useful for learning SFL?

RQ3. Which strategies did the higher proficient students report using?

RQ4. How does the use of LLS vary with the year of study?

RQ5. Which LSS did the students find effective in their individual learning process communicated to them?

METHODS

Research Instruments

The present study is of a mixed approach. The qualitative data were collected using an open questionnaire to students that carried four open-ended questions on various aspects of LLS to respond RQ2 and RQ5. The open-ended questions were used

to comprehend the participants' opinion regarding the strategies and their use in the process of learning the Spanish language in the Indian context. To respond to RQ1, RQ3 and RQ4, a closed questionnaire with a 5 point Likert scale, adopted from Griffiths (2008) was used to collect quantitative data, which according to Cohen et al. (2000) describes a range of possible answers. Data collected were triangulated and analyzed to answer the research questions.

Participants

The participants of the current study were 65 undergraduate university students (Table 1) learning SFL, out of which, 47.7% of the participants are from the third year followed by 18.5% from the second and 33.8% from the first year. These participants were selected from the two renowned central universities in India because of the fact that Spanish is taught as a full-time course in these universities and at the same time, they are important centers of foreign language education.

To measure the proficiency, the grades (CGPA) of students from these two centers of foreign language institution were

Table 1

Participants of the study

	University 1	University 2	Total
1 st year	19	0*	19
2 nd year	10	5	15
3 rd year	17	14	31
Total	46	19	65

*No admission

considered. Students who have CGPA of 7 or more have been categorised as a higher proficient group in this study. The second group consists of those participants whose CGPA is between 5.5 and 6.9, and the third group comprises of those with CGPA < 5.5. The sample involved 27 (41.5%) male and 38 (58.5%) female students. The age of the participants varied from 18 to 27 years with an average age of 20.5 for the whole group.

Ethical Consideration, Validation and Pilot Study

The study followed ethical protocols wherein the participants were informed about this study obtaining their consent and assuring its confidentiality. The content validity of the questionnaire based on relevant existing components of LSS was carried out by expert panel, which assured the clarity of language and practical pertinence. The content validated questionnaire was verified through a pilot test with ten third-

year students to check, validate, and assess the viability of the processes. As the questionnaire was in English, there was no problem in understanding the strategy items and the participants could respond easily on the Likert scale between 1 and 5. Later, the data collected from the whole population involved in the research was analyzed through Pearson's correlation, which confirmed the construct (convergent) validity of all items of the questionnaire.

Cronbach's Alpha

To check the reliability and the internal consistency of the questionnaire, Cronbach's Alpha test in SPSS was used. This was substantiated to be very high ($\alpha = .879$). The reliability score of 0.70 is considered to be standard (Vaus, 1995) and in the present case, it was in the range described as "very respectable" by Oxford and Burry-Stock (1995, p. 7) (See Table 2).

Table 2

Cronbach's alpha

	Cronbach's alpha	Number of items
Strategy questionnaire	.879	25

RESULT AND DISCUSSION

LLS Used in the Learning of SFL in India

For the first research question, participants responded to the Likert scale from 1 to 5 for each item of the questionnaire that consisted of 25 items of common strategies, developed from the bottom-up approach along with

their usage mean and standard deviation, which are presented in Table 3.

The above list of common strategies has been arranged from most to least used strategies in descending order from the self-reported questionnaire. The SD (standard deviation) value of each item in this questionnaire is greater than 1 ($SD > 1$)

Table 3
List of strategies with mean and SD

Sl.	Learning strategies	Mean	SD
1	Learning from the teacher.	4.26	0.90
2	Doing homework on time.	4.10	0.88
3	Using a computer/mobile/tablet.	4.02	1.00
4	Utilizing a dictionary.	3.79	1.12
5	Learning from mistakes.	3.71	1.25
6	Learning in an environment where the language is spoken.	3.69	1.00
7	Listening to songs in Spanish.	3.63	1.26
8	Practising Spanish grammar.	3.58	1.14
9	Listening to native speakers of Spanish.	3.55	1.20
10	Talking to other fellow mates in Spanish.	3.53	1.18
11	Trying to think in Spanish.	3.53	1.29
12	Revising regularly the lessons taught in class.	3.45	1.13
13	Consciously learning new vocabulary.	3.44	1.20
14	Reading books in Spanish.	3.40	1.19
15	Learning about the culture of Spanish speakers.	3.35	1.48
16	Watching movies in Spanish.	3.34	1.38
17	Watching Television in Spanish.	3.23	1.12
18	Listening to music while studying.	3.19	1.46
19	Taking note of language used in the environment.	3.18	1.12
20	Not worrying about mistakes while using Spanish.	3.08	1.38
21	Using a self-study centre.	3.06	1.35
22	Utilizing language-learning games.	2.98	1.37
23	Talking to native speakers of Spanish.	2.98	1.23
24	Dedicating much time studying Spanish.	2.92	1.28
25	Making friends with native speakers.	2.81	1.25

except for the first two items. The high SD value suggests that there is great variation in the reported use of these strategies and the participants vary widely in their responses. The first 11 strategies belong to the high usage category according to the Strategy use

results profile key (Oxford, 1990) as their mean is greater than 3.50. The rest of the 14 strategies pertain to the medium usage group with their mean oscillating between 2.50 to 3.49. There were no items from the low usage group. The first 11 strategies that

pertain to the high usage group have been discussed below.

It is not surprising to see the strategy “learning from the teacher”, being reported as most frequently used with the highest mean by almost all the participants. This suggests two interesting points; a) Indian students, in general, give a lot of importance and respect to teachers and consider him/her as the main protagonist in their learning process b) the role of the teacher in guiding and stimulating the students and set the stage for them to become autonomous learners becomes crucial. The first activity is also a reflection of the Indian tradition and culture where the teacher in the classrooms is still considered the sole authority of the class and the students do not get much prominence in the teaching plan (Ranjan, 2018). In Asian classrooms in general, there is a strict discipline and absolute teacher authority considered as prominent characteristics (Sadeghi & Esmaili, 2021). Sometimes, it is very difficult to break this custom and rigid practice. Therefore, in this type of situation, the teachers should act as facilitators of learning (Vattøy & Gamlem, 2020) and not just transmitters of content. This is very much in line with the idea of scaffolding expressed by Vygotsky (1978) in his theory of Zone of Proximal Development (ZPD), wherein a guidance from a knowledgeable one (teacher) is required. The good teacher focuses on creating situations that, on the one hand, help them to teach the language content and on the other, focuses on student’s learning. In addition, the teacher has to be a skillful

manipulator and function as an active agent when it comes to awakening autonomy in the language classrooms.

The second strategy on the list is “doing homework on time”. There exist subjectivity in this learning strategy as it may carry many meanings in terms of the type of task, the process of completing the task, among others. These strategies mentioned on the list were very generic and were not subdivided into more specific behaviours. The reason behind this decision was that the researchers did not want to generate disinterest among the participants by developing a questionnaire of very long duration.

The next two strategies are “using a computer/mobile/tablet and a dictionary”. These two approaches suggest that the students require both technological and non-technological resources to learn a foreign language. It should be mentioned here again that subjectivity has not been addressed. It means using a computer could lead to many other questions such as why, when, how often, etc.

The other strategy in the table is “learning from mistakes”. Although all students reported using this strategy with an average use of 3.71, successful students reported using it more frequently ($M=4.00$, as shown in Table 4). This strategy underlines that ability to focus on details and thereby learn from experience. This particular way of learning is typical of those students who care less about precision but maintain a rapport in fluency (Brumfit, 1984; Shallenberger, 2015).

The next strategy in Table 3 is “learning in an environment where the language is spoken” (M=3.69). In reference to the Indian context, this fact is more obvious as the students do not have the possibility of being immersed in a Hispanic culture environment. The only options are the given local conditions, the textbook available and the online resources through which they practice the language. In other words, their experience to learn and use the Spanish language is limited to local surroundings that include colleagues, teachers, and/or natives if found any.

The subsequent strategy is “listening to songs in Spanish”, which is also recommended by teachers. Listening to songs serves two main purposes. First, it helps to develop listening skills and second, it improves speaking ability. Again, it was observed that successful students reported using this strategy very frequently with an average of 3.93 compared to 3.63 as informed by surveyed students.

“Practising Spanish grammar” is the next strategy used by students according to this survey. There is no significant difference in the use of this among the three groups of participants (as shown in Table 5). The language aspect that Indian students find more difficult about learning SFL is grammar. This has to do with teaching methodology because some of the teachers still often follow the traditional Grammar-Translation method. Given the multilingual context, Indian students, in general are aware of two or more languages, which at times lead them to even contrast between

these languages. Furthermore, due to the multi-linguistic context in which they grow up, they unconsciously develop a translation competence (Ranjan, 2018). Therefore, most students, contrary to their wish end up translating during a conversation. In this type of situation, grammar plays an important role. This result also indicates that students pay close attention to internalizing grammar rules. Moreover, the Spanish language courses offered in the Indian universities have Translation subject offered where the norm is to practice Spanish-English or English-Spanish translations (Kumar, 2020). Hence, the Indian students demonstrate a high degree of dependence on grammar and translation for fulfilling their purpose of expressing themselves in Spanish.

“Listening to native speakers” and “speaking with other students (classmates) in Spanish” are two strategies that the participants reported using. The average use is 3.55 for the first strategy and 3.53 for the next. These strategies suggest that students use social strategies very often. They are not shy and take control of their affective filters. They always look for opportunities to practice their Spanish either with the natives or with friends.

The following strategy “trying to think in Spanish” (M=3.53) strengthens and makes possible metacognitive skills that are important at the time of learning a language and sustain a conversation. Thinking about the learning process in itself, its success, error, and failure help a lot in achieving mastery of the language (Ranjan et al. 2019).

Useful LLS for SFL in India

For the second research question, participants were asked to respond to some open-ended questions. One of them was about the type of learning strategies that students use the most (for example memory, cognitive, guess, social, reflecting on oneself, etc.) and find useful in learning Spanish. They were also asked to provide the reason for using them. The students gave different types of strategies for learning Spanish. After coding the responses, the following themes emerged from the responses of the participants.

- writing
- visual memory / memory/ memorizing
- cognitive
- practising grammar exercises.
- guessing
- social/social interactions
- thinking in Spanish

Some of them mentioned that writing helps them to remember grammar rules and vocabulary effectively. Another strategy was visual memory. Some said that the things they learn visually make it easier for them to remember for a long time and added that they prefer to learn from watching. Some mentioned memory strategies because when they find a new word, they relate it to a picture (in case of a noun) or action (in the case of a verb). They underlined that the relating technique helps them to remember better. Guessing is another strategy that some adopt in their learning process. For some, cognitive strategies

appear to be beneficial. Practicing grammar exercises is another strategy reported by some. In the social category, they underlined the importance of social interaction and practicing with classmates, which is also a very common strategy to learn a foreign language. The last strategy that should be mentioned here is to think in Spanish. Thinking in Spanish is both a cognitive and a metacognitive strategy. Thinking in Spanish not only helps in short-term memory but also serves to develop concepts in long-term memory.

The next open-ended question in the questionnaire tried to see the learning strategies that the participants find useful for learning Spanish. The following themes emerged after coding and analysing the responses:

- writing and practicing regularly
- conversing in Spanish about the topics learned with friends and speaking with natives
- using new words in Spanish
- watching movies
- thinking in Spanish
- memory and guessing
- learning through texts
- translation and practicing grammar

Some also reported reading comics, jokes, cartoons, self-study, debate, music, among others, as useful tools for learning Spanish.

Contrasting the results obtained from the open-ended (qualitative) and close-ended questionnaire (quantitative), there were several strategies that were found common

to both instruments applied. Some of the common strategies reported were practicing grammar, thinking in Spanish, talking to classmates (social) and visual memory among others. However, there was a lack of metacognitive and affective strategies in their responses. The complementarity of the data from these two approaches strengthens and substantiates the findings of the present research.

Strategies Used by Higher Proficient Students

Table 4 shows the list of strategies, which were reported being used with higher frequency by the higher proficient group with an average mean of more than 3.50 in descending order. The strategies have been discussed previously while responding to RQ1.

Table 4

List of strategies that higher proficient reported using with mean and SD

Sl.	Learning activities	MH	SD
1	Learning from the teacher.	4.40	0.74
2	Doing homework on time.	4.20	0.86
4	Utilizing a dictionary.	4.00	1.00
5	Learning from mistakes.	4.00	1.07
3	Using a computer/mobile/tablet.	3.93	0.96
7	Listening to songs in Spanish.	3.93	1.10
15	Learning about the culture of Spanish speakers.	3.73	1.16
9	Listening to native speakers of Spanish.	3.60	1.12
6	Learning in an environment where the language is spoken.	3.53	1.13
8	Practicing Spanish grammar.	3.53	1.30

Table 5 presents a comparison of the use of strategies between the three groups of

participants. These groups have been divided based on the CGPA of the participants.

Table 5

Comparison of the use of strategies between three groups of participants with mean and SD

Sl.	Learning activities	MH	SD	MM	SD	ML	SD
1	Learning from the teacher.	4.40	0.74	4.47	0.51	4.07	1.11
2	Doing homework on time.	4.20	0.86	4.35	0.79	3.90	0.92
3	Using a computer/mobile/tablet.	3.93	0.96	4.12	1.22	4.00	0.91
4	Utilizing a dictionary.	4.00	1.00	4.00	0.94	3.57	1.25

Table 5 (Continued)

Sl.	Learning activities	MH	SD	MM	SD	ML	SD
5	Learning from mistakes.	4.00	1.07	3.88	0.99	3.47	1.43
6	Learning in an environment where the language is spoken.	3.53	1.13	3.76	1.15	3.73	0.87
7	Listening to songs in Spanish.	3.93	1.10	3.35	1.41	3.63	1.25
8	Practicing Spanish grammar.	3.53	1.30	3.59	1.12	3.60	1.10
9	Listening to native speakers of Spanish.	3.60	1.12	3.65	1.17	3.47	1.28
10	Talking to other fellow mates in Spanish.	3.40	1.06	3.71	1.40	3.50	1.14
11	Trying to think in Spanish.	3.27	1.10	3.88	1.32	3.47	1.36
12	Revising regularly the lessons taught in class.	3.33	1.18	3.29	1.16	3.60	1.10
13	Consciously learning new vocabulary.	3.27	1.16	3.41	1.18	3.53	1.25
14	Reading books in Spanish.	3.20	1.26	3.59	1.18	3.40	1.19
15	Learning about the culture of Spanish speakers.	3.73	1.16	3.76	1.35	2.93	1.62
16	Watching movies in Spanish.	3.07	1.10	3.71	1.36	3.27	1.51
17	Watching Television in Spanish.	2.93	1.16	3.35	0.79	3.30	1.26
18	Listening to music while studying.	3.27	1.58	3.18	1.74	3.17	1.26
19	Taking note of language used in the environment.	3.13	0.99	3.47	1.18	3.03	1.16
20	Not worrying about mistakes while using Spanish.	3.07	1.39	2.94	1.39	3.17	1.42
21	Using a self-study centre.	2.93	1.53	2.76	1.30	3.30	1.29
22	Utilizing language-learning games.	2.60	1.18	2.94	1.48	3.20	1.40
23	Talking to native speakers of Spanish.	2.53	1.13	3.24	1.30	3.07	1.23
24	Dedicating much time studying Spanish.	3.27	1.33	3.12	1.45	2.63	1.13
25	Making friends with native speakers.	2.87	1.19	3.29	1.31	2.50	1.20

Note. SD (Standard deviation), MH (Mean of students with CGPA>7), MM (Mean of students with CGPA between 5.5 & 6.9), ML (Mean of students with CGPA<5.5)

A one-way analysis of variance test was conducted to evaluate if there is any significant difference in the LLS use in the groups based on the proficiency (CGPA) of participants of this study. The independent variable, proficiency as showed by their CGPA, included three groups: High proficient ((M= 3.37, SD=0.47, n=15), Medium proficient ((M=3.58, SD=0.67, n=17), and Low proficient (M=3.39, SD=0.57, n=30).

A Shapiro-Wilk’s test ($p > .05$) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of their histograms (Figure 1), showed that the LLS scores were approximately normally distributed for higher, medium and lower group of students, with the following skewness and kurtosis (Table 6).

The assumptions of homogeneity of variances were tested and found tenable using Levene’s Test, $F(2, 59) = 1.043$, $p = .36$. The ANOVA was not significant $F(2, 59) = .706$, $p = .498$, $\eta^2 = .02$. Thus, it is concluded that there is no significant difference in the use of LLS among the three groups (MH, MM, and ML). The present result does not indicate any statistically significant use in LLS among the three groups as in earlier researches like Al-Buainain (2010), Alhaisoni (2012), Hong-Nam and Leavell (2006), and Feleciya and Meenakshi (2016). However, the usage pattern of the high proficient group differs from the other two groups.

Table 6
Skewness and kurtosis for checking normality of the data

Year		Higher category	Medium category	Lower category
LLS Score	Skewness	.324 (SE=.580)	.100 (SE=.550)	-.201 (SE=.427)
	Kurtosis	.416 (SE=1.121)	-.671 (SE=1.063)	-.945 (SE=.833)

*SE=Standard Error

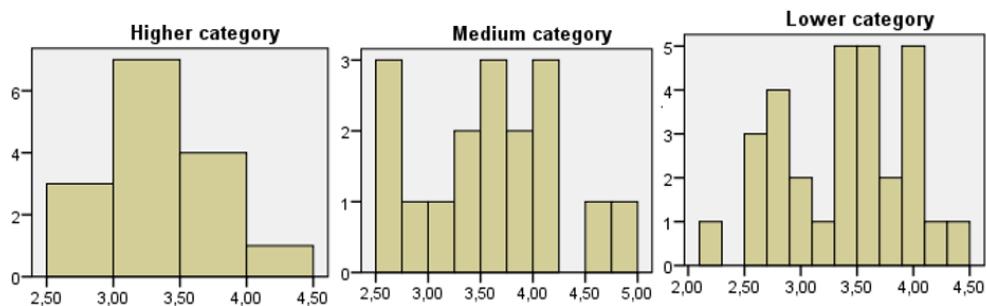


Figure 1. Histograms for normality of data (proficiency level wise for three groups)

Use of LLS and the Year of Study

A one-way analysis of variance test was conducted to evaluate if there is any significant difference in the use of LLS based on the year of study of participants. The independent variable, year of study, included three groups: First Year (M= 3.00, SD=.39, n=22), Second Year (M=3.57, SD=.42, n=12), and Third Year (M=3.72, SD=.54, n=28).

A Shapiro- Wilk’s test ($p > .05$) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and

a visual inspection of their histograms (Figure 2), showed that the LLS scores were normally distributed for first, second and third-year students, with the following skewness and kurtosis (Table 7).

The assumptions of homogeneity of variances were tested and found tenable using Levene’s Test, $F(2, 59) = .70, p = .50$. The ANOVA was significant $F(2, 59) = 14.49, p = .000, \eta^2 = .33$. Thus, there is a significant difference between the three groups in their use of LLS.

Table 7
Skewness and kurtosis for checking normality of the data

Year		First Year	Second Year	Third Year
LLS Score	Skewness	.061 (SE=.491)	.391 (SE=.637)	-.402 (SE=.441)
	Kurtosis	-.744 (SE=.953)	-.292 (SE=1.232)	.063 (SE=.858)

*SE=Standard Error

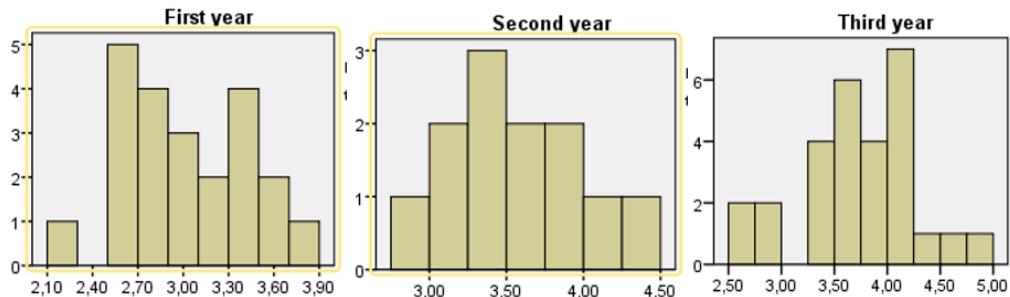


Figure 2. Histograms for normality of data (year of study wise for three groups)

Post hoc comparisons to evaluate pairwise differences among group means were conducted with the use of a Tukey HSD test since equal variance was tenable. Tests revealed significant pairwise differences between the mean scores of students who are

from the first year with the students of the second and third year. The pairwise p-value is mentioned in Table 8.

This result is in line with the previous studies (Khalil, 2008; Magogwe & Oliver, 2007) where a gradual progression in the

Table 8

ANOVA test result in the usage of strategies between three groups of participants

(I) Year of study	(J) Year of study	Mean difference (I-J)	Sig. (p)
First Year	Second Year	-.56636*	.004
	Third Year	-.71636*	.000
Second Year	First Year	.56636*	.004
	Third Year	-.15000	.635
Third Year	First Year	.71636*	.000
	Second Year	.15000	.635

*The difference in averages is significant at the 0.05 level.

LLS use was found with the duration of the study. The overall implication of this part indicated that the repertoire of the learners increases with the duration. It means the more experienced learners (in terms of years of study) use LLS more frequently than the less experienced ones.

Effective LSS to Students' Learning Process

The last research question was aimed at finding if any LLS has been communicated to the participants, which they found effective in complementing their individual learning process. Most of the participants responded, along with other strategies, watching movies or videos as strategies communicated to them to supplement their learning process. The responses indicated that almost all the strategies mentioned are generic in nature and no concrete answer was found. This may be due to a lack of strategic training. However, an attempt was made to codify the responses and arrive at the main themes, which are presented in the following graph.

As per Table 9, 41 % of the students responded watching Spanish television / movies/soap operas, as the main strategy communicated to them by their teachers. Therefore, Indian teachers consider visual elements as an important factor in learning. Some students provided the following answers included in the category "others", which are:

- Learning the culture and lifestyle of the natives to capture information
- Doing role play
- Instead of using English as the base language, Hindi should be the base language
- Trying to speak to eliminate doubts
- Group learning
- Comparing languages
- Talking to natives and make new friends

These responses can be seen as activities and procedures to facilitate learning. For example, Hindi is the language of instruction or base language or comparison between languages. After analysing the responses,

Table 9

LLS communicated to the participants

LLS communicated	%
Movies/Videos	40.91
Others	15.91
No	11.36
Internet	9.09
Listening	6.82
Reading	4.55
Cognitive	4.55
Translation	4.55
Grammar	2.27

it may be inferred that the participants of the current study may not have training in the field of the use of strategies. They lack the knowledge of the strategic instruction and potential of this phenomenon and the proper use of strategies in enhancing the learning experiences. Furthermore, almost 11% of the students answered negatively, which means that the teachers have not provided any strategy to facilitate their learning process. Almost 9% of the students reported that their teachers have suggested the use of the internet and its various tools to complement their individual learning process. The result was considered to be proportional to the quantity, multiplicity, and individuality of the replies. The participants perceived the value of learning opportunities that can then be linked to the effectiveness of introducing the LLS in a conscious, planned, and class-based way.

The present research study aims to look at the use of LLS from learners' point of view in its totality. The results show that the more

proficient group does not use the strategies more often, but may differ in the quality of strategies they employ. It also suggests that they may use a strategy in completing different tasks, which sheds light on the fact that certain types of strategies appear to be typical of more proficient students (Griffiths, 2018). In contrast to this result with the previous studies, it was found that more proficient groups engaged in LLS more frequently and at the same time employed a broader range of strategies (Khaldieh, 2000; Rao, 2016; Wu, 2008). This might also suggest that conscious adoption of learning strategies could actually decrease as the competition increases. In terms of duration of the study, the previous research (Alhaysony, 2017; Green & Oxford, 1995; Oxford & Burry-Stock, 1995; Wharton, 2000) has shown that the more experienced learners use the strategies more often and differs in their approach while applying them during task completion. The results in terms of duration of study are in line with the previous studies.

CONCLUSION

The present research work reflects the use of common strategies in learning Spanish in the Indian context and examines their relationship with language achievement and the year of study. RQ1 and RQ2 were responded to after triangulating the qualitative and quantitative data. Indian students pay more attention to cognitive, memory, and social strategies. However, there was a lack of metacognitive and affective strategies in their responses.

This may be because of a lack of strategic training, which can be considered as one of the implications of the present study. ANOVA test results for RQ3 showed no significant difference in the use of LLS among the three groups. RQ4 ANOVA results highlighted a statistically significant difference in the LLS use among the groups. The third-year participants used LLS more frequently than the second and first-year students. The responses for RQ5 highlight that there is a need for strategic training and explore the effectiveness and efficiency of LLS in the learning process. Learning of a language takes place at an individual and social level and LLS with its fluid character has the potential to be used as an important tool leading to successful and effective learning.

IMPLICATION AND LIMITATION

The findings of the current research have a positive contribution to educational practices in a language classroom and curriculum design. The study indicated the use of strategy instruction as a positive influence, which enhances the cognizance of LSS in students. The incorporation of explicit and implicit strategy instructions into the regular classes by the language instructors is useful for an effective and efficient language learning experience. Students are to be introduced to the existence of a wide range of learning strategies as per the task demand and suitability of context. Being a mixed method study, perhaps a semi-structured interview of students based on a specific task to obtain deeper insights

to explain their choice and use of these particular strategies could have strengthened the present research.

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Afrofuturism and Transhumanism: New Insights into the African American Identity in Octavia Butler's *Dawn*

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ABSTRACT

Afrofuturism offers visions about different aspects of African Americans' future. Combining the elements of Afrofuturism and Transhumanism can allow new and vast paths to argue about African Americans' future. Octavia Butler (1947-2006) is among those authors who wanted a better future for her people. In *Dawn* (1987), she presents the future of an African American protagonist – Lilith, whose identity is scientifically fictionalised and intermingled with hope for a better future. This study critically examines the traits and the role of the protagonist. It aims to investigate how Butler's transhumanist protagonist's portrayal is necessary to pursue the demarginalisation of African American's future identity. In this respect, we adopt the Afrofuturistic sense of utilising knowledge and science of Ytasha Womack in discussing Afrofuturism, as well as Nick Bostrom's transhumanistic perspective on the necessity of body enhancements to extend humanism.

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INTRODUCTION

Dawn is the first novel in Octavia Butler's *Xenogenesis* trilogy, a collection of three post-apocalyptic science fiction novels,

republished in 2000 under the title *Lilith's Brood*. The novel shows the dual effects, positive and negative, of using technology in changing various aspects of humankind's life. *Dawn* starts with Lilith Iyapo (a black human woman), imprisoned on the Oankali spaceship cell, 250 years after the nuclear war on Earth ends. The Oankali save the Earth as well as some of the human race from dying. Humankind proves to be not worthy of living on Earth alone as they left it uninhabitable because of the nuclear wars. The Oankali are an advanced technological race. They own the ability to perceive genetic biochemistry, and they want to improve their genetic material chains and reshape themselves to save their race from extinction. To achieve their aim, the Ooloi work on manipulating genetic material to modify the human race and use their altered DNA. With Lilith's help, distinguished as the mother and the first brood trainer on Earth, they resolve their goals. The humans rebel against Lilith and the genetic manipulation, insisting on keeping their race as it is. As a punishment for their rebellion, the opposers are sent to Earth without her.

Understanding Butler's representation of the African American Lilith and her experiences of body alteration is imperative in order to rethink the demarginalization of African American future identity. This is conceivable through Afrofuturism and Transhumanism, which share many aspects such as utopia and dystopia of humankind, human transcendence, the effect of science and technology on social structure, future visions, changing the future – having a

better one, and evaluation of some new subject matters. Moreover, both care about protecting humanity, ending discrimination, and causing positive changes in humankind's life.

In her book *Afrofuturism*, Ytasha Womack describes Afrofuturism as a multidisciplinary milieu to envision future possibilities through the black people's experiences and perceptions. She illustrates that Afrofuturism deals with the social effects of technology and scientific innovations' ability to bring an end to the "ism" forever and take care of humanity (Womack, 2013). Accordingly, science and its resulted technology are crucial factors to improve the quality of life.

In the case of Transhumanism, the pioneered transhumanist Nick Bostrom in "Transhumanist Values" writes that transhumanism "promotes an interdisciplinary approach to understanding and evaluating the opportunities for enhancing the humans condition and the human organism opened up by the advancement of technology" (Bostrom, 2005, p. 3). He encourages opportunities to improve human well-being by eradicating illnesses, eliminating needless misery, and growing human mental, physical, and emotional abilities. That is, to remove away the unnecessary discomfort in our lives. Thus, it is a way of new possibilities to have an improved human being through technical development.

In this regard, the transhumanist believes that technology plays a significant role in changing life aspects, such as

physical, mental, social, and spiritual. Hence, technological futurity is required to heal the past and the present wounds of people, namely the African Americans, and to activate identity and social changes.

An example of Afrofuturism and Transhumanism engagement is Butler's *Dawn*. Butler (1947-2006) was an African American creative science fiction author. She was considered to be the "grand dame of Afrofuturism" (Bailey & Jamieson, 2017, p. 5). She was preoccupied with the idea of change, "All that you touch, you change. All that you change, changes you. The only lasting truth is change. God is change" (Womack, 2013, p. 179). Butler's writings reflect interests in reforming and improving the life quality of the individuals and communities on Earth. Besides reading science fiction stories and novels, she learned about biology, psychology, anthropology, sociology, ecology, power relationships, and genetic engineering. Her representation of various themes and unique visions for humankind's futuristic aspects placed her name unforgettable in science fiction's world. Her works imply various matters related to the contemporary United States in general and African Americans, particularly black women. She regarded science fiction as a womb for these topics. Changing bodies, hybridity, treating the 'Other,' and extrapolating the apocalyptic human societies are of her major concern as well (Melzer, 2006). In *Dawn*, Butler's portrayal of Lilith Iyapo signifies the possibility of a new kind of African Americans formed through body

modifications and the acceptance of new conditions due to transformation. Due to genetic engineering, Lilith's new condition places her as a powerful and influential agent to prevent race minorities and rearticulate a new African American identity based on utilising science and technology.

LITERATURE REVIEW

The African American representation in science fiction is of high complexity, primarily due to the broadness of science fiction. Thus, different scholars focus on various aspects and segments of the model in science fiction. For instance, Langer focused on exploring the relationship between postcolonialism and science fiction, particularly exploring diaspora and locality in the postcolonial science fiction and race, culture, identity, and alien/nation (Langer, 2011). Also, hybridity, nativism, and transgression are of critical importance for African Americans' representation. The complexity of the representation of the African American in science fiction is probably best exemplified in Afrofuturism. Yaszek (2015) relates the formation of Afrofuturism to racism. Thus, race is a critical factor in informing the relations between science and society.

Though Samatar demonstrates the blackness of Afrofuturism, he states that there is a distinction between African American science fiction and African science fiction and the diaspora-locality relationship (Samatar, 2017). Whereas, for Lavender, Afrofuturism is related to creating the 'Other' in science fiction (Lavender,

2014). The issue of race in science fiction has been largely neglected. At the same time, science fiction has reproduced the existing racial stereotypes. Africans, those of African ancestors and Africa, have been represented as primitive or the 'Other' with primitive tendencies. Therefore, the themes of abduction, displacement, alienation, dehumanization in science fiction serve as a metaphor for the black experience, implying that African Americans in science fiction are often represented as primitive, inhumane, savage, monstrous, and evil (Lavender, 2014).

Butler cannot change the African American's past identity, and she cannot change their history as well. Thus, she fictionalizes *Dawn's* world and makes Lilith with a futuristic African American identity optimistically away from the marginalised African American's past and presents one with the use of the Transhumanism tendency of modification. Yoo posits that *Dawn* reverses the transhumanist dystopia (Yoo, 2019). This Transhumanist view means the invalidity of a modern world focused on the perception of accepting adaptation and human transformation. Pretzer (2018) studies how Octavia Butler's *Dawn* fits Heinlein's definition of science fiction to preserve a distinctly human identity in the face of genetic, social, sexual, emotional, and psychological manipulation and alien race domination. In "Pessimistic Futurism: Survival and Reproduction in Octavia Butler's *Dawn*," Mann argues in an Afrofuturistic pessimistic context how Lilith plays a vital role in creating a new

future for humanity. He discusses Lilith's character as an agent of survival; she works to "subvert the forces of hierarchy – racism, misogyny ... Lilith recasts human survival in terms of adaptation and evolution rather than conservation and maintenance" (Mann, 2018, p. 62). The ideas of 'adaptation' and 'evolution' refer to the potentiality of human transformation, and to keep their existence, and humankind has to change.

The idea of human transformation and bodily modifications may involve some negative aspects of the human's body and life; if these modifications are made out of sufficient needs. There is a sense of fairness from creating differences between people, the modified and the non-modified ones. There is a threat of having an imbalance in human relationships and social statuses. People will not look at the adjusted person like a normal human being like them, although there are similarities in the physical shape. Yet, there are up-normal things that can set the modified person apart from the human species. Thus, there is a significant danger of biological evolution, which will allow the original human species to be expanded. Inequality will be increased among the individuals; such imbalance can be cause for misusing the leading technology for humankind's body enhancement. In this respect, Bostrom states that "some of the inequality-increasing tendencies of enhancement technology with social policies" (Bostrom, 2005, p. 2).

There should be a moral compass that governs and control the transformation process. Accordingly, the negative

representation of transhumanism in science fiction novels is associated with the fear of human beings' annihilation and being othered as non – human beings. Mirenayat et al. (2017) discuss threats in getting unique qualities using genetic engineering technology in science fiction novels. They question the possibility of human being's extinction due to body transformation and enhancement. Mirenayat et al. (2017) present Bostrom's perspective over such technologies in enhancing the human body. They state that some risks should be anticipated and avoided; these technologies have enormous potential for deeply valuable and humanly beneficial uses. In her thesis, Dunkley (2018) argues three different forms of 'Othering' in Butler's *Lilith's Brood*: the sexualised, racialised, and naturalised Other. She shows the negative representation of transhumanism through the rejection and the revolution of the non – genetic mutational human beings for Lilith Iyapo's role in leading their new life on Earth. The awakened humans refuse Lilith and accuse her of sleeping with the aliens and being different from the other human beings (Dunkley, 2018).

In "Uncanny Race and Octavia Butler," Rebecca Ross (2017) states that the *Xenogenesis* series's female protagonists have been minored, devalued, and different. Still, they are a source for radical alterity, overcoming human weaknesses, and ultimate freedom. She also illustrates that the uncanny females in the *Xenogenesis* series show "an adamant refusal to submit to binary categorisation" (Ross, 2017, p. 2).

Tucker (2007), highlights several critical views over the role of the Oankali and their relationships with humankind, about racism in American society, racial identity, and the neo-slave narrative. He explores Butler's contradictory portrayal of the Oankali captures/ savers for human beings and relates it to humans' relationships. Besides, his study illustrates the duality of the Oankali, rebuilding Earth to be suitable for inhabitation and saving humans to achieve their aims.

FRAMEWORK

Afrofuturism is a means to re-evaluate and update African Americans' culture by bringing future ideas into consideration and accepting them. Womack states that "Afrofuturism combines elements of science fiction, historical fiction, speculative fiction, fantasy, Afrocentricity, and magic realism with non-Western beliefs. In some cases, it's a total re-envisioning of the past and speculation about the future rife with cultural critiques" (Womack, 2013, p. 9). It is seen "as a way of imagining possible futures through a black cultural lens" (Womack, 2013, p. 9). Afrofuturism is a medium of reassessing the importance of the African American image. It represents the plight of minorities and the battle to reinforce African American's freedom (Kim, 2017).

Transhumanism is a philosophical movement initiated by Julian Huxley (1887–1975), which supports human beings' intellectual and physical enhancements through technology. The transhumanists believe that improving the body by using

technology liberates it from the natural limitations and makes it in a better condition. For them, the essence of reassessing human beings is advanced technology. These enhancements to the human body and mind will make him superior and give him more abilities to overcome his limitations. In “The Transhumanist FAQ: a general introduction,” Bostrom demonstrates that “Transhumanism is a way of thinking about the future that is based on the premise that the human species in its current form does not represent the end of our development but rather a comparatively early phase” (Bostrom, 2003, p. 4).

Afrofuturism and Transhumanism are linked together through utilising advanced technology for useful purposes and through the tendency of change. From an Afrofuturistic point of view, Womack sees great potentiality in modern technology; it is “a double-edged sword, deepening as many divides as they build social bridges ... Early forays into genetics were created to link ethnic physical traits with intelligence” (Womack, 2013, p. 36). Thus, technology can be used in solving social problems like racism and discrimination issues. Afrofuturism sees the possibilities of advanced technology utilised to illuminate African Americans’ identity imbalance and transcend it. To Womack, ‘change’ has a time dimension. Afrofuturism looks “at time as a cycle and use that and the past for change” (Womack, 2013, p. 154). The idea of change here is associated with altering the future time based on and motivated by the desire to avoid past experiences. Therefore,

Womack claims that change stands as a source for imagining a better future than the past, embodied in literature, science fiction, to generate a channel of futuristic proposals for social changes – identity reformation, depending on technological innovations (Womack, 2013). In this respect, Afrofuturism envisions the African Americans’ future by presenting the impact of science and technology on reshaping – changing their value and role in future time.

From a Transhumanist angle, utilising advanced technology for useful purposes and the desire to change are mingled. Nick Bostrom, the Swedish philosopher, is among those prominent transhumanists who support human enhancements through technology. He places the idea of “enhancing the human condition” in the center of defining Transhumanism (Bostrom, 2005, p. 3). The human body’s enhancement involves improving the biological, physical, mental, and emotional capacities of human beings to avoid life discomfort through sciences and its resulting technologies. Bostrom promotes technology to give humanity open chances for changes to eliminate body limitations like aging or mortality. He argues that:

We enhance our natural immune systems by getting vaccinations, and we can imagine further enhancements to our bodies that would protect us from disease or help us shape our bodies according to our desires (e.g. by letting us control our bodies’ metabolic rate). Such enhancements could improve the quality of our lives (Bostrom, 2005, p. 4).

Bostrom believes that the body's enhancements will free it from its natural constraints and place it superior in a better condition. Also, transhumanism is a means to achieve a better quality of life by improving our bodies. In this respect, imagination is an essential factor that allows anticipating some enhancements between pre-and post- transformed human beings. The transformation of the human body will enable him to jump over undesirable biological limitations. A person's value is reconsidered, for himself as well as for others because of these modifications (Bostrom, 2005).

Afrofuturism and Transhumanism are addressed as a revolutionary transition, which adopt modern technologies to gain beneficial qualities. We will explore how technology can be utilised to illuminate and transcend African Americans' future identity. We will reveal how Lilith's body's enhancement is essential to achieve a better social well-being state for herself. Accordingly, to be a better person and overcome the human limits, she needs to transform her state from being unenhanced to an excellent condition. We will show that Lilith needs to change and update herself to overcome her limitations and weakness. That is to say, the enhancement of the protagonist – of African American's originality in the *Dawn* can help African Americans to beat their biological and social limitations. Besides, we will deal with Lilith's interactions with science and technology to investigate the effects of knowledge and sciences on the future

and African Americans' identity through analysing the protagonist's re/actions towards advanced technology. Hence, these can be the reasons to think about Transhumanism and Afrofuturism as mediums to discuss the African Americans' future identity demarginalisation.

RESULT AND DISCUSSION

Butler's *Dawn* links Afrofuturism and Transhumanism through utilising advanced technology for useful purposes and the tendency of change. Butler tries to envision African Americans' future by presenting the impact of science and technology on reshaping their value and role in future time. We will consider first discussing Lilith's Afrofuturistic-Transhumanism portrayal in *Dawn*. She is Butler's main character and represents the African American's hope for a better future. To investigate this image, we have to understand that *Dawn* is not about the struggle between the aliens – Oankali, and human beings. The awakened people should not consider the Oankali as mere enemies or opposers to the human's wishes. They should adopt Lilith's view to spread gene trade genetic – engineering as a second chance for humanity in post-apocalyptic circumstances. In this regard, in his discussion over life on Earth, Jdahya tells Lilith that “You'll begin again. We'll put you in areas that are clean of radioactivity and history. You will become something other than you were” (Butler, 2007, p. 34). Humanity has to reconstruct their society, change their bad attitudes towards each other, and avoid misusing

technology. Therefore, as an influential positive agent, Lilith works differently from the rest of the awakened human beings to revive humanity as one race and establish a new understanding of futuristic African Americans. Her transformed condition and modified genes will also allow her to play a leading role in de-marginalising her identity. Accordingly, Lilith is seen as an operative character in *Dawn*, trying to rebuild human relationships. Lilith's role represents an African American transhumanist in the future.

As pointed out in the previous discussion, Lilith represents the start of new life, and her role reflects the unique identity formulation of African Americans. She reflects an optimistic vision of reversing science and technology's passive effects to transform her future and boost social status. In this respect, Butler provides an optimistic interpretation of African American futuristic identity by presenting a black female's future and genetic engineering (Mann, 2018). Therefore, Lilith accepts the gene trade with the Oankali and body transformation to gain a better future identity. The futuristic context of *Dawn* allows Butler to envision new life on Earth and new relationships among humankind. The presentation of gene trade gives Butler a path to speculate the transformed African American persona as a modification for the past and present personality.

Through Lilith's duty on Earth, Butler imagines a new beginning of life and creates a new future for humanity, of equal importance, re/forming the black

Americans' future and identity as led by a black American agent. Moreover, Butler presents Lilith as an agent in creating a new life on Earth to reveal what black Americans can do for humanity than the rest of the Americans. In this regard, *Dawn* was "written in the context of the Reagan administration's twinned wars against poor blacks at home and Soviet enemies abroad" (Mann, 2018, p. 63). Consequently, for the humans' deeds on Earth, they proved to be not worthy of managing their lives on it again the way they like. The Oankali do not trust humans and deprive them of advanced technology 'machines' on the new Earth from the beginning. They need to learn how to use it for useful purposes, rebuilding civilizations than destroying them. Oankali offers them hope for a better future than regression to primitivism; instead, the basics of human life for survival should be learned and respected before. As a result, the future and technology are bound together in shaping humanity's destiny; technology can either create disasters or civilizations according to humankind's manipulations. Thus, the future and technology are in humankind's hands who can decide what role to play and choose what destiny to have; with this in mind, Afrofuturism "advocate(s) of teaching essential survival skills that are necessary for post-apocalyptic circumstances" (Womack, 2013, p. 180). In the same vein, Bostrom (2013) illustrates in an interview with Adam Ford that, in essence, Transhumanism deals with long term issues, which means considering the future, and uses technology

to become a better person. This view considers the advantages and disadvantages of technology. People can be optimistic about transhumanist visions since there is no misuse of technology. He asserts that one of the main reasons behind establishing the 'World Transhumanist Association' in 1998 is to make people aware of the bio-ethics of human enhancement. Butler refers to the ability of advanced technology is changing the human body through the Ooloi. They represent the capabilities of technology and what technology can do for the sake of humanity. The modifications they do on Lilith's genes are considered to be the solution for many undesirable things for Lilith, overcoming undesirable biological limitations. Furthermore, due to gene transformation, these newly acquired qualities place her in a better status among human beings. Jdahya tells Lilith that:

We've already armed you against the deadlier microorganisms. ... We've strengthened your immune system, increased your resistance to disease in general. ... You've been given health. The ooloi have seen to it that you'll have a chance to live on your Earth—not just to die on it (Butler, 2007, pp. 32-33).

Butler relates what happened to humankind on Earth to two "incompatible characteristics" (p. 38). Jdahya tells Lilith that human beings have two conflicting features, 'intelligence' and 'hierarchy,' which led humankind to their doom:

But what was the problem? You said we had two incompatible characteristics.

What were they? ... You are intelligent, he said. That's the newer of the two characteristics, ... Still, you had a good start in the life sciences, and even in genetics.

What's the second characteristic?

You are hierarchical. That's the older and more entrenched characteristic (Butler, 2007, p. 39).

These human features stand as a solution to their situation, and at the same time, they are obstacles in Lilith's way. Hence, the essence of Lilith's task on Earth is to teach these re-born people to overcome and drop the past beliefs about human differences like racism. Jdahya reveals to Lilith the threats behind misusing science and technology already before. He illustrates the hazard behind these obstacles and what can happen to her life and her people. He compares these threatening features to 'cancer,' and she has to work with the Oankali to eradicate them from society; otherwise, there is no chance for a better future for humankind:

Yes, he said, intelligence does enable you to deny facts you dislike. But your denial doesn't matter. A cancer growing in someone's body will go on growing in spite of denial. And a complex combination of genes that work together to make you intelligent as well as hierarchical will still handicap you whether you acknowledge it or not (Butler, 2007, p. 39).

What makes human beings face extinction is their mis-definition of

intelligence and hierarchy. For some people, intelligence and hierarchy represent power and sources of continuity and not the sense of humanism, yet they proved the opposite. Working for a better future and ensuring continuity by using technology has played a significant role in influencing relationships between humans on the one hand and humans and technology on the other. Some human beings, groups, races, communities, or cultures use advanced technology to get value, unique qualities, and worthiness to protect their existence and identity. Jdahya goes on elaborating and explaining the solution to these destructive features to Lilith. He tells her the promises of gene trade, suggests the necessity and the limitless possibilities of human enhancements, which can involve different aspects of human life to ensure continuity:

We're not hierarchical, you see. We never were. But we are powerfully acquisitive. We acquire new life—seek it, investigate it, manipulate it, sort it, use it. ... the ooloi can perceive DNA and manipulate it precisely. ... They're like children now, talking and talking about possibilities.

What possibilities?

Regeneration of lost limbs. ... Even increased longevity, though compared to what you're used to, we're very long-lived now.

Your people will change. Your young will be more like us and ours more like you. Your hierarchical tendencies will be modified and if we learn to regenerate

limbs and reshape our bodies, we'll share those abilities with you. That's part of the trade. We're overdue for it (Butler, 2007, pp. 41-42).

Jdahya's view reflects Bostrom's encouragement for technological possibilities to free up humans' chance to create improvements that remove body limits such as aging or death. This view also mirrors Womack's idea regarding the erroneous "to link ethnic physical traits with intelligence, thus falsely justifying dehumanization, slavery, and holocausts across the globe" (Womack, 2013, p. 36). Besides, Womack states that "imagination, hope, and the expectation for transformative change is a through line that undergirds most Afrofuturistic art, literature, music, and criticism. It is the collective weighted belief that anchors the aesthetic" (Womack, 2013, p. 42). Similarly, Afrofuturism sees the possibilities of changing the black future by adopting hope, imagination, and expectation for what is better. Her insight into the future can overcome the limits of African Americans' past and present through Lilith's role. For these reasons, Lilith's acceptance of the gene trade will access the limitless future possibilities of predictions to overcome any human vulnerabilities like aging, illnesses, and death and to reach new extents. Accordingly, her action can be seen as a movement promoting technology and intelligence to enhance people's experiences and transform their bodies and lives, namely preferable social status. In addition, Lilith's role is connected with hope for a better future and creating a new world.

Lilith will accept to take the mission and the responsibility of leading the wakened people on Earth as a human being, despite the consequences of doing so. She tells Jdahya that:

If we have the problem you think we do, let us work it out as human beings. ...

Now it will be done—to the rebirth of your people and mine. No! she shouted. A rebirth for us can only happen if you let us alone! Let us begin again on our own (Butler, 2007, pp. 42-43).

Lilith's discussion with Jdahya reflects the establishment of the African American futuristic identity. Lilith does not feel afraid of Jdahya at the early beginning of the novel. "I don't understand why I'm so ... afraid of you, she whispered. Of the way you look, I mean. You're not that different. There are—or were—life forms on Earth that looked a little like you" (Butler, 2007, p. 17). Lilith thinks about the benefits of humankind and does not want to deceive or mislead them:

Better to tell them little or none of that for a while. Better not to Awaken them at all until she had some idea how to help them, how not to betray them, how to get them to accept their captivity, accept the Oankali, accept anything until they were sent to Earth (Butler, 2007, p. 117).

Moreover, Lilith does not want to abandon her fellow humans, believing in the idea that they are all equal as human beings, sharing the same destiny as living together

on Earth. She says that: "If we endure this place, behave as though it's a ship no matter what anyone thinks individually, we can survive here until we're sent to Earth" (Butler, 2007, p. 143). Lilith tells them also about the Oankali's plan to reseed Earth with human communities. Besides, "she told them about the gene trade because she had decided they must know. If she waited too long to tell them, they might feel betrayed by her silence" (Butler, 2007, p. 143). So, humans have to think as one group, not individually, to find a way out of their situation and behave themselves; they need to think about one race living on one Earth.

So far, the importance of Lilith's role in changing African Americans' future identity and humanity goes with her trying to utilise Oankali's technology to have a new chance to live again on Earth. In other words, she accepts the gene trade because she believes in the future possibilities behind it and its power in creating new human relationships by which humankind can break down undesired limits from her life. For this reason, on a small scale, employing transforming human beings will liberate themselves, break the restraints of the biological limitations, and reach good social status. The human transformation will generate a new personality, social hierarchy, authority and power, and a new world system on a big scale (Hughes, 2004). Thus, the awakened people have to realise the necessity of gene trade – body transformation, learning to adapt to their new condition, and accepting changes.

Re-encountering with the humans, Lilith becomes aware that the awakened people will have an opposite perspective regarding the Oankali and the gene trade. After her interaction with Paul Titus – the first human Lilith encounters on the Oankali’s ship - she realises that there will be a gap for interpreting the relation with the Oankali and agreeing upon human body transformation. Going back to the moment when Lilith saw Paul, she felt with closeness and affection as being another black human male; “She stared at him. A human being—tall, stocky, as dark as she was, clean shaved. He looked wrong to her at first—alien and strange, yet familiar, compelling. He was beautiful” (Butler, 2007, p. 85). This familiarity between two human beings represents Lilith’s highest need and priority as being awakened by aliens on their weird spaceship. It is difficult for her to imagine the rest of her life among the Oankali, though she did not feel afraid of them, and they did cause or attempt any harm; they are different.

In comparison to humankind, the Oankali are exotic, unusual, and unattractive. Accordingly, Paul should represent Lilith’s desire to spend time and the male to live with. Later on, Paul proves to be similar to Lilith’s expectations of ‘wrong,’ ‘alien’, and ‘strange.’ Despite all their sameness, he does not represent a suitable alliance for her. He even beats and tries to rape her after she refuses to have sex with him. Paul acts according to his desires, far away from reason and rationality. He steps away from his humanity. His violence and abuse for

Lilith match the humans’ actions towards each other before the nuclear war, and the consequences of his deeds are uncalculated like the result of wars. Nikanj – an Ooloi child, tells Lilith: “He beat you, Lilith, ... He broke your bones. If you had gone untreated, you might have died of what he did” (Butler, 2007, p. 101). Therefore, Paul loses Lilith’s companionship and alliance. He fails to see the Oankali like Lilith, and he does not prove their positive role in his life. So, although they are human beings, they are dissimilar, “Lilith quickly comes to terms with her new circumstances on the ship, whereas Paul flatly refuses to abandon the Earthbound human context he experienced as a child” (Mann, 2018, p. 70). They have different future perspectives. In this regard, the sameness and the differences between humankind are not race-bound. Lilith expresses her view about the Oankali, telling Paul that: “Look,” she said when he drew back. “I’m not interested in putting on a show for the Oankali.” “What difference do they make? It’s not like human beings were watching us.” “It is to me” (Butler, 2007, p. 94). Butler attempts to show the value of sameness and homogeneity because of human differences. She tries to show the importance of equality through differences, and whatever race or color there is, they are human beings at the end of the day. This proves that to continue on Earth as one race, humankind has to accept each other’s differences and accept the Others. Therefore, Paul’s refusal to interact with Lilith and the Oankali is related to his refusal to accept the Other. Paul’s

attitude towards the Oankali means that it is not appropriate and acceptable for the aliens or the Others to be present in human life. Besides, his rejection of the Oankali reflects the human's perspective concerning accepting the Other's actions. He does not see any advantages in the Oankali, and they do not represent any hope for a better future or change.

Similar to Paul's attitudes and mistreatment appears against Joseph Li-Chin Shing, who is killed by the human rebellions – gene trade opposers. Shing is Lilith's companion, partner, lover, and ally. He is of Chinese origin with Canadian citizenship. Joseph resembles Lilith in many aspects: rational, accepting to interact with the Oankali, minor social status, intelligent, and the Nikanj enhances him with unique healing abilities. Thus, like Lilith, he is different from the rest of the awakened human beings; so, he is 'othered' and outcasted by them. Joseph's body modifications widen the gaps between him and the awakened, among other racial issues, which caused him to be violently killed since they no longer treat and consider him as human anymore. Butler pictures the human rebellions' brutality towards the Othered Joseph through Lilith's reaction about their deed:

He had been attacked with an ax.

She stared, speechless, then rushed to him. He had been hit more than once—blows to the head and neck. His head had been all but severed from his body. He was already cold.

The hatred that someone must have felt for him ... Curt? she demanded of Nikanj. Was it Curt? (Butler, 2007, p. 223).

It is a painful and emotionally challenging experience to lose a close person. Curt's violence brings back Lilith's memories of power abuse and controlling each other on Earth. Butler introduces him as

“who had been a cop in New York, and who had survived only because his wife had finally dragged him off to Colombia where her family lived. ... The wife had been killed in one of the riots that began shortly after the last missile exchange” (Butler, 2007, p. 123).

Curt experiences and reflects violence in his life, killing another human being, Joseph, in cold blood. Again, Lilith finds solidarity, care, passion, and harmony with Nikanj, the Ooloi alien, in a grief situation. It comforts her by giving “a new color. A totally alien, unique, nameless thing, half seen, half felt or ... tasted. A blaze of something frightening, yet overwhelmingly, compelling. Extinguished”, and then “She walked more willingly with Nikanj now, and the other ooloi no longer isolated them in front or behind” (Butler, 2007, p. 226). Besides, it offers her protection and security against the probable attack of the human gene trade resisters.

As a consequence, Lilith decides to help the Oankali through the Ooloi to keep their race exist. The aliens – different represent

the solution for her problems against endless with humans disputes. Also, to hope for a better future, open possibilities through boy enhancements, security, and support, the aliens turn to be more human than the humans themselves. Humanity is not the subject of being a human only; it is a manner of life. Humankind has to realise their importance to each other; they have to appreciate each other's values. The Oankali value Lilith's readiness as she realises their mutual influence on each other's existence and continuity. As a result, Lilith represents the saviour for the Oankali and the starter for a new human identity. For Lilith, the humans destroyed Earth and killed people and not the Oankali or their Ooloi.

Thus, the reason behind Lilith's acceptance of the gene trade is Oankali's treatment. Although Jdhaya literally embodies 'unearthliness' (Butler, 2007), and different from the human race, and an 'Other' as an alien, yet she refuses to interact with him. Later she finds the Oankali, the refuge away from humankind's mistreatment and abuse. In other words, she feels safe and protected by the aliens. Besides, she considers the Oankali's gene trade the solution for humans' future problems and the means for a better future life. Lilith looks positively at her awakening and body modifications. In other words, Lilith's refusal for the trade may bring back the humans to the first square of their undeniable, harmful, and painful past, which she does not want. Besides, Lilith's agreement places her differently from awakened human beings.

Furthermore, she is considered an 'Other' since the rest of the awakened human beings refuse the gene trade. They do not want and are afraid of being categorised as 'Others' – becoming non-human beings after the transformation. In other words, they do not want to lose their identity as human beings and to be considered minorities.

Accepting to be an 'Other' is essential in accomplishing her mission, part of her role, and attitudes towards body transformation. Butler familiarises us with Lilith's othering in different events of *Dawn*. She becomes different from humans because of her biological capabilities due to the genetic mutation by the Ooloi. Lilith has to be empowered by certain features to be influential and effective in carrying on her duties, forming new life and civilization for humanity on Earth. The Oankali modifies her body to have special abilities. She is already othered as black and female, othered as a human among aliens (Oankali), othered as captured and colonised by the Oankali, othered as awakened first, othered as accepting the task of convincing the human beings to make the genetic trade. Being an Other seems to allow Lilith to accustom otherness, which gives her the ability to accept Oankali's plan. At the end of the novel, Lilith lies with the Ooloi and becomes the new race's mother. Hence, Butler's Lilith depiction suggests that being an Other and accepting the Others is the way for hope and change to attain a better rating in life.

CONCLUSION

Afrofuturism and Transhumanism are connected by new technologies and the desire to adopt them for useful purposes. In *Dawn*, we see Butler's vision of how advanced technology is utilised to transcend her protagonist Lilith to play an essential role in filling the social gaps and illuminating African Americans' identity imbalance. Lilith represents hope, intelligence, rationality, and humanity for the sake of humankind. Being black heroin and of African American origin, Lilith represents humans' balanced interaction, the wise use of technology, the value of other humans, the ability to change for something better, and stepping away from being inhuman. All in all, Lilith's character study in the framework of Afrofuturism and Transhumanism demonstrates the positive potential of science and advanced technological paradigms to transform and shape African Americans' future identity.

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Challenges of Implementing Occupational Health Services (OHS) in Malaysia –Perspective of Occupational Health Doctors

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ABSTRACT

Mortality estimation due to work-related illness has reached up to 2.4 million each year. The current coverage of occupational health services (OHS) in Malaysia is still low.

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Occupational health doctors (OHDs) are one of the essential personnel to ensure proper execution of OHS. This study was conducted to explore the experiences and views of OHDs on the challenges in implementing OHS in Malaysia. Four focus group discussions were conducted with OHDs (N = 23) from four different states in Malaysia in 2016. Another five OHDs participated in in-depth interviews to implement the identified codes or themes. The discussions were recorded and transcribed verbatim. NVivo version 11.0 was used to facilitate

data analysis. The data were analysed following the thematic analysis guidelines. Three themes were identified from the discussions: difficulties in diagnosing occupational diseases and poisoning; poor practices, attitudes, and commitment by both workers and employers; and non-compliance with laws and regulations related to the industries. The common challenges discussed by the participants were the lack of knowledge and skills among OHDs, and the shortage of standard procedures, leading to difficulties to screen occupational diseases. The poor cooperation and behaviour from the industries also hindered OHDs when performing their services. This study suggests better training and provision of standard tools or guideline to assist OHDs in making occupational disease diagnoses, increasing OHS awareness among the industries, and enacting OHS as part of the laws and regulations with adequate enforcement.

Keywords: Challenges, Malaysia, occupational health doctor, occupational health services, qualitative study

INTRODUCTION

Global estimates of mortality due to work-related illness have climbed to 2.4 million cases annually (Hamalainen et al., 2017). The International Labour Organization (ILO) estimates an additional 160 million cases of non-fatal work-related diseases each year. These numbers do not reflect the burden of occupational diseases well because the national statistics from most

countries is based on estimates (ILO, 2015). Despite many countries establishing their own registry and reporting systems for occupational diseases, underreporting is still considered a significant concern (Lenderink et al., 2010; Spreeuwers et al., 2008, 2010). Collecting accurate statistics depends heavily on correct diagnosis and reporting of occupational diseases. Furthermore, accessibility to OHS is critical.

OHS includes comprehensive prevention, diagnostics, promotion, treatment, and rehabilitation (Boschman et al., 2017; Rantanen, 2005; Rantanen et al., 2013). OHDs are one of the essential professions to obtain a good OHS as they are the experts involved with promoting and maintaining workers' health and well-being; overseeing, handling and monitoring any incidence related to occupational diseases and work-related injuries, including pre-employment medical examinations, medical surveillance and return-to-work programme; and maintaining the workers' medical histories, reports and other medical records (Department of Occupational Safety and Health [DOSH], 2005; Kirch, 2008). By actively engaging with both employers and employees, they can also assist the preventive activities in the company by giving advice and assisting in planning and re-adjusting a workflow to minimize or eliminate risks and exposure to hazards.

Although, most countries have OHS agendas and policies, the workers in two-thirds of these countries have poor accessibility to the services (Rantanen et al., 2013). Countries like India, with large

working populations and low availability of OHDs, report poor OHS accessibility while countries like Finland and Croatia, with small working populations and high availability of OHDs, have high OHS accessibility (Rantanen et al., 2017).

The statistics from the Department of Occupational Safety and Health (DOSH) in Malaysia revealed that 3,890 cases were confirmed as occupational diseases and poisoning in 2017 (DOSH, 2017). The reported low prevalence of occupational diseases in Malaysia (0.02%) may not reflect the reality. The current coverage of OHS in Malaysia remains low, with approximately one OHD per 26,756 employees (DOSH, 2018; Department of Statistics Malaysia, 2018). The prevalence of occupational diseases in Japan (0.01%) and France (0.18%) are relatively low due to their high accessibility of OHS, with one OHD per 685 employees in Japan, and one per 5,477 employees in France (Eurogip, 2018; Japan Statistics Bureau, 2018; Mori, 2018; "Number of physicians", 2018; Organization for Economic Co-operation Development, 2018).

DOSH Malaysia has published the Guidelines of Occupational Health Services (DOSH, 2005) to assist OHDs and employers in implementing OHS. However, the poor occupational disease reporting reflects insufficient application of the guideline in their work. In addition to the small number of OHDs per population in Malaysia, there might be other problems faced by the OHDs, leading to poor OHS. This study was conducted to explore the challenges experienced by OHDs when providing

OHS in Malaysia. The results of the study will help the authorities to prioritize actions in improving OHS and workers health in Malaysia.

METHODS

The study was conducted among OHDs in Malaysia as part of a more extensive study to investigate the role of OHS and early screening of occupational diseases in small and medium industries. The data in this study were collected through a qualitative study design by conducting focus group discussions (FGDs) and in-depth interviews. A total of four FGDs and five in-depth interviews were conducted in this study. Twenty-eight OHDs participated (24 males and 4 females). They ranged in age from 30 to 63 years, with a median age of 49 years while the participants' experience as OHDs ranged from 3 to 18 years, with a median of 13 years. Most participants had been providing OHS in private clinics or private hospitals. Two participants were recruited from government hospitals where they provided OHS to the public.

Specific criteria were used to recruit the participants. Referring to the list of registered OHDs in the DOSH's website, OHDs were selected through purposive sampling based on their workplace and years of experience as an OHD. Comparable to the study conducted by Tateishi et al. (2016), the OHDs recruited for this study had a minimum of three years of working experience. They were contacted via emails, phone calls and text messages via mobile phone application to obtain

their verbal agreement to participate in this study. Afterwards, they were provided with invitation letters, information sheets, and consent forms. Moreover, they were assured that their participation in the study was voluntary, and that their personal details would be kept confidential.

Participants for FGDs were chosen from four selected states in Malaysia: Pahang, representing the east coast of West Malaysia; Selangor, representing the west coast of West Malaysia; and Sabah and Sarawak, representing the East Malaysia. The participants in each state met in a meeting room at DOSH state offices, deemed a suitable location to conduct the study because it was convenient location for the participants and free of interference (Freitas et al., 1998). The study was conducted over five weeks from July–August of 2016. The average number of FGD participants in previous studies in the literature ranged from four to eight people (Carlsen & Glenton, 2011; Di Bona et al., 2017; Freitas et al., 1998). In our study, each FGD was comprised of five to seven participants, depending on their availability on the discussion day.

The facilitators explained the objectives of the FGD, and the participants were encouraged to ask questions before the discussion to ensure that they understood the topics to be discussed. The participants were again assured of confidentiality. A set of semi-structured open-ended questions were employed to ensure consistency among the discussion and that relevant issues were covered (Ramano & Buys, 2018). Hollis et al. (2002) recommended the type of questions to be utilized in the FGDs. Table 1 shows the key domains presented to the participants in the FGDs.

Each FGD session was digitally recorded using an audio–video recorder, with the participants’ permission. The sessions lasted between 1 hour 40 minutes and 2 hours 15 minutes. The FGDs were transcribed verbatim, and key findings from the discussion were translated from Malay to English. Each FGD was labelled alphabetically, and the participants were coded with a number to ensure their confidentiality; for example, ‘FGD A’ referred to which discussion group the participant was assigned, and ‘P1’ was the code of one particular participant. The

Table 1

Key domains used in FGD

Key Domains
<ul style="list-style-type: none">• Doctors’ experiences in offering Occupational Health Services to industries• Constraints in the execution of OHS• Compliance with the laws related to the occupational health and safety• Issues/problems faced from the industries when conducting OHS• Suggestions for OHS improvement• Other issues related to implementing OHS in the industries

data were analysed using thematic analysis (Braun & Clarke, 2006) and sorted into suitable themes and sub-themes using NVivo Pro software version 11. Then, the themes and subthemes were reviewed by the researchers, and clarifications were added to the description of the themes and sub-themes.

After the researchers completed the analysis of the four FGDs, in-depth interviews were conducted for data triangulation, data saturation and further exploring certain subthemes (Fusch & Ness, 2015; Halcomb & Andrew, 2005; Lambert & Loiselle, 2008; Morgan, 1988). A few OHDs from other states were chosen and contacted for in-depth telephone interviews

(Morgan, 1988). Five OHDs gave their consent to participate in the interview, and each 15–30 min interview was recorded. Similar to the FGDs, the interviews were transcribed and NVivo version 11 was used to analyse the data. Each OHD involved in the interview was coded according to their participation sequence, such as ‘OHD 1’ and ‘OHD 2.’ Notations of ‘...’ were used to indicate conversation not relevant to the topic being discussed, and were excluded from the description of the content in both the FGDs and the telephone interviews. Data from the in-depth interview were then used to further reinforce the themes and sub-themes.

Table 2

Main themes and sub-themes in discussions and interviews

Main themes	Sub-themes
i. Difficulties in screening occupational diseases and poisoning	<ul style="list-style-type: none"> • Lack of knowledge and experience of the OHDs • Lack of standardized tools to screen occupational diseases and poisoning • Inconsistent interpretation of legal terms in OSHA 1994
ii. Poor practices, attitudes, and commitment by both workers and employers	<ul style="list-style-type: none"> • Workers’ behaviour towards OHS • Poor organizational commitment to occupational health services • Feeling pressured by notification requirements
iii. Non-compliance with laws and regulations related to the industries	<ul style="list-style-type: none"> • Lack of enforcement by DOSH officers • Lack of legal compliance from the industries • Necessity of legal evaluation due to ambiguities in the current laws and regulations

RESULTS

When examining information gathered from the participants, the thematic analysis identified three main themes describing the OHDs' challenges in implementing OHS in Malaysia: i) Difficulties in diagnosing occupational diseases and poisoning; ii) Poor practices, attitudes, and commitment by both workers and employers; and iii) Non-compliance with laws and regulations related to the industries. The main themes and sub-themes are presented in Table 2.

Difficulties in Screening Occupational Diseases and Poisoning

Lack of Knowledge and Experience of the OHDs. Doctors in three FGDs discussed at length the difficulties in screening occupational diseases. They expressed that most medical officers did not record proper work histories and did not correlate symptoms with occupational exposure at work. Usually, patients were given medications and authorized to return to the same hazardous working environment. As described by one male participant in FGD A:

If they do not know what to do, they will not be able to medically remove a particular employee. So again, you come back to square one (P1).

Participant 2 from the same group expressed that the knowledge of most OHDs in Malaysia was outdated and not progressing. He also stressed the importance of OHDs to practice and gain experience to solve issues related to the OHS, especially among OHDs whom were rarely involved

in providing services to the industries. Furthermore, a female participant from FGD C voiced her concern about the newly registered OHDs in Malaysia. Through her own experience, she stated that she was confused, not knowing where and how to start working as an OHD after she was registered as a competent OHD with DOSH. This was comparable to OHD 3 as he stated that he did not know how to provide the services and needed a mentor to guide him after getting his competency certificate.

Another female participant from FGD D expressed her concern that a doctor lacking in both knowledge and experience reported incorrect results, leading to underreporting of occupational diseases and exposures to hazardous substances. Most participants agreed that without adequate knowledge and experience, OHD could not make a correct screening for an occupational disease.

Lack of Standardized Tools to Screen Occupational Diseases and Poisoning.

It is worth noting that several participants discussed this sub-theme thoroughly in all FGDs and commented on the difficulties of diagnosing certain occupational diseases. When providing the services, OHDs might use different tools to screen occupational diseases. The results might vary due to the different tools used, as expressed by a participant from FGD A:

“For me, I feel you should standardize a diagnostic tool. Consider pain for example. I can say I have a certain tool for pain. He [another doctor] may have another tool. So, when we report it to

DOSH, since we don't standardize, it will vary" (P1).

A male participant in FGD C suggested that DOSH should provide standardized screening tools for the companies to adhere to the instructions. Participant 2 from the same FGD group had particularly complained that due to the lack of standardized tools and procedures, OHDs found it difficult to assess the workers' health since some companies would omit a few parameters during the pre-employment assessment, yielding inadequate results on confirming the health impacts of the workers with their job scope. This issue was discussed thoroughly by the participants from FGD C as most of them expressed the need to have standardized screening tools to screen for occupational diseases.

Inconsistent Interpretation of Legal Terms in OSHA 1994. Some OHDs conveyed that they had experienced problems when they suspected the workers had an occupational disease, and requested that the company to notify DOSH. One participant expressed his frustration, saying:

"But when I tried to notify about a disease, the company said it's too early. We needed to find out whether the patient actually had the disease due to the work or for some other reasons. The patient was young (age 32) with no history of illness or renal impairment or drug abuse ... When should I notify? Did we need to notify now or after the nephrologist confirmed it? That's another problem I've had" (FGD B, P6).

A male participant expressed repeatedly during the discussion that the company would take action against him if he reported a case of occupational disease or poisoning without confirmation of the diagnosis. He further explained by giving an example of a case of occupational asthma as it was difficult to confirm whether its cause was occupational-related or due to other confounding factors.

Other participants argued and said that he needed to notify DOSH whenever he suspected a worker had an occupational disease without waiting for confirmation from a specialist. He remarked that the interpretation of the word 'believe' varied among OHDs. They should have a strong reason for their suspicions before notifying DOSH to avoid any action taken by the company. This issue was reinforced with a similar connotation by OHD 3 as he said the company might not be happy if he reported without confirming the occupational disease. Meanwhile, OHD 5 gave his own interpretation on this issue as he said:

"The word 'believe' is very subjective, right?... So, I would say, if I believe, then there is more than 50% chance of the disease"

Poor Practices, Attitudes, and Behaviours by Both Workers and Employers

Workers' Behaviour Towards Implementation of OHS. The participants eagerly discussed that even though some companies showed enthusiasm and

willingness to hire OHDs to provide their services, some of their workers were not cooperative. Both Participant 3 in FGD A and participant 6 in FGD D had complaints on employees' cooperation as they noted that some employees did not give full cooperation during health assessment, making it challenging for OHDs to capture accurate results of the workers' health conditions. OHD 2 had also experienced a similar situation. He mentioned that some workers appreciated the health consultation, but they were often reluctant to reveal the truth about their job exposure.

Besides lack of cooperation, most of the workers were not aware of the health hazards involved with their jobs. Two participants from FGD B expressed their concerns about this issue:

"I think awareness among the workers is the most basic thing they should have. When the workers are aware, they will know whether they need to see a doctor or not" (P5).

"...We cannot do medical surveillance straightaway without doing CHRA [Chemical Health Risk Assessment]. The majority of the workers in Malaysia don't even know what chemicals they are handling" (P4).

Several participants agreed that to increase their awareness, workers needed to be briefed on the hazards and risks associated with their jobs.

Poor Organizational Commitment to Occupational Health Services.

Some participants expressed difficulties entering the premises to offer their services to the companies. Participant 7 in FGD D stated that some companies were not interested even when they offered free services. A female participant in FGD C also corroborated the sentiment as she said:

"Although we serve as panel clinics for certain companies, to reach out to other new companies is really difficult unless top management or DOSH has pushed the company to reach out for our services. Only then would they look for a panel clinic for the company" (P2).

Besides the lack of interest from the companies, most participants also expressed disappointment on the issue of safety and health behaviours displayed among the employers. Both Participant 2 from FGD A and FGD C expressed that some companies were not willing to spend money to implement occupational health services unless a problem has occurred, or the expenditure was deemed necessary. This was further supported in the discussion among all participants on the ignorance of the companies' top management to improve safety and health at the workplace. A male participant from FGD A said:

"Once we convinced them that there was a noise-induced hearing loss risk, the problem was actually with the system. As the company did not want to change the system, they would only

protect the workers by giving them proper personal protective equipment. Hence, the problem was not resolved... you'll keep on receiving cases from the industries" (P3).

A few participants from FGD A agreed that occupational health services could be executed smoothly when the companies were interested and willing to invest their resources in the services.

Concerns were shown when SMEs were brought into the discussion. A female participant from FGD D with fifteen years of experience expressed her worry about small and medium enterprises (SMEs) having constraints to implement even the basic occupational safety and health standards. Participant 6 from FGD D expressed his agreement, saying:

"At SMEs, people just walk in off the street when there are job vacancies, not considering what kind of company it is, and with no pre-medical check-up done and no screening."

Similar situations were expressed in FGD B discussions as two participants were in agreement that most SMEs were not aware of the existing laws related to occupational safety and health, particularly on the workers' well-being. Participant 2 from FGD A also described that unlike big companies with established systems to monitor OHS, SMEs might have many severe issues that needed to be taken care of as they had not established specific standards to follow.

Feeling Pressured by Notification Requirements. The majority of the participants were frustrated when a notification issue was questioned. For example, one participant stated:

"You are nice to the workers, but the company is not being nice to you. They replace you or terminate your contract. So, where are we now? How can we work fairly for the workers? ... I think when you're going for the screening in the industries, the doctors also have to be protected" (FGD A, P2).

Another male participant expressed his regret about a recollection of his colleague:

"My colleague was my junior and not an OHD. She notified about a case of chemical splash in this one company, and apparently one of her staff faxed it to the company instead of to DOSH. So, the company found out and pressured her, 'Why did you notify? You shouldn't notify this'" (FGD B, P6).

A similar frustration was expressed by participant 3 from FGD D. He said he could not notify DOSH as he did not have a clear evidence about the employee's occupational disease. He strongly expressed his fear that the company would sue or fire him if they knew he had notified DOSH.

Non-Compliance with Laws and Regulations Related to the Industries

Lack of Enforcement by DOSH Officers. Another issue that was extensively discussed among the OHDs was the lack of enforcement by DOSH officers. A participant from

FGD D stated that Malaysia has already established a few laws and regulations that were on a par with international standards. He questioned DOSH's action on the proper implementation of the regulations. He expressed his opinion that Malaysia was one of the worse countries when it came to enforcing occupational safety and health laws. Another participant expressed his disappointment as he detailed:

“Yes, implementation, implementation. You have everything in black and white. Beautiful. A full SOP is there, nicely done, but there is no implementation” (FGD D, P1).

One participant from FGD A complained that routine visits to the workplace by DOSH officers were lacking, and usually based on complaints they received. Participant 2 from the same group of FGD also expressed his concerns and suggested there should be a new working procedure requiring DOSH to make visits, with or without complaints from the company. He also questioned particularly on the enforcement effectiveness of the current legislation pertaining to occupational health as many companies still did not follow the law.

Nevertheless, a participant commented that the reason for the small number of routine visits to the industries might be due to the lack of manpower at DOSH. He expressed:

“But the thing is, they don't have enough manpower to do so. You know, to make routine checks and surprise visits” (FGD A, P3).

OHD 4 supported the fact that DOSH enforcement activities were inadequate due to lack of manpower, insufficient knowledge of legislative requirements, and inadequate qualifications to do the job.

Lack of Legal Compliance from the Industries. Although certain laws have been established for many decades, Participant 2 from FGD A expressed that it took time for the industries to implement the laws on their premises. He also expressed that new regulations enacted would be more difficult for them to implement immediately. A participant from the same discussion group described the unsatisfactory reports submitted from some companies to DOSH, mentioning:

How many of them actually reported to DOSH? Some of the companies reported zero accidents. Was there really zero accident?... Are you going to get the correct findings?... So, how do you know that these particular workers are actually being well taken care of? (FGD A, P1).

Participant 4 from FGD B expressed his agreement, indicating that some companies did not even implement the basic regulations, such as having a safety policy and a safety committee in their company.

One participant expressed his opinion that most companies would only comply if there were laws and said:

“... Most companies will comply if the law is there. If not, people forget about it... because with the law, if we don't do this, we get fined. Whatever it is,

companies need to comply with that law” (P5, FGD B).

Necessity of Legal Evaluation due to Ambiguities in the Current Laws and Regulations. Some OHDs suggested enthusiastically the need to evaluate the current laws and regulations. A participant from FGD A, who had more than 10 years of experience working as an OHD, suggested a law that necessitated a visit by an OHD to offer OHS maybe once in four or six months. He also insisted that occupational health services would not progress if they were not regulated. He further expressed that DOSH should establish a new regulation to protect the OHDs from contract termination when they reported occupational diseases to DOSH.

On the other hand, a male participant from FGD C expressed his concerns, specifically on the need to review certain regulations. He stated:

“... There are millions of chemicals. Each chemical is different. How are you going to conduct the best surveillance for the workers? For me, that is impossible... unless you have a database constantly updated, as compared to the current one, like schedule 1 and schedule 2” (P4).

A similar opinion was also stated by OHD 4 as he expressed that the current legislation although was sufficient, should be improved with certain regulations.

DISCUSSION

The OHDs’ role in providing OHS services to the industries is vital to manage and maintain workers’ physical and mental well-being. Currently, to the authors’ knowledge, this study was the first qualitative study in Malaysia to explore, consolidate, and portray the OHDs’ perspectives regarding the challenges they faced when administering OHS services in the industries. Identifying these challenges will serve to facilitate the development of novel policies and may improve OHDs’ current practices.

From the exploration of the ideas and opinions of the participants, three themes emerged: difficulties in diagnosing occupational diseases and poisoning; poor practices, attitudes, and commitment by both workers and employers; and non-compliance with laws and regulations related to the industries. From the list of themes, these challenges were discussed accordingly. The present study found numerous challenges experienced by OHDs while providing services in the four Malaysian states examined in this study. These challenges were derived from the workers, employers, and even from DOSH officers.

Difficulties in Screening Occupational Diseases and Poisoning

The current study found that OHDs had difficulties associating exposure to hazards at the workplace with occupational diseases. Based on the participants’ opinions, these difficulties are due to the lack of knowledge

and experience in providing the services. Both previous and present studies point out that OHDs face many hurdles in giving proper screening of occupational diseases and poisoning (Lenderink et al., 2010). The results from previous studies by Rosenman et al. (1997) and Kwon et al. (2015) are in agreement with the current study that the underreporting of occupational asthma is due to OHDs not being aware of the symptoms related to occupational asthma. They are also unfamiliar with the diagnosing procedure, leading to failure to associate the disease with work-related exposures. With the support from the stakeholders, opportunities to practice need to be created for OHDs to improve their knowledge and experience as suggested by one of the participants. The study by Los et al. (2019) gave a similar suggestion that the knowledge and skills of OHDs could be improved with more trainings and instructions on workers' health surveillance.

Based on discussions with the participants of the study, it is difficult to confirm workers' occupational health-related conditions, as there is a lack of standardized tools to screen occupational diseases. Consequently, the incidence of occupational diseases is underreported. For example, there was no consensus among the OHDs as to the usage of standardized and validated screening tools to screen musculoskeletal disorders. Previous research has underscored the importance of continual improvement of standardized procedures in screening, diagnosing, and reporting occupational diseases (Spreeuwerts et al.,

2008). A study by Boschman et al. (2017) urged the development of step-by-step guidelines with comprehensive information and additional educational approaches, such as professional meetings and case histories, to support OHDs in their decision-making regarding occupational diseases. Spreeuwerts et al. (2010) proposed evidence-based guidelines development with proper trainings for OHDs to possibly improve the quality of occupational disease reporting.

The term 'believe' in NADOPOD 2000 regulation (Malaysian Occupational Safety and Health Act [OSHA], 1994) has become a conflictive issue in occupational disease notification among the participants. The current study found that OHDs had differing perceptions of the word, leading them to seek various qualifiers before they notified DOSH. Most OHDs assigned to industries found themselves in a tight situation and would prefer the employers to notify DOSH. Companies often insisted on confirming the diagnosis rather than using the screening results to notify DOSH as mentioned in the discussion among the participants. These obstacles may cause underreporting of occupational diseases and poisoning, and delay the course of action from DOSH. It is vital to have consistency among the OHDs to determine when they should report to the DOSH about a case of occupational disease. Previous study also suggested the importance of uniformity in enforcing the laws and regulations between individual OSH inspectors, and between the local government offices (Niskanen, 2015).

Behaviour of the Industries

This study found that the cooperation from industry was poor when OHDs offered their services. Employees were also reluctant to provide proper information during consultation with OHDs. According to Azaroff et al. (2002), this scenario may be due to the fear of disciplinary actions taken by the employer if they reveal the truth about their exposures at work. However, in accordance with Reese (2015), the current study recommended employees to disclose information regarding their work-related exposures to OHDs to ensure proper execution of OHS.

Employees awareness was also discussed by the participants in this study. Most of the workers are not aware of the hazardous exposures involved in their jobs. They are not properly informed, instructed and trained on hazards and safety procedures involved with their jobs (Lucchini & London, 2014). Lenderink et al. (2010) mentioned that workers were likely to lack knowledge and to fail to recognize that they were unhealthy. A prior study concluded that many workers were ignorant of hazardous exposures and poor working environment (Singh & Sekhon, 2018). They suggested that workers should be more adequately instructed, and their health should be monitored annually.

The study found that most SMEs were not aware of the requirements in OSHA 1994 and Factories and Machinery Act 1967. Furthermore, the participants of this study were also in agreement that the SMEs had insufficient resources to implement the

OSH regulations. This result is in line with a previous study, in which SMEs have poor OHS management due to a lack of manpower, financial, and substantive resources (Zhang & Zuo, 2012). Hasle and Limborg (2006) found that SMEs were unable to fulfil the legislative requirements for prevention and control of OHS as they had limited resources and financial constraints for implementing control measures in accordance with legal requirements.

Compliance with Legal Requirements

Factors related to legal requirements that emerged from the study were the lack of enforcement, the need for evaluating the laws, and the scarcity of compliance among the industries. This research finding revealed that the lack of enforcement was possibly due to a shortage of DOSH's human resources. Rampal and Nizam (2006) also stated that inspection of the workplaces all over the country could be hindered due to the lack of DOSH personnel. The current study saw the need of increasing the number of DOSH officers in order to conduct a proper enforcement of occupational safety and health laws and regulations. It is essential to have appropriate human resources management in order to provide high quality health services (Kabene et al., 2006; Rantanen, 2005).

There are no specific OHS regulations in Malaysia except the requirement for medical surveillance of workers exposed to hazardous chemicals or materials at work (Malaysian Factories and Machinery Act [FMA], 1967; OSHA, 1994). Unlike

Malaysia, the Netherlands and Japan have legal requirements that compel industries to hire OHDs to provide OHS although there are differences in service patterns between the two countries (Moriguchi et al., 2010). Martinsson et al. (2016) also corroborated regarding the legislation of OHS, highlighting the commitment from employers to comply and implement OHS.

Strength and Limitation

Due to the qualitative nature of the findings, it was not possible to achieve the information generalization beyond the scope of the subjects who participated in the study. This study was only limited to an exploration study and was not representative of the whole population. Despite achieving the participants' homogeneity, the study's result might be affected by the expanding of interests and opinions of each participant as it might be different based on their working areas, working environment and experience. However, the results generated could provide an insight to the researchers, practitioners, labour unions, and various government agencies pertaining to the situations and problems faced by the OHDs as a part of the OHS system in the country. Based on the results of this study, a quantitative survey was conducted among OHDs in Malaysia to comprehend the magnitude and full burden faced by them in providing their services; this would be reported elsewhere.

CONCLUSION

The study concluded that there were various challenges faced by OHDs which contributed to the poor coverage of OHS and low occupational disease reporting in Malaysia. The common challenges among OHDs are the insufficient knowledge and skills to screen the occupational diseases, and the scarcity of standardized procedures which results in difficulties to conclude that a patient may have a disease—occupational or non-occupational. Another challenge is the crucial need for the OHS laws and regulations to be implemented, and a review of the human resources required to enforce the law. Finally, the issue of the industries' behaviours should be addressed, including poor OHS awareness, lack of training, poor cooperation, and financial constraints.

In order to equip OHDs with the required knowledge and skills to make effective decisions in screening for occupational diseases and exposure to hazardous substances, content revision and improvements in the current OHD competency courses are urgently needed. Safety and health experts together with representatives from the government need to arrive at a consensus through joint discussions on the development of standardized tools that can be used by all OHDs and safety professionals. Experts, authorities, and lawmakers need to review the need for OHS requirements, strengthening the government's human resources to cover and monitor the vast number of industries in the country. Furthermore, authorities, OHDs,

and safety professionals need to work together to conduct awareness programs to educate employers and employees on OHS and related matters.

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Perceptions of Parenting Behavior by Adolescents: The Development of the Malaysian Parenting Behavior Inventory

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ABSTRACT

We conducted a study with the aims of examining adolescents' perceptions of their mother's and father's parenting behavior and developing a new Malaysian Parenting Behavior Inventory (MPBI). In Phase One, we recruited 903 adolescents using the proportionate to size sampling technique. The results of the exploratory factor analyses of the MPBI Mother and Father scales revealed four underlying factor structures: Warmth, Monitoring, and Harsh Discipline were somewhat similar to those in past findings and theory, and Indigenous centered on religious and cultural values in parenting. In Phase Two, using an independent sample of adolescents, we replicated the factor structure of Study One

with confirmatory factor analysis, resulting in strong model fit estimates. We conclude that the MPBI has good initial psychometric properties and is culturally influenced. The MPBI may be useful for prevention and intervention programs in clinical and non-clinical settings, including providing valuable information on factors pertinent to parent-adolescent interactions.

Keywords: Adolescent, cultural values, parenting behavior, religious values, scale development

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INTRODUCTION

The literature on adolescent development has implicated family and parenting processes as agents for socialization (Janssens et al., 2015). As such, numerous researchers have investigated how parenting affects adolescents' psychological, social, and cognitive outcomes (e.g., Afriani et al., 2012; Hoskins, 2014; Jafari et al., 2016; Keshavarz & Baharudin, 2013; Smokowski et al., 2015; Yap & Baharudin, 2016). Considering the salience of parenting in predicting child outcomes, multiple measures of parenting behaviors have been developed. However, the evaluation of parenting has posed difficulties because of theoretical discrepancies, issues with psychometric properties, and generalizability of extant parenting measures (Reid et al., 2015). Additionally, various parenting dimensions have been identified, resulting in little agreement on how to optimally assess parenting behaviors. A prominent conceptualization of parenting is Baumrind's (1991) parenting style typology (i.e., authoritative, authoritarian, permissive, and rejecting-neglecting) derived from two dimensions, namely, demandingness and responsiveness. Parent and Forehand (2017) suggested three key parenting aspects: warmth, behavioral control, and hostility. In a review by Skinner et al. (2005) of over 40 parenting measures, six dimensions were identified: warmth, chaos, rejection, coercion, autonomy support, and structure.

Despite variations in parenting features, there is a consensus among scholars that parenting is multidimensional. Hence, studies

can benefit from an assessment tool that evaluates multiple dimensions of parenting (Skinner et al., 2005). Nevertheless, none of the current measures solely assesses the multidimensionality of parenting, such that, the use of one parenting measure would still require employing another to evaluate both positive and negative features (Parent & Forehand, 2017). Although with no intention of replacing existing measures, the development of a multidimensional parenting measure with sound psychometric properties may be considered as a novel effort to improve parenting measurement.

In Malaysia, parenting behaviors have been assessed using measures originally developed based on a Western, white middle-class population, such as, the Parental Authority Questionnaire (Buri, 1991), Parent-Child Relationship Survey (Fine et al., 1983), and Parental Nurture Scale (Buri, 1989). While Asian researchers commonly use such established instruments for convenience, doing so could provide erroneous or confusing information. With the exclusive use of Western parenting constructs, researchers might be imposing a framework which leaves out primary associations in non-Western cultures (Stewart et al., 1999). Baumrind's (1966) parenting style model is still widely utilized in Asian studies. However, a parenting style that is viewed as authoritarian by Western parents is commonly associated with positive parenting among Asians. For instance, Filipino parents practice parental authority and control that demand obedience from their children, fulfilment of family

obligation, and family cohesion (Alampay, 2014). Chinese parents likewise tend to express their love and support by controlling and governing their children (Chao, 1994) and less through affection (Wu et al., 2002). Therefore, researchers must consider the cultural uniqueness of non-Western parenting behaviors for child socialization (Hulei et al., 2006). Nonetheless, there is still a scarcity of culture-specific and indigenous Asian parenting constructs in the literature (Kim & Wong, 2002).

Attempts though have been made to develop instruments to measure non-Western parenting. Chao (1994) designed a 13-item scale that assessed *chia shun* or “training,” which is an indigenous form of socializing a child characterized by high parental involvement, care, and physical closeness, but still granted parents the authority to establish a standard of conduct. This instrument was based upon an indigenous concept of parental control for the Chinese that is rooted on Confucian traditions, called *guan*, which demonstrates that “parental care, concern, and involvement are synonymous with a firm control and governance of the child” (Chao, 1994, p. 1112). In contrast, Stewart and colleagues (1999) designed a parenting behavior scale that measured universal dimensions (i.e., warmth and dominating control) as well as indigenous items (i.e., shame, family honor, and public opinion) which characterized Pakistani parents. Similarly, Lieber and associates (2006) developed the Chinese child-rearing beliefs questionnaire (CCRBQ) which identified four dimensions

of parenting, two of which were imported from Western parenting concepts (i.e., autonomy and authoritative) and another two that are indigenous to Chinese culture (i.e., training and shame). A number of measures have also been developed to capture an indigenous parenting behavior specific to Korean Americans, called *ga-jung-kyo-yuk*, which emphasizes parental role-modeling, child-rearing practices, respect for parents, family hierarchy and family ties (Choi et al., 2013). Basically, these indigenous parenting concepts and instruments demonstrate cultural beliefs, values, and traditions of Asian parents.

Correspondingly, past literature has revealed that Malaysian parenting behavior is guided by culture (Raj & Raval, 2013). Malaysia, which comprises the Malays (70%), the Chinese (23%), Indians (7%) and Others (1%), has its distinctive culture, including traditions, religion, and language. Malays are predominantly Muslims, while the Chinese are either Buddhists or Christians, and the Indians are mostly Hindus. Nonetheless, Malaysian families share parenting principles in which the values of the family and religious beliefs form the core foundation of parenting (Hossain, 2014). Furthermore, as Malaysia is a relatively collectivist community, the parents, regardless of ethnicity and religion, share collectivist socialization goals that emphasize interdependence and family harmony, deference to the group, and parental authority (Raj & Raval, 2013). These goals are different from those in Western cultures that encourage

independence and autonomy to be effective members of individualistic societies. Given the relevance of religion and other cultural practices to Malaysian parenting, a novel instrument that assesses and captures such indigenous parenting behaviors unique to Malaysians is much needed.

The source of information about parenting behaviors is an equally important component of scale development. Some measures were developed from the parents' perspectives, while others were based on adolescents' perceptions of their parents. There may be discrepancies between parents' self-reporting and adolescents' perceptions of parenting behaviors. Earlier studies have documented that parents tend to evaluate their parenting behaviors as positive (Barry et al., 2008), whereas adolescents in the midst of pursuing their self-identity, autonomy, and independence may show less favorable perceptions of parenting behaviors (Leung & Shek, 2014), especially when their parents fail to exhibit favorable parenting changes that support the autonomy that they need (Wray-Lake et al., 2010). Due to such parent-adolescent discordance in reports of parenting behaviors, employing multiple informants seem to be ideal. Nevertheless, adolescents are deemed reliable and valid sources of information about their parents' parenting behaviors (Huang et al., 2019) inasmuch as they already have a more mature cognitive capacity for perspective taking as well as critical thinking (Steinberg & Morris, 2001). Generally, there is some evidence to indicate that adolescents can provide credible information about their parents' parenting behaviors.

In sum, there is a need to develop a multiple dimensional parenting measure for Malaysian parents. Furthermore, identifying the item content of a novel culturally relevant measure that reflects the current perceptions of parenting among Malaysian mothers and fathers and assessing its psychometric properties is vital.

The Present Study

This study aimed to develop the Malaysian Parenting Behavior Inventory (MPBI) based on adolescents' perceptions. This study was conducted in two phases. In Phase One, we describe the development of the MPBI and the underlying factor structure using exploratory factor analysis (EFA). In Phase Two, we perform a confirmatory factor analysis (CFA) to replicate the factor structures obtained in Study One using a new and independent sample of adolescents.

Phase One

Method.

Participants. Adolescent (N=903) from four selected states (i.e., Perak [N=179000; n= 371; cluster size = 10], Wilayah Persekutuan Kuala Lumpur [N= 84810; n=195; cluster size = 5], Terengganu [N= 91739; n=200; cluster size = 6] and Malacca [N=60632; n=137; cluster size = 4]) representing north, central, east and south of Peninsular Malaysia were selected using the proportionate to size sampling technique. This technique involved selecting clusters with no equal probabilities, but with probabilities proportionate to the cluster size

as measured by the number of units to be subsampled (Babbie, 2017). Adolescents' age spanned from 13 to 19 years ($M= 14.43$ years, $SD= 1.31$) and females (56.0%) slightly outnumbered males. There were more Malays (68.9%) compared to other races [Chinese (16.4%), Indian (13.5%), and Others (1.2%)].

Procedure.

Initially, established instruments for measuring parenting behaviors which are suitable for adolescents were compiled. Permissions to utilize existing measurements were obtained from the respective authors. These measurements were translated using a forward-backward translation method. The items were first translated from English to Malay by experts whose mother tongue is Malay and fluent in English. These items were then back translated to English by different experts to ensure consistency in the content of the measure.

Before data collection, we sought permissions from the relevant authorities which includes the Ministry of Education Malaysia, State Education Departments, and schools. Permission from the Ethics Committee for Research Involving Human Subjects Universiti Putra Malaysia (JKEUPM) was also acquired. After obtaining clearance from the respective authorities, we randomly selected two schools to pre-test the questionnaire.

Based on the pre-test, minor revisions were made on the questionnaire prior to conducting the main study. The questionnaires were circulated to the

students at the selected school. Students who agreed to participate in the study were requested to fill in a consent form prior to answering the questionnaire. Completed questionnaires were collected during class hours.

Instrument.

Malaysian Parenting Behavior Inventory (MPBI).

We constructed the MPBI based on a review of the literature on the extant measures of parenting behavior and by considering the unique aspects of parenting in Asian cultures. Parenting behaviors pertain to goal-directed and concrete child-rearing strategies and parental duties (Deković et al., 2003). Initially, we selected a range of measures commonly used in measuring adolescents' perception of parenting behaviors: 42-item Alabama Parenting Questionnaire (Shelton et al., 1996); 30-item Childrens' Report of Parental Behavior Inventory (Schludermann & Schludermann, 1988); 25-item Parental Bonding Instrument (Parker et al., 1979); 78-item Parent-Child Relationship Inventory (Gerard, 1994); 32-item How I am Raised (Alvarez, 2007); 45-Ghent Parental Behavior Scale (Van Leeuwen & Vermulst, 2004). From these six measures, 252 items were pooled and reviewed by experts in the field of family parenting and psychology by examining the item accuracy, transparency, duplication, and understandability. Duplicate items were removed, with the remaining items grouped thematically (e.g., all items that represented warmth were placed in the same group).

Next, items were reworded to make them as succinct and clear as possible. Based on the themes, four dimensions that reflected the parenting behavior of Malaysian parents were developed: 1) warmth, referring to parents' behavior of making a child feel loved and accepted; 2) monitoring, referring to parents' efforts in expressing their interest and attention towards their child's whereabouts and activities; 3) harsh discipline, which involves parents' verbal scolding, psychological force, or physical punishment; 4) indigenous behavior, which incorporates cultural and religious aspects of parenting.

Each section of the MPBI was developed independently and can stand alone. The condensed 69-item MPBI was then pre-tested on a sample of 120 adolescents to identify any possible problems (e.g., item wording, ease of understanding, and the way in which the participants read and answered each item). Based on their feedback, 39 items were retained to assess the parenting behaviors of Malaysian parents. These items were reviewed for language reliability by two experts (academicians in the field of family parenting and psychology) who carried out the forward-backward translation procedure. Seven items were dropped because of redundancy or ambiguity. The final versions of the mother and father scales of the MPBI were composed of 32 items each across four dimensions (Warmth [10 items], Monitoring [5 items], Harsh Discipline [6 items], and Indigenous [11 items]) and were rated on a five-point

Likert-scale (0=Never to 4= Very often). Considering the response options, a higher cumulative score for a subscale suggests that the respondent more frequently experienced the indicators of that subscale.

Parental Bonding Instrument (PBI). The 25-item Parental Bonding Instrument (PBI; Parker et al., 1979) was utilized to measure parent-child bonding behavior. Participants provided separate responses for their mothers and fathers using a four-point Likert scale from 0 (very unlike) to 3 (very like). The PBI contains two subscales termed 'care' and 'overprotection'. To categorize parents into different parenting bonding groups, both care and overprotection dimensions were dichotomized into high and low groups based on the median scores. For mothers, the median scores for care and overprotection were 27 and 13.5, respectively. For the fathers, the obtained median score was 24 for care and 12 for overprotection. After dichotomization of both dimensions, parents were assigned to four different quadrants. The first quadrant was affectionate constraint, which indicated high scores on both care and overprotection. Parents with high overprotection and low care were categorized into the affectionless control quadrant. Meanwhile, parents with high care and low overprotection were categorized into the optimal parenting quadrant, and parents with low care and low overprotection were categorized into the neglectful parenting quadrant.

Parent's Report (PR). The 56-item Parent's Report (PR; Dibble & Cohen, 1974) scale was designed to measure adolescents' perceptions of their parents' parental behavior. For this study, only 23 items were used and rated using a 7-point scale ranging from 0 (never) to 7 (always). Items 2, 6, 7, 10, 11, 13, 14, 16, 21 and 22 were inverse items. Higher scores indicated a higher quality of perceived parental behavior.

Results and Preliminary Discussion

Demographic Characteristics of Families. Most of the participants had middle-aged parents ($M_{\text{mother}}=43.68$, $SD=6.06$; $M_{\text{father}}=47.72$, $SD=6.41$) who were moderately educated. Approximately 62% of the participants belonged to a moderate size family ($M=4.14$, $SD=2.01$). Also, most majority (94%) of the participants came from intact families, and only 6% of the participants were from non-intact families due to the death of a parent, divorce or separation. Nearly all (90.8%) of the participants lived with their biological parents, while those who did not rated their caregiver's (i.e., grandparents, foster parents, or external family members) parenting behavior.

Exploratory Factor Analysis. Several steps were performed to investigate the psychometric properties of the MPBI. Firstly, principal axis factoring with oblique rotation (oblimin) was performed on the original 39-item MPBI Mother and Father scales completed by 903 adolescents. Before performing EFA, the data were first screened

for assumptions of normality. Skewness (mother = $-.94$; father = $-.62$) and kurtosis (mother = 1.53 ; father = $.45$) statistics were examined to identify univariate and multivariate normality. Additionally, outliers were identified using a Mahalanobis distance criteria of $p < .001$. The Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy (Gorsuch, 1983) (mother = $.94$; father = $.96$) and Bartlett's Test of Sphericity (mother: $X^2=17346.95$, $df=741$, $p=0.00$; father: $X^2=22803.73$, $df=741$, $p=0.00$) were tested and both indicated that the MPBI scales were suitable for factor analysis.

Initial analysis indicated that one item from the Mother scale was removed due to low communality ($< .30$). The remaining items on both the Mother and Father scales were subjected to another EFA. Based on eigenvalues greater than one, a scree plot, and interpretability, a four-factor solution was generated for both the MPBI Mother and Father scales. To obtain a four-dimension structure that permitted meaningful comparisons of mothers and fathers parenting behavior, we selected items that had the highest loading on the expected factors for both parenting behaviors. Hence, seven items (two from Harsh Discipline and five from Monitoring) were excluded from further analyses.

Initially, the evaluation of eigenvalues greater than one indicated that the Mother scale yielded a five-factor solution. However, the scree plot suggested four- to five-factor solutions for the Mother scale. Hence, a parallel analysis (PA; Horn, 1965) was performed to aid in factor retention. Random data sets with similar

size and number of variables as the actual data set were generated based on raw data permutations (Dimitrov, 2012). A comparison was then made between the eigenvalues computed from the analysis and from the actual data. The analysis indicated that four eigenvalues from the raw data were above the 95th percentile estimates but were lower than eigenvalues from the actual

data. Therefore, the four-factor solution was supported as it yielded a simple, interpretable factor structure (see Table 1). Each factor contained items with loadings .40 and higher, as items below this value were discarded. Field (2013) recommends suppressing factor loadings less than 0.3 as loadings greater than 0.4 are considered as more stable.

Table 1
EFA of the 32-item MPBI mother scale

Items	Factor 1	Factor 2	Factor 3	Factor 4
1. Praise you.	.705			
2. Say I love you.	.774			
3. Hug and kiss you.	.677			
4. Say thank you to you.	.635			
5. Motivate you.	.420			
6. Spend time listening, talking, laughing or playing games with you.	.562			
7. Comfort you when you are upset or in trouble.	.734			
8. Ask you about how your day went.	.647			
9. Help you do something that is important to you.	.569			
10. Help you to solve a problem or make a decision.	.545			
11. In a given day, your parents know your whereabouts.		-.745		
12. Know whom you are with whenever you go out of the house.		-.740		
13. Know that you have come home at the expected time.		-.733		
14. Know who your friends are.		-.606		
15. Control your every activity.		-.474		
16. Scold you.			.630	
17. Scream or yell when angry at you.			.758	
18. Criticize you or your views.			.759	

Table 1 (Continued)

Items	Factor 1	Factor 2	Factor 3	Factor 4
19. Argue with you about something that he/she does not agree with.			.782	
20. Threaten to punish you for your wrongdoing without actually doing it.			.597	
21. Nag you for your wrongdoing.			.581	
22. Teach you to respect elders.				.638
23. Remind you that family must come first.				.551
24. Teach you to be polite to others.				.589
25. Emphasize that you should not embarrass your family.				.655
26. Advise you to take care of interaction boundaries with male and female friends.				.585
27. Teach you based on the teachings of your religion				.818
28. Instill in you to remember God.				.878
29. Remind you about rewards and sin.				.865
30. Remind you to pray to God during good and bad times.				.857
31. Ensure that you obey religious rules.				.863
32. Remind you to be thankful and love God in all situations.				.822

The total variance obtained for the four-factor solution of the MPBI Mother scale was 55.2%. Their respective eigenvalues were 30.9 (Factor One), 10.8 (Factor Two), 8.3 (Factor Three) and 5.2 (Factor Four). The factor correlation matrix (see Table 2) between the four factors was found to be low, suggesting that the factors did not measure the same concept. The results revealed that Factor One and Two were correlated at .37, Factor One and Three at -.13, Factor One and Four at .36, Factor Two and Three at -.06, Factor Two and Four at .36 and Factor Three and Four at -.03.

In total, ten items with values from 0.42 to 0.77 loaded on Factor One. As items on this scale represented affection and warmth in maternal behavior, it was named Warmth. The second factor comprised five items that moderately loaded with values from 0.55 to -0.75. This factor was named Monitoring, as the items measured how mothers observed, expressed concern, and monitored adolescent's activities. The third factor was labeled Harsh Discipline, as the items were related to verbal, emotional, and physical punishment. The six items' loading on the third factor ranged in value

Table 2
Component correlation matrix of the MPBI mother and father scales

Component	Mother				Father			
	1	2	3	4	1	2	3	4
1	1.000				1.000			
2	.372	1.000			.477	1.000		
3	-.133	-.058	1.000		-.000	-.094	1.000	
4	.363	.353	-.030	1.000	.446	.453	-.039	1.000

from 0.58 to 0.78. The last factor was named Indigenous Behavior, in which the item loadings ranged from 0.55 to 0.88, centering on cultural and religious issues.

Similar analyses were performed for the MPBI Father scale. The results in Table 2 reveal that factors One and Two were correlated at .48, factors One and Three were correlated at -.00, factors One and Four were correlated at .45, factors Two and Three were correlated at -.09, factors Two and Four were correlated at .45, and factors Three and Four were correlated at -.04.

Based on the initial analysis, one item was removed due to having low communality of less than .30. The remaining items were subjected to another EFA. Inspection on the eigenvalues, scree plot, and PA yielded a four-factor solution for the MPBI Father. The total variance obtained for the four-factor solution was 62.9%. Their eigenvalues were 36.2 (Factor One), 11.4 (Factor Two), 9.9 (Factor Three) and 5.4 (Factor Four). Based on the cut-off point of .30, 10 items loaded on the first factor, five items loaded on the second factor, six items loaded on the third factor, and

11 items loaded on the fourth factor. The factor loadings of the items are presented in Table 3.

To cross-validate the four-factor structure obtained in EFA, the 32-item MPBI Mother scale was subjected to CFA using data from Phase 1. To evaluate the fit of the model, recommended common criteria were used: χ^2 , the comparative fit index (CFI) and Goodness of fit index (GFI) > .90, root mean square error of approximation (RMSEA) < .08 (Hu & Bentler, 1999). Figure 1 presents the CFA of the four-factor structure of the MPBI Mother scale.

The results based on the maximum likelihood procedures suggested that this model provided an inadequate fit to the data, $\chi^2=2388.89$, $df=458$, $\chi^2/df=5.32$, $p < .001$; CFI = .87; GFI = .83; RMSEA = .07. Further inspection on the model revealed that by allowing some error terms to covary between the Warmth and Indigenous factors could improve model fit. As the covariance between items 2 and 13 from the Warmth factor was consistent with theory, the path between these items were freed. The model was thus re-examined; however, the fit

Table 3

EFA of the 32-item MPBI Father Scale Confirmatory Factor Analysis

Items	Factor 1	Factor 2	Factor 3	Factor 4
1. Praise you.	-.755			
2. Say I love you.	-.848			
3. Hug and kiss you.	-.817			
4. Say thank you to you.	-.747			
5. Motivate you.	-.541			
6. Spend time listening, talking, laughing or playing games with you.	-.664			
7. Comfort you when you are upset or in trouble.	-.764			
8. Ask you about how your day went.	-.728			
9. Help you do something that is important to you.	-.612			
10. Help you to solve a problem or make a decision.	-.656			
11. In a given day, your parents know your whereabouts.		-.828		
12. Know whom you are with whenever you go out of the house.		-.864		
13. Know that you have come home at the expected time.		-.823		
14. Know who your friends are.		-.725		
15. Control your every activity.		-.541		
16. Scold you.			.694	
17. Scream or yell when angry at you.			.796	
18. Criticize you or your views.			.766	
19. Argue with you about something that he/she does not agree with.			.815	
20. Threaten to punish you for your wrongdoing without actually doing it.			.688	
21. Nag you for your wrongdoing.			.721	
22. Teach you to respect elders.				.738
23. Remind you that family must come first.				.663

Table 3 (Continued)

Items	Facto 1	Factor 2	Factor 3	Factor 4
24. Teach you to be polite to others.				.765
25. Emphasize not embarrassing your family.				.741
26. Advise you to take care of interaction boundaries with male and female friends.				.629
27. Teach you based on the teachings of your religion				.887
28. Instill in you to remember God.				.897
29. Remind you about rewards and sin.				.881
30. Remind you to pray to God during good and bad times.				.921
31. Ensure that you obey religious rules.				.902
32. Remind you to be thankful and love God in all situations.				.849

statistics of the model were still inadequate. Additionally, the modification indices suggested covariance between items 9 and 10 in the Warmth factor. After accounting for this covariance, the re-evaluation of the model was still found to be less desirable. The modification indices were further reviewed, and two pairs of error terms from the Indigenous factor were suggested to covary. Freeing the path between items 29 and 31 of the Indigenous factor, however, still did not reveal a good model fit. Then, the error terms between items 33 and 34 were freed as suggested by the modification indices. An evaluation of the new modified model was performed, and an adequate model fit was revealed. Figure 1 presents the final model with inclusion of these new parameters. The fit of the modified four-

dimensional model significantly improved from the original model ($\Delta\chi^2=558.23$, $df=4$, $p < .01$). Overall, the goodness-of-fit of the modified model was $\chi^2=1830.66$, $df = 454$, $\chi^2/df=4.17$, $p < .001$; CFI = .90; GFI = .88; RMSEA = .06.

The four-factor structure of the MPBI Father scale obtained from the EFA was tested for its goodness-of-fit to the data. Figure 2 presents the CFA of the four-factor structure of the Father scale. The fit indices revealed that the model was inadequately fit to the data ($\chi^2=2352.04$, $df = 458$, $\chi^2/df=5.14$, $p < .001$; CFI = .90; GFI = .83; RMSEA = .07), as the GFI value was less than 0.90. A review of the modification indices revealed that the model fit could have been improved by taking into account covariance between items 29 and

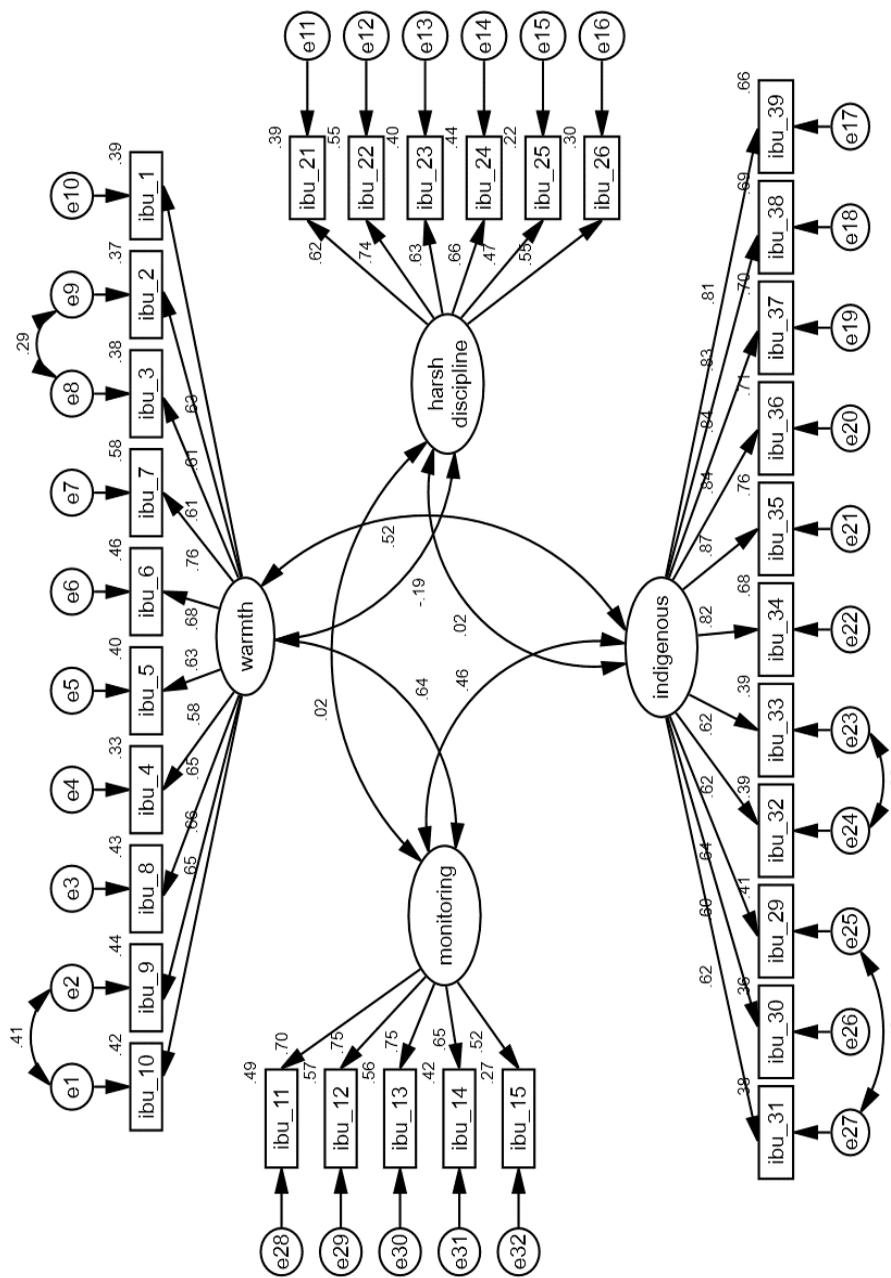


Figure 1. CFA of the four-factor structure of the MPBI Mother scale

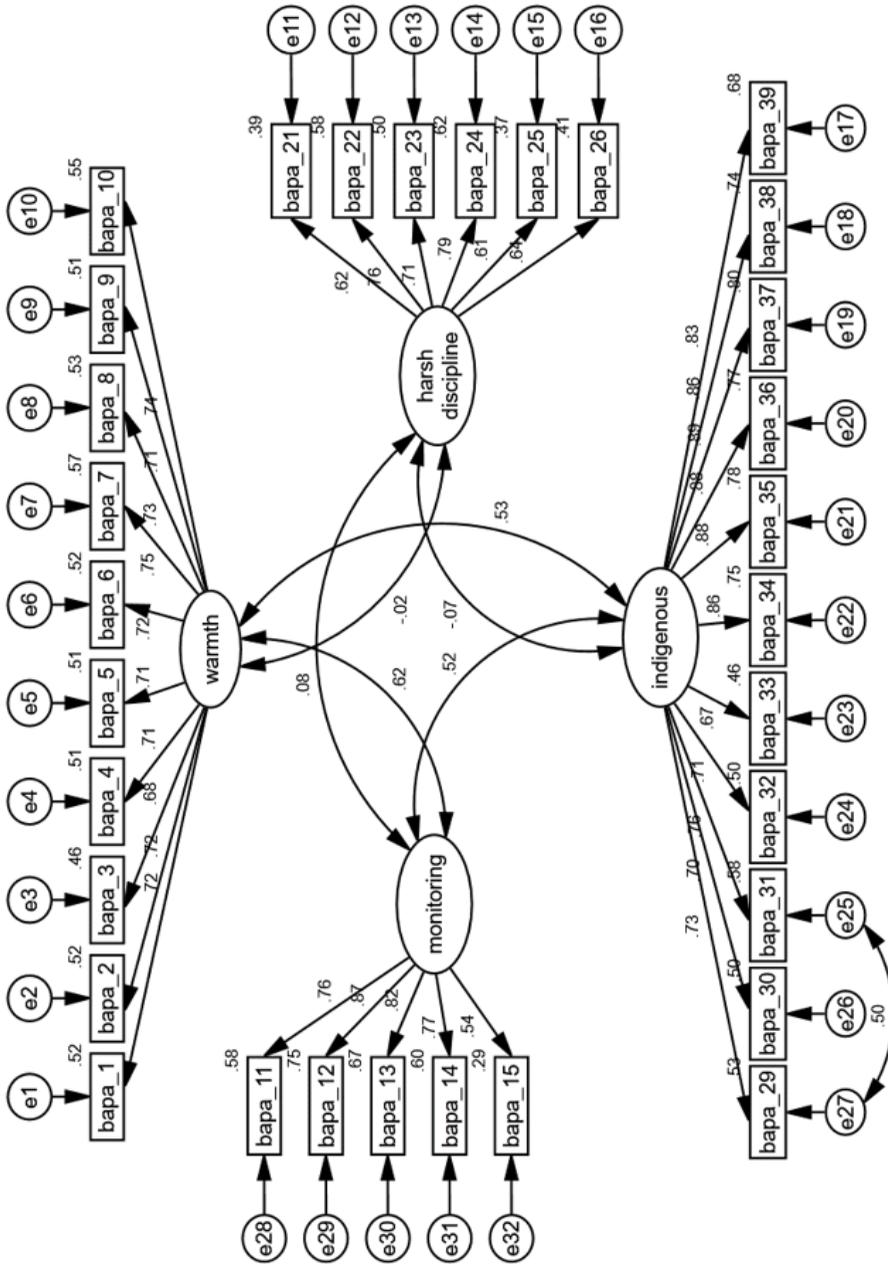


Figure 2. CFA of the four-factor structure of the MPBI Father scale

31 of the Indigenous factor. The model was reassessed, and the fit statistics were found to improve ($\Delta\chi^2=242.84$, $df=1$, $p<.01$). The goodness-of-fit for the modified model was $\chi^2=2109.20$, $df=457$, $\chi^2/df=4.62$, $p<.001$; CFI = .91; GFI = .85; RMSEA = .06.

Construction of Scales. The Cronbach's alpha values revealed moderate to high internal consistency for the overall Mother and Father scales. The internal reliability of the Warmth, Monitoring, Harsh Discipline, and Indigenous factors were 0.88, 0.80, 0.78 and 0.93, respectively, for the Mother scale, and 0.92, 0.86, 0.84 and 0.95, respectively, for the Father scale.

Construct Validity. Convergent and discriminant validity are both forms of construct validity. Convergent validity is the extent of different measures of the same construct correlating with one another (i.e., MPBI with PR), while divergent validity is the extent of different constructs diverge or minimally correlate with one another (i.e., MPBI with Overprotection subscale of PBI). To test convergent and divergent validity, the MPBI was investigated in relation to both PR and PBI.

Convergent Validation. Results indicated that the directions and relative magnitude of all correlations were as expected and ranging from small to modest (i.e., .55 between Mother's PR Total Score and Mother's MPBI Warmth; .42 between Father's PR Total Score and Father's MPBI Monitoring). For the MPBI Mother scale,

there were moderate positive relationships between the MPBI dimensions and PR Total Score (Warmth=.55, $p<.01$; Monitoring=.38, $p<.01$; Indigenous=.51, $p<.01$; Total MPBI =.65, $p<.01$), and moderate negative relationship between Harsh discipline dimension and the PR Total Score (-.27, $p<.01$). As items in the Harsh discipline dimension were negatively worded, it was expected to negatively relate to PR Total Score which were positively worded. Similarly, the results of the MPBI Father dimensions displayed a moderate relationship with Father's PR Total Score (Warmth=.58, $p<.01$; Monitoring= .42, $p<.01$; Harsh Discipline= -.30, $p<.01$; Indigenous=.54, $p<.01$; Total MPBI=.70, $p<.01$). Thus, the correlational analysis indicated that the MPBI was appropriately convergent with the PR scale.

Discriminant Validation. The results showed that the correlations between the MPBI Mother scales and the PBI Overprotective subscale were weak (i.e., MPBI Mother: Warmth=-.01, $p>.05$; Monitoring= .09, $p<.01$; Harsh discipline=.15, $p<.01$; Indigenous= .13, $p<.01$; total MPBI= .04). Similarly, the results of the MPBI Father scales displayed a weak relationship between the father's PBI Overprotective subscale and the MPBI dimensions (Warmth= .04, $p<.01$; Monitoring= .16, $p<.01$; Harsh discipline= .22, $p<.01$; Indigenous= .18, $p<.01$; total MPBI= .08, $p<.05$). Overall, the result showed that the MPBI scale had an adequate discriminant validity.

Measurement Invariance. The MPBI was tested across gender (male [n=397] vs. female [n=506]) and age (younger [13-15 years old, n=755] vs. older [16-19 years old, n=148]) of adolescents. Multiple Group CFA (MGCFA) was carried out in three steps to examine the configural (Model 1), metric (Model 2) and scalar invariances (Model 3). In step one, both the MPBI scales were found to have an adequate fit as the data supported the configural validity across sex and age of adolescents (see Table 4).

For step two, differences between the models were examined using χ^2 and CFI value differences as recommended by Cheung and Rensvold (2002), and Meade et al. (2008). Given that $\Delta\chi^2$ test is overly sensitive to large sample size and less

sensitive to lack of invariance compared to Δ CFI, the Δ CFI is used as the primary approach as it is insensitive to sample size and independent of model complexity. Furthermore, it was noted that Δ CFI value of $\leq .01$ would indicate invariance, and if the sample size is greater than 200, differences between groups are inconsequential and analyses could proceed even though the $\Delta\chi^2$ is significant. Based on the analyses, the metric invariance (Model 2) had appropriate fit statistics across the two adolescent groups. Additionally, the Δ CFI value between Model 2 and Model 1 of both the MPBI scales did not exceed 0.01, further supporting metric invariance.

Lastly, examination of the scalar invariance (Model 3) suggested that MPBI

Table 4
Measurement Invariance of the MPBI Mother and Father Scales

	Model	Df	χ^2	$\Delta\chi^2$	RMSEA	CFI	Model Comparison	Δ CFI
	<i>Male vs. Female</i>							
Mother	Full configural invariance	898	2353.13		.042	.901	-	
	Full metric invariance	926	2426.69	73.56	.042	.898	2 vs. 1	.003
	Full scalar invariance	954	2594.11	167.42	.044	.888	3 vs. 2	.001
Father	Full configural invariance	916	2818.51		.048	.901	-	
	Full metric invariance	947	2879.34	60.83	.048	.899	2 vs. 1	.002
	Full scalar invariance	979	3015.54	136.2	.048	.894	3 vs. 2	.005

Table 4 (Continued)

	Model	Df	χ^2	$\Delta\chi^2$	RMSEA	CFI	Model Comparison	Δ CFI
	<i>Younger vs. Older</i>							
Mother	Full configural invariance	902	2333.41		.042	.902	-	
	Full metric invariance	930	2422.91	89.5	.042	.898	2 vs. 1	.004
	Full scalar invariance	958	2479.82	56.91	0.42	.896	3 vs. 2	.002
Father	Full configural invariance	916	2770.50		.047	.904	-	
	Full metric invariance	947	2809.34	38.84	.047	.903	2 vs. 1	.001
	Full scalar invariance	979	2855.89	46.55	.046	.902	3 vs. 2	.001

of both scales had acceptable fit indices. The scalar invariance was further supported by the Δ CFI value between Model 3 and Model 2 in both groups. Therefore, the factor structure of the MPBI Mother and Father scales were stable across sex and age of adolescents.

Latent Mean Differences. To determine the difference in latent mean, we assessed the value of the critical ratio (CR; Tsaousis & Kazi, 2013). Using z-statistics, the CR value was calculated to determine whether the coefficient is significantly different from zero. A CR value of ± 1.96 indicates significant latent mean difference. A positive CR value suggests that the latent mean differences is higher in the comparison group than the reference group. In contrast, a negative CR implies that the latent mean

differences in the comparison group are smaller than the reference group.

Results of the CR value for the MPBI Mother scale indicated that female adolescents scored higher than males in the Monitoring (CR=2.13) and Indigenous (CR=3.22) factors but scored lower in Harsh Discipline (CR=-5.81). In terms of the Warmth (CR=-1.47), no significant mean differences between males and females were evident. Similarly, the CR value indicated no significant differences between younger and older adolescents in the Warmth (CR=1.84), Harsh Discipline (CR=0.63), or Indigenous (CR=8.44) factors. In contrast, there was a significant difference between younger and older adolescents in Monitoring (CR=2.40).

For the MPBI Father scale, females had higher mean scores than males in the

Indigenous (CR=3.22) and Monitoring (CR=2.13) factors but lower mean scores than males in Harsh Discipline (CR=-5.81). On the other hand, there were no significant differences between female and male adolescents in Warmth (CR=-1.47). When comparing the latent means across age groups, there was no significant differences between younger and older adolescents in Warmth (CR=-.408), Monitoring (CR=1.18), Indigenous (CR= 0.77), or Harsh Discipline (CR=-1.60).

Phase Two

The general aim of the second study was to validate the factor structure of the MPBI that was developed in Study One. To establish generalizability, a scale developed within a particular sample needs to be tested against a different sample (Thompson, 1996). As the MPBI was initially explored and evaluated using adolescents in Phase 1, it is important to validate the results with an independent sample. Furthermore, replication is necessary for psychological research (Cohen, 1994). Thus, Study Two was conducted to replicate the factor structure of the MPBI using an independent sample of adolescents.

Method and Procedure

Participants. A total of 968 adolescents aged 13 to 19 ($M=14.25$ years, $SD=1.00$) participated in the study. Slightly more than half (51.1%) of the participants were females. A large proportion (72.5%) of the participants were Malays, followed by Chinese (19.6%), Indian (6.3%) and Others (1.7%).

Procedure. Study Two followed the same procedures as Study One. After obtaining ethical approval from the required agencies, the same questionnaires used in Study One were distributed and completed by participants at selected schools. It contained the 32-item MPBI developed in Study One and other documents such as instructions sheets outlining ethical issues. The reliability of the four-factor MPBI Mother scale was as follows: Warmth $\alpha = .87$, Monitoring $\alpha = .77$, Harsh Discipline $\alpha = .77$, and Indigenous $\alpha = .93$, while the corresponding values for the Father scale were Warmth $\alpha = .93$, Monitoring $\alpha = .88$, Harsh Discipline $\alpha = .85$, and Indigenous $\alpha = .96$.

Results and Preliminary Discussion

Demographic Characteristics of Families. Overall, the participants had middle-aged ($M_{\text{mother}}=43.89$, $SD=6.06$; $M_{\text{father}}=47.58$, $SD=6.93$) parents with average education. Participants came from families that were moderate in size ($M=4.17$, $SD=1.94$). Most of the participants came from intact families (90.1%) and lived with their biological mother and father (87%).

Confirmatory Factor Analyses. CFA were computed to establish whether the factor structure of the 32-item MPBI Mother and Father scales was successfully replicated in the data from Study Two. For the Mother scale, the CFA indicated that the model had an inadequate fit to the data ($\chi^2=2437.17$, $df=458$, $\chi^2/df=5.32$, $p < .001$; CFI = .86; GFI = .84; RMSEA = .07). A review of the modification indices indicated that the model fit could be improved by considering

covariance in some of the error terms in the Warmth and Indigenous factors. The two pairs of error terms in the Warmth factor that were suggested to covary were items 2 and 3 as well as items 9 and 10. In the Indigenous factor, items 29 and 31 and items 33 and 34 were suggested to covary. The fit of the modified model was a significant improvement over the initial model ($\Delta\chi^2=542.43$ $df=4$, $p < .01$). The overall goodness-of-fit of the modified model was $\chi^2=1894.74$, $df = 454$, $\chi^2/df=4.17$, $p < .001$; CFI = .92; GFI = .88; RMSEA = .06.

In terms of the MPBI Father scale, the CFA revealed that the four-factor structure of the MPBI Father had an adequate fit ($\chi^2=3157.58$, $df = 458$, $\chi^2/df = 6.90$, $p < .001$; CFI = .89; GFI = .80; RMSEA = .08). Inspection of the modification indices revealed that allowing covariance between the error terms for several items could improve model fit. Similar to the analysis of the mother scale items, a pair of error terms (items 29 and 31) from the Indigenous factor was suggested to covary. The fit statistics revealed that the resultant model had an adequate fit to the data, with a significant improvement in model fit ($\Delta\chi^2=360.20$, $df=2$, $p < .01$). The overall goodness-of-fit for the modified model was $\chi^2=2797.38$, $df = 456$, $\chi^2/df=6.14$, $p < .001$; CFI = .90; GFI = .83; RMSEA = .07.

In conclusion, the CFA results of both the MPBI Mother and Father scales supported the proposed four-factor model and replicated the CFA results from Study One.

Discussion

The goal of the present study was to develop a measure that enables Malaysian adolescents to report their perceptions of their parent's parenting behaviors. Many parenting behavior measures exist but have mostly been developed based on normative parenting behaviors observed in Western cultures. As past research has suggested that parents from different cultural groups vary in terms of socialization goals and practices (Hulei et al., 2006) and that not all these practices may be adaptive or appropriate (Keats, 2000) to Asian parents, specifically Malaysian parents, the primary goal of this study was to develop a new parenting behavior measure that was culturally sensitive to the characteristics of the Malaysian population. Overall, the results indicated that the goals of the present study were achieved. The four-factor MPBI was reliable, consistent with existing models of parenting behaviors, and structurally similar for adolescent girls and boys regardless of age. Importantly, the measurement structure of the MPBI was replicated and validated in a different adolescent sample.

The MPBI consisted of a Mother and a Father scale with similar items to allow meaningful comparisons of mothers and fathers parenting behavior. Despite past literature documenting evidence of differences in maternal and paternal parenting behavior, studies have shown that maternal and paternal parenting varies based on the quantity rather than the quality of different behaviors, whereby the core constructs of parenting behavior between a

mother and a father are overall similar and differ mostly in terms of content (Fagan et al., 2014).

Each of the MPBI scale had four underlying factor structures that were supported by CFA. Three of these factors, that is, Warmth, Monitoring, and Harsh Discipline, were named based on classic parenting behavior constructs. Items in the first factor comprised expected warmth items such as saying, "I love you" and showing physical affection. This behavior is like that displayed by Western parents, further emphasizing that warmth is a universal dimension. Similarly, the second factor emerged as having items that portrayed monitoring parenting behavior. It is possible that the monitoring items, such as, controlling of daily activities and knowing the whereabouts of the adolescents, reflect controlling parenting in Western cultures. As defined by earlier research (Hardy et al., 1993), controlling parenting behavior pertains to the amount of control, restrictive attitude, and protectiveness expressed. However, as Asian cultures typically portray restrictiveness and harshness as parental control, the controlling items in the second factor simply reflected the Malaysian equivalent of monitoring.

The third factor of the MPBI comprised items that demonstrated negative discipline. As Asian parenting is more controlling in nature, unsurprisingly, harsh discipline emerged in the study. Harsh discipline has been described as a parental attempt to control a child using verbal violence or physical forms of punishment (Chang et

al., 2003). The fourth factor of the MPBI had items related to indigenous parenting expressed via religious (i.e., reminding adolescents to pray to God during good and bad times) and family practices (i.e., teaching adolescents to respect elders). These unique practices are probably less likely to be captured in parenting measures developed in the West. Most Western parenting behavior measures focus on parental care, involvement, overprotection, encouragement of independence and discipline (Skinner et al., 2005). Western studies that measure parental religiosity related behavior often focus on church affiliation and attendance (Bridges & Moore, 2002; Godina, 2014; Wilcock, 2002).

This study is not without limitations. First, the reliability of the information obtained depended solely on one source. Thus, future work may wish to obtain information from other sources of parenting behavior such as parents' themselves to enhance the validity of the data. In terms of reliability and validity, the present study employed convergent and divergent validity. Test-retest analyses are suggested for future researchers to determine the stability of the constructs measured (Reininger et al., 2003). Although the sample size was large, the findings cannot be generalized to other samples, as this study was restricted to adolescents from a non-clinical sample. It would be helpful for future studies to involve participants from a clinical sample to explore the consistency and accuracy of the MPBI across populations. Future research may want to incorporate the MPBI

in parenting intervention programs targeting parenting skills and strategies in either non-clinical or clinical population. Additionally, other research may look further to examine the utility of the MPBI in assessing the influence of parenting behavior on the psychological health and adjustment of adolescents during this important period of development.

CONCLUSION

This study demonstrates the significance of a culturally sensitive parenting behavior measurement developed with non-Western, particularly Asian, parents. Furthermore, the findings from this study may serve as an impetus for the development of other new and culturally sensitive measures that may contribute to a greater understanding of Malaysian parent-adolescent relationships and thereby the development of effective programs, intervention and policies for families in Malaysia.

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Webinar-Based Capacity Building for Teachers: “Lifeblood in Facing the New Normal of Education”

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ABSTRACT

Webinars as an avenue for professional development training remain to be scarcely explored, impeding the innovations in human resource development, which, if left unresolved, could have detrimental consequences to the professionals and ultimately, the economy. This study responded to this gap by exploring and examining the meanings around webinars as capacity-building for professionals from the point of view of the teachers. Guided by the post-modern, constructivist philosophical stance, interpretive hermeneutic phenomenology research design, and the interpretive analysis of qualitative data, the virtual face-to-face interview of the purposively selected 35 teachers revealed four overarching themes: (1) Webinars as vital space for formal professional deliberations; (2) Webinars as matters of personal, environmental, technical, and financial tolls; (3) Webinars as prevue of what lies ahead in the new normal of education; and (4) Webinars as the lifeblood in facing the new normal of education. Overall, the themes purport that despite the different issues that teachers encountered in the navigation of webinar complexities, their learning and discovery, cultivated connections, and developed hope for the newer education system and continued professional growth in the future, are what makes webinars their lifeblood in facing the new normal of education. These findings can help human resource development personnel craft webinar training plans and protocols that are congruous to the present situations, common interests, and nature of professional teachers.

Keywords: Capacity-building, COVID-19, new normal, phenomenology, teachers, webinar

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INTRODUCTION

As the COVID-19 pandemic continues to create havoc in all sectors of the world’s societies, the governments of many countries are conscientiously implementing

various measures to prevent and control its spread including home-quarantine and social distancing protocols, lockdowns, and surveillance activities among others (Clare, 2020; Kharpal, 2020). As a result, the people's mobility and congregation are restricted to their homes, leaving them to work, learn, and meet via online means (Ali, 2020; Chawla, 2020; Department of Labor and Employment, 2020; Shakya et al., 2020). As for the education sector, alternative academic methods including digital or technology-based approaches are put into place to ensure the continuity of its academic undertakings (Iivari et al., 2020; Li & Lalani, 2020; Lieberman, 2020). Now more than ever, technology has become a necessity for many schools and universities because it offers a quick and sometimes immediate resolution to various issues in education. While policymakers and education leaders are working rapidly for the execution of various alternative academic methods despite the limited time and resources, teachers are experiencing the brunt of it evident from their participation in various webinar-based capacity building training amidst the pandemic (Toquero et al., 2020; Verma et al., 2020).

Digital settings have become increasingly prevalent in education (Gegenfurtner & Ebner, 2019). Webinar-based capacity building or simply known as webinar has emerged as one of the important training platforms for professionals nowadays to acquire knowledge and skills necessary in their line of work since traditional live conferences and face-to-face capability-building activities take a backseat in this time

of the pandemic. A webinar or web-based seminar has almost the same configurations with the face-to-face seminars except that it is conducted over the internet and audio-visual means (Toquero et al., 2020). It is typically done wherein both participants and facilitators communicate live over the internet across distant geographical locations using shared virtual platforms (e.g Zoom, Microsoft Teams) for purposes like professional training, work, conference, lecture, marketing, and education among others. The possibilities that webinars offer have been explored in various scientific studies.

In the meta-analysis and systematic review study of Gegenfurtner and Ebner (2019), it was found out that webinars are more effective than asynchronous learning management systems and face-to-face classroom instruction. Ebner and Gegenfurtner (2019) also discovered that learners' satisfaction in webinars is higher than asynchronous online instruction. The study of Gegenfurtner et al. (2019) also noted that participants across content areas of supply chain management, industrial management, early childhood education, and mathematics had positive reactions to webinars as they offer high levels of geographical flexibility. Indeed, the ubiquity and geographical flexibility are recognizable benefits of webinars that traditional, offline face-to-face interactions hardly offer. Moreover, other advantages were also explored such as cost-effectiveness, accessibility, and convenience (Gegenfurtner & Ebner, 2019; Gegenfurtner et al., 2019;

Lieser et al., 2018) which further the viability of webinars as a supplement for traditional conferences and capability-building training especially in this time of the pandemic (Toquero et al., 2020).

The function of a webinar is intrinsically educational in nature. Both the students and teachers interact synchronously online anywhere, in contrast with the typical asynchronous interaction that various learning management systems provide (Ebner & Gegenfurtner, 2019; McKinney, 2017). During the teaching-learning process done through a webinar session, features can include didactical activities similar to the traditional, offline class such as screen sharing of videos and lecture presentations, facilitating classroom interaction through question and answer, providing real-time feedback, and conducting follow-up analyses and evaluation. These explain the satisfaction and enjoyment of students, lecturers, and educational leaders in webinar participation (Cornelius & Gordon, 2013; Gegenfurtner et al., 2018; Kear et al., 2012; Wang & Hsu, 2008) especially when webinar is integrated in distance education and blended learning programs (Gegenfurtner et al., 2018; Testers et al., 2019). Hence, webinar as capacity building for professionals, albeit needing further exploration (Gegenfurtner et al., 2019), is implicitly presented. While it is noted that webinar has increased its utility in education and viability for training and human resource development, these do not imply the webinar's optimal affordances. This is due to several boundary conditions that can mediate its successful conduct.

Recent studies on the conduct of webinar and online education have indicated different issues such as the technical requirements needed (e.g smartphones, laptops, and software) and those related to internet connectivity and power supply (e.g. Bean et al., 2019; Luongo, 2018; Olesova et al., 2011; Srichanyachon, 2014; Sinha & Bagarukayo, 2019). The characteristics of webinar participants can also be an intervening factor as studies have shown that age and gender (Khechine et al., 2014; Lakhal et al., 2013), motivations, (Barbour & Reeves, 2009), and critical literacies like creativity and flexibility (Kop, 2011) are crucial for online education and webinar success. Another aspect is the environment. Bao (2020) found out that learners have difficulty focusing in their online classes due to a number of distractions in their homes that cause their stress (Händel et al., 2020). Professional teachers share the same experience, specifically, their missing social connection at work instigated by the unusual setup (e.g web-based teaching) (Stadtlander et al., 2017, Stadtlander et al., 2014).

The aforementioned literature and studies generally show how webinar as a special case of web conferencing strongly supports the educational function of teaching and learning as well as its viability for human resource development and training despite several boundary conditions. Scientific studies about webinar are far from adequate (Gegenfurtner et al., 2019) and many problems and issues around it as a form of professional development remain to be unresolved. These gaps could

have detrimental consequences to the citizens and ultimately, the economy. Hence, this study aimed to explore and examine the meanings around webinars as capacity-building for professionals from the point of view of the teachers. Furthermore, this paper aimed to discover how teachers relate the meaning of their webinar participation to the context of implementing the new normal of education. This study sought to answer the following research questions: What is the lived experience of teachers in webinar-based capacity building?; and How do teachers make sense of their experience of webinar-based capacity building training in relation to implementing the new normal of education?

Philosophical Stance

As this study aimed to explore and examine the teachers' standpoint on webinar as a form of capacity-building for professionals and how the meaning of their webinar participation to the context of implementing" the new normal of education, this study adhered to the postmodern, constructivist philosophical stance. It posits that the meaning of reality is created through internal (constructivist) and social (constructionist) processes (Gergen, 2009) wherein the understanding of self and the world is co-constructed from the personal narratives of those who have lived the experience (Angus & McLeod, 2004) and personal interpretation of the interviewer. Thus, it creates a shared meaning of the phenomenon studied. Imbued with this view, researchers adhere to the hermeneutic

approach of inquiry where sense-making of the phenomenon is done through the individual and collective responses (Oxley, 2016). This is consistent with the belief of the researchers that the "truths" being perceived in the world and the current ways of understanding the world are not a product of objective observation, but a product of intertwining social processes and interactions in which people are constantly engaged with. Accordingly, the researchers gather multiple perspectives to produce a kind of truth about webinar participation in times of pandemic through the lenses of all the people participating in the study.

MATERIALS AND METHODS

This study utilized an interpretive hermeneutic phenomenology (IHP) to explore the meanings of webinar-based capacity building from the point of view of the teachers who are making sense of it. IHP is a qualitative methodology used to understand the subjective, lived experience of individuals using an idiographic approach – an in-depth exploration of individual experience – to develop a general claim (Paley, 2018). With the situation of the pandemic that is constantly evolving and decision making is apparently uncertain, the utilization of this kind of phenomenology is viable because it capitalizes on topics that are "complex, ambiguous, and emotionally laden" (Smith & Osborn, 2008). Moreover, the use of IHP for this study is in line with the postmodern, constructivist philosophical stance as this methodology places special importance on the subjectivity, biases,

and prejudices of both researchers and informants of the study. Hence, a shared understanding of the phenomenon under study is achieved through the reciprocal process of interpretation during the in-depth interaction of the researchers with the study's informants (Spence, 2001). Following this can generate in-depth, meaningful findings on webinar participation that numbers and statistics in quantitative design can hardly provide.

The informants of this study are the 35 teachers who were purposively selected through the following criteria: a) teachers who had participated in webinars more than five times intending to be capacitated with fundamental knowledge on the new normal of education; b) teachers who can thoroughly and willingly share their lived-experience in webinars; and c) teachers who perceived webinar as a novel way of capacity-building. All these criteria are necessary to produce a meaningful dialogue about webinars in times of pandemic – a fundamental consideration of sense-making using IHP.

The number of informants of this study was conceived using the tenet of data saturation wherein the information gathered after multiple interviews from the informants of the study becomes repetitive at a certain point (Fusch & Fusch, 2015; Fusch & Ness, 2015). Of the 35 educators, 17 are teaching at the secondary level, nine are teaching at the elementary level, and nine are teaching at the college level. All of them have more than five years of teaching experience.

The data in this study were collected through virtual, individual, face-to-face interview that ranged from 60 to 90 minutes in length with English language as the medium of communication. A retrospective interviewing technique was utilized to capture the informants' past experiences with webinar-based capacity building training and the meaning they have derived from these in relation to implementing the new normal of education. The interview formally began with an opening question, "Could you share your experience on webinar-based capacity building?" followed by different prompts such as: "Tell me more about ..."; and "Could you give specific occurrence or example..." Afterward, they were asked "How do you relate the meaning of your webinar experience to the implementation of the new normal of education?" Then, follow-up questions on this matter were asked as well.

Consistent to the study's philosophical stance and IHP methodology, steps in making sense of the interview transcripts were followed as excerpted in the works of Heidegger (1996), Kvale (1996), and Patton (2002). First, the interviews were transcribed and then read several times thereafter (second step). The transcriptions were presented in the form of significant statements or statements that directly answer the research questions. Then, the identified significant statements were clustered according to similar meanings and relationships to induce a general "sense" of informants' lived experience of webinar-based capacity building. This process forms the sub-themes of this study. Finally, another

clustering of sub-themes with similar sense based on the interpretation of the researcher was done to conceive different major themes that represent the shared meaning of webinar-based capacity building training.

Ethical Consideration

An informed consent form (ICF) in Portable Document Format (pdf) was provided to each informant via personal email address. After their confirmation to participate evidently from their affixed electronic signature in the ICF, the details of the study were carefully explained by the researchers including the purpose of the study, potential risks, and confidentiality and anonymity statement. Further, the tenets of voluntary participation and freedom to withdraw in the interview were also explained.

RESULTS AND DISCUSSION

After a thorough analysis process of the study's informants' responses, four themes emerged that described the meaning of the teachers' experience in webinar-based capacity building training. These are: Webinars as vital space for formal professional deliberations; Webinars as matters of personal, environmental, technical, and financial tolls; Webinars as prevue of what lies ahead in the new normal of education; and Webinars as the lifeblood in facing the new normal of education.

Theme 1: Webinars as Vital Space for Formal Professional Deliberations

When the informants of the study were asked about their experiences in webinar-

based capacity building training all of them have learned that it is a vital space for formal professional deliberations in times of pandemic. As expressed by Informant 20:

“Participating in webinars enables one to connect with colleagues. Although you already have social media and other means to connect with them, but webinars give a sense of formality in the connection. You get to talk about professional life and career in a formal way unlike in social media where you just talk about everything without reservations... Also, the webinar-based capacity building does not only further my ability to do new things, but also enhances my ability to function and continue to stay relevant in the ‘new normal’.”

The rest of the informants have the same tenor of the response of Informant 20 describing how a webinar can connect with colleagues with formality, which gave them the opportunity and space to talk about professional matters that require a serious tone. With the advent of webinars as an innovative form of professional training, indeed, digitalization has reached every aspect of human activities including the transformation of human-resource development mechanism design, delivery, and implementation (Goe et al., 2018; McKinney, 2017). Webinars in this time of crisis have proven their ingenuity by providing the people, most especially the professionals, a safe way to keep their professional engagements going while

maintaining physical distance. Similarly, this finding provides more evidence to the past literature that technology-enhanced training using digital and blended learning approaches provide positive perception to the trainees (e.g. Amhag, 2015; C. L. Johnson & Schumacher, 2016).

Other study's informants expressed that webinars afford ubiquitous access to training material, high levels of geographical flexibility, and interactive mode of learning modality that can facilitate various content-topic organization, lesson delivery, and assessment methods. This further fortifies their ideas that webinars can become a hot trend in the new normal of professional training, and remote education can become the new normal in the teaching-learning landscape. As expressed by Informant 14:

“Because webinars give you the opportunity to have a serious talk about professional matters, you are able to get your head working, making you realize on many things like how technology can offer the teacher in terms of organization and delivery of different learning topics using computer software or phone applications. I think webinars can become a hot trend for professional trainings because I am able to learn many things using it. It also provided me an idea that remote learning is a feasible strategy in the new normal of education.”

The continuity of any business undertakings in academic, sales, and social

service sectors in this time of pandemic has become a primary concern for all (Hernando-Malipot, 2020; Paulo, 2020; United Nations, 2020). This propelled the implementation of different digital communication platforms to communicate with employees and stakeholders, making work environments more flexible, feasible, and innovative. Inferring from the responses of the study's informants, webinar-based capacity building has become their professional lifeline in times of pandemic especially that it played a crucial role in helping their academic undertakings to keep up, cope with, and transform for the better. In recent years, webinars have gained growing attention (Carrick et al., 2017; McMahan-Howard & Reimers, 2013; Stout et al., 2012) primarily because these make synchronous online education and training possible from anywhere with internet connectivity. However, many webinar-related studies only tackle the field of mental health training (Harned et al., 2014), psychotherapy (Kanter et al., 2013), health professions (Liu et al., 2016), marketing (Harrison, 2014), and topics related to teachers' meaning-making of webinar participation are scarce. Although there are several studies that gauge webinars as a teaching and learning tool in promoting student achievement, mostly they are systematic reviews and analyses (e.g. Cook et al., 2010; Taveira-Gomes et al., 2016) which usually fail to capture the meanings of webinar participation. Qualitative studies on webinars exist (C. M. Johnson et al., 2011; Wang & Hsu, 2008) yet, they adhered to different methodologies and philosophical

stances which can produce different results although equally important.

Theme 2: Webinars as Matters of Personal, Environmental, Technical, and Financial Tolls

As the informants continued to share the advantages they have drawn out from participating in various webinar-based capacity building training, their sharing apparently shifted to the issues and limitations relating to personal, environmental, technical, and financial aspects.

All the informants have learned how webinar participation is a matter of personal toll for them. More specifically, 17 of them shared about the need to have a long attention span and 18 shared about the need to be open-minded. Informant 9 expressed:

“Participating in webinars is a matter of attention span, meaning the quality of your participation will depend on how much you can sustain your attention listening to the speaker. It is a challenge for me to join in webinars because I am the kind of participant who wants to be more engaged rather than be passive. So, what happens is that I’ll just do my other work at home and set the webinar on loudspeaker so I can still listen. Also, participants need to be open-minded that webinar is a new training approach because if not, it can make them question the worth of their participation.”

The responses above show how webinars are being delivered passively to the teachers, that compelled them to sustain an all-speaker-talk discussion. This does not suit to adult learners as they are in nature active participants in the training or learning process (Darling-Hammond & McLaughlin, 2011; Hoggan et al., 2009). Accordingly, webinar trainers should also consider that in this time of pandemic, many are feeling disconnected and isolated because of distance (Tanucan & Bojos, 2021); hence, webinars conducted passively could only make the participants’ dire situation worse. Online classes and webinars must be designed in a way that is engaging for them to capture students’ interests (Hodges et al., 2020) and, at the same time, receptive to the present situation.

Conversely, the responses have also indicated that webinars should be implemented with open-mindedness to be successfully accepted and executed. Just like what the study’s informants explained, if the participants cannot make themselves open to the webinar as a training modality, it can cause qualms as to whether or not webinar participation is worthy of their time and effort. This shows that there are some who are critical in the use of webinars. Some of these reasons can be explained in past literature on technology adoption such as the studies of Ertmer (1999), Hew and Brush (2007), and Kopcha (2012) that explained the five categories of technology adoption barriers – Access, Vision, Beliefs, Time, and Professional Development; the study of Christensen and Knezek (2008) that

explained how technology attitude, digital competency, and access to technology affect the level of technology integration into classrooms; and the studies of Hayes (2007), Park and Ertmer (2008), Sugar and Kester (2007) that noted how vision and belief about the usefulness of technology can affect staff resilience of using it when encountering difficulties. With the multiplicity of factors that are needed to be considered before the webinars are adopted in the teaching and learning process including the training of professionals, education leaders and implementers could have conducted initial conversations with teachers to ensure their optimal and successful participation.

On the other hand, all the informants have learned how webinar participation is a matter of environmental toll for them. Twenty of the study's informants pointed out that webinar participation requires a well-ventilated and lighted surrounding especially when the training obliges the participant to turn on their audio and video for monitoring and participation purposes. Moreover, another 15 participants explained the need to have a less-distracting environment when joining a webinar because unnecessary, incommensurable background noises are disconcerting not only to other participants, but also in the training in general. Informant 12 said that:

“It is highly encouraged that all participants in the training be in an environment that is noise-free because background noises such as the barking of dogs, the crying of children, and others can be

distracting to the other participants and to the overall flow of the webinar training. However, this is easier said than done because teachers like me do not have the luxury of working space at home.”

Furthermore, another 11 informants – the group with no prior experience in the use of webinars – have pointed out the lack of people who can support or help them in carrying out the complicated tasks of webinars. As Informant 33 expressed:

“I am not familiar with the different software introduced in the webinar; even the webinar itself is new to me. This is worsened because there is no one who can help me in different complicated tasks that the trainers are asking me to do...I usually end up doing and learning nothing.”

Participating in webinars brings professional and personal aspects of life together which is difficult to manage. Although there may be those who have the luxury to find a less-distracting space at their homes, for professionals whose income is enough only for their daily commodities, webinar participation is a challenge. As the pandemic has led to a massive relocation of work and classes to the people's respective homes, those who are frequently attending various webinars can relate to the seemingly unavoidable issues such as the usual demands and responsibilities at home, lack of academic peer support, and the feeling of isolation and disconnectedness. For instance, many

learners found it difficult to focus during their online teaching in comparison to on-site teaching because many think that they are in an inappropriate learning environment (Bao, 2020), making them to feel overloaded and stressed out (Händel et al., 2020). This situation is also true for professionals. According to the study by Stadlander et al. (2017), teachers who are in unconventional work environments such as web-based teaching feel that they are unconnected to their employer, resulting in their unfavorable working conditions and employer-employee interaction.

Nonetheless, all the informants have learned how webinar participation is a matter of technical toll. Twenty-five informants said that having audio-visual technologies, strong internet connectivity, and virtual communications software or applications and the affordance on how to use them are the things that webinar participants have to prepare to ensure smooth and uninterrupted involvement. As shared by Informant 26:

“If you are not a digital native person like me, participating in webinars can compel you to buy the technologies that you have not bought or used in your life. Like for me, although I know what the Zoom application is about, but I never tried using it in my life until now... So, because we are now in the new normal, I have no other better options but to buy and learn at the same time audio-visual visual technologies and computer software even if they are expensive.”

Reflecting on the above response, it is understood that training delivered via webinar platforms is feasible for those who have the capacities and capabilities to navigate them. The technology gap or digital divide between the well-off and less well-off teachers can be a problem in the full participation and implementation of webinar-based capacity building training. This elucidates how webinars necessitate from the participants the minimum technical requirements such as smartphones, laptops, and digital software programs including the affordances on their usage. It has been known in the principle of digital or technological training that participants have to understand and feel comfortable with the technology they are using and with many other types of technology in order for them to realize the full benefits of the training. Unfortunately, even in more stable contexts with adequate infrastructure and connectivity, many professionals like the teachers lack even the most basic information and communication technology (ICT) skills which in many research studies pointed out as one of the barriers to the effective conduct of online education (Bean, et al., 2019; Luongo, 2018; Olesova et al., 2011). In other words, the successful conduct of webinar-based activities entails an understanding of the technological resources and capabilities of the participants which in this time of pandemic were not comprehensively considered, resulting in problems related to stress, pressure, work overload, and webinar fatigue.

Finally, for this theme, all the informants have learned how webinar participation is a matter of financial toll for them because it requires and demands from the participants the appropriate working space and the needed technical requirements. As for Informant 8:

“I bought a new laptop in order for me to participate in webinars and prepare for the new normal in education. If I do not do it, I think in the future I will encounter problems because I do not have the right tools...It is stressful on my part to do this because the money you spent on the technology could be used for the needed food and medicine in this pandemic.”

While webinar-based capacity building training aims to provide the needed professional development for teachers especially in the midst of rolling out remote learning approaches in education, one has to consider that not all have the capabilities and capacities to access this opportunity. The start-up cost for online learning can be expensive as ICT equipment and digital software and applications do not come cheap – a factor that instigates unfavorable perception and adoption of online education (Sinha & Bagarukayo, 2019; Srichanyachon, 2014). This is on top of the perennial issue regarding the slow and unreliable network connections. Many literature have cited the long-standing concern with regards to the digital divide or the unequal access to technology including how people engage

differently with digital resources (Belet, 2018; Benson et al., 2002; Hargittai, 2003). Access to technology has always been stratified with racial and ethnic minorities. People from the lower socio-economic backgrounds and those who are in rural areas less likely afford to buy or access computer and internet connectivity (Clark & Gorski 2002; Hargittai 2003). Unequal access to technology can contribute to lower rates of digital literacy that can put students and professionals with meager income at a disadvantage in online educational settings. Hence, implementing webinars quickly without providing technical and/or financial support can produce stark divides for both students and professionals who can afford and those who cannot, and those who are native in technology and those who are not.

Theme 3: Webinars as Prevue of What Lies Ahead in the New Normal Of Education

As the informants share about their experience (good or bad) in participating in different webinar activities, all of them have realized that webinars are a prevue of what lies ahead in the new normal of education. Nineteen informants shared specifically how education is possible amidst social distancing and home quarantine. Informant 25 expressed:

“Participating in webinars makes me realize that education amidst the home quarantine is possible... Learning a lot in webinars, especially the different online and offline means to educate a child,

gives me hope that our students in the new normal of education will still get the best learning that they deserve.”

On the other hand, 16 informants particularly highlighted the future issues and problems that students would encounter when doing remote synchronous learning. The majority of their sharing anticipated that the different struggles encountered during their webinar participation might be similar to what their students would encounter in the future. Informant 9 said:

“Given that I had a lot of problems during my webinar participation like the problem on internet connectivity, distractions in the house, lack of knowledge on the use of different technologies, I think these too would be the same struggles of my students ...The good thing is that I had experienced these problems first hand because if I hadn’t experienced them, I would probably end up less emphatic to my students.”

The above responses connotethat webinars have a major role in providing a glimpse of what future lies ahead for students in remote synchronous learning. Further, it has provided the teachers with a more empathetic stance on the future struggles and problems of the students as they had experienced them first hand during their webinar participation. This finding is a fresh perspective of webinar participation

as past studies on this matter were more directed to effectiveness, satisfaction, and student outcomes (e.g. Cornelius & Gordon, 2013; Gegenfurtner et al., 2018; Taveira-Gomes et al., 2016) and rarely that this topic is explored.

Theme 4: Webinars as the Lifeblood in Facing the New Normal of Education

Within the span of a few months after the outbreak of COVID-19 in Wuhan, China, hundreds of countries had closed their schools and universities indefinitely following the social distancing measures recommended by the World Health Organization (WHO). This has affected more than a billion students. While many governments are quick to respond to this academic problem by implementing remote learning, many teachers have hastily transformed their existing teaching and learning resources digitally using the knowledge they have acquired from different webinar-based capacity building training. Informant 4 expressed:

“Despite the different challenges I encountered during my webinar participation, I can see that my sacrifices and effort are worth it because webinars are not just there to hassle and stress us out, but they serve as our lifeblood in facing the new normal of education. You see, without the different webinars provided for us, it would be impossible to transform our lessons digitally, reconnect with our colleagues, and talk about

important professional matters. Traditional face-to-face training activities are not feasible during this time, thus, whether we like it or not, webinars saved us from our uncertainties.”

All of the informants have realized that despite the different problems and apprehensions they encountered as they navigate through the complexities of webinars in times of pandemic, the things that they have learned and discovered, connections that they have reclaimed, and hope that they have built for the newer education system and continuity of their professional career in the future are what make webinar-based capacity building training their lifeblood in facing the new normal of education. Indeed, webinars can assemble individuals from various locations and of different backgrounds under a single platform to discuss topics that matter (European Institute for Training and Development, n.d.). As teachers are confounded with several challenges in their profession (Tanucan, 2019; Tanucan & Hernani, 2018), the use of technology including the adoption of and participation in webinars can be a wise decision as they can become an ally in surviving the new normal of education.

CONCLUSION

The lived experience of teachers in webinar-based capacity building training contains a combination of learning and realizations on the affordances of webinars and remote

learning. More specifically, the teachers have learned that webinars can expand their potential in presenting their respective lessons digitally whether in synchronous and asynchronous formats through the different tools, knowledge, and experience they have acquired from their participation. Webinars also served as a virtual avenue for formal professional deliberations in times of pandemic. Furthermore, teachers have learned that navigating the complexities of webinars takes a heavy toll on them as it demands personal, environmental, technical, and financial necessities.

On the other hand, teacher participants' realizations include a more considerate stance for students in their remote learning, the inevitability of struggles and problems in the process, and the understanding that webinar participation, amidst its challenges and stress, is their lifeblood in facing the new normal of education.

RECOMMENDATION

As current empirical studies on webinars in contexts of training, human resource development, and adult education are scarce, the findings of this study are instrumental in responding to this gap. As such, this study recommends that human resource development officer be guided in crafting webinar training plans that are congruous to the present situations of professional teachers who are playing multiple roles in the work-from-home set-up. Many of them are adult learners who are in nature active participants in training and, at the same time, parents who can shift their focus to their

regular household undertakings anytime when webinar sessions do not give them interest and/or active engagement. Further, as student-centeredness has already been applied in its full sense across all curricula, participants in webinars should feel that they are learning in a kind of experience where active engagement is highlighted. This positions the teachers and trainers of webinars as facilitators of learning and not salesmen of ideas. Finally, future studies on webinars should be expanded beyond measures on student outcomes and satisfaction because webinar participation can produce a multitude of meanings which can vary based on whoever is making sense of it. Hence, if sought, fresh perspectives and insightful dialogues in the academic community are stimulated.

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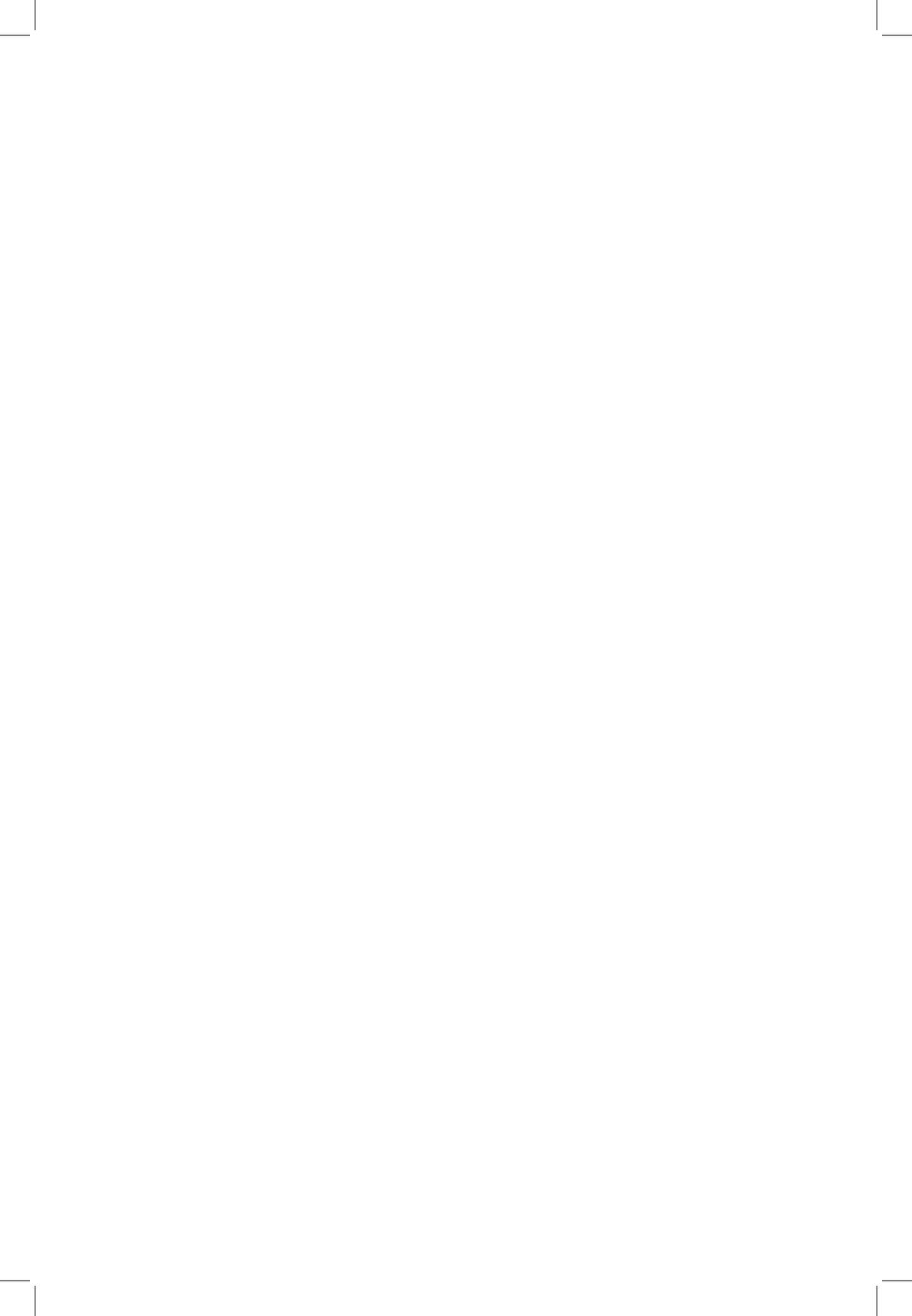
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Evaluating Construct Validity and Reliability of Intention to Transfer Training Conduct Instrument Using Rasch Model Analysis

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ABSTRACT

The impact of the Industry Revolution 4.0 (IR4.0) in the workplace requires organisations to ensure clerical employees can effectively transfer their newly acquired knowledge and skills learned in training back into the workplace. Hence, an instrument is required to identify factors influencing the intention to transfer training conduct amongst clerical employees. Thus, this paper presents the evaluation of construct validity and reliability of the new instrument to confirm its objectivity and clarity in measuring the constructs under study as intended. This four-point Likert-type scale instrument consists of 72 self-assessment items that represent 12 constructs. The Rasch Model was then employed to analyse the construct validity and reliability by evaluating the suitability of items in the respective constructs on the instrument. The item and person reliability and strata indices, point-measure correlation, and outfit mean square values were examined. The analysis found that three constructs in the item and person reliability index and eight constructs in the item and person reliability strata index were low but adequate and met the Rasch Model measurement acceptable level. Meanwhile, point-measure correlation values for all constructs fulfilled the criteria. Finally, the outfit mean square values established that 65 items in the constructs were found to be fit, whereas seven items were misfits which require improvement. Subsequently, the seven

misfit items were improved as the item and person reliability values could be increased, thus the items were retained. Thereafter, the instrument was ready to be used for data collection in the actual study.

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INTRODUCTION

Transfer of training is generally described as the use of knowledge and skills acquired in employee training into the workplace (Baldwin et al., 2017; Burke et al., 2013; Noe & Kodwani, 2018; Saha, 2021). There is a notion that transfer of training can essentially affect training effectiveness (Al Rakhyoot, 2017; Mohanty et al., 2017; Rahman, 2020; Saha, 2021), which indicates that the lessons learned are effectively applied into the workplace. Since organisations' performance depends heavily on employees' performance, employees are expected to utilise the knowledge and skills learned to improve the job quality and productivity level (Abdullah et al., 2019; Noe & Kodwani, 2018; Nusrat & Sultana, 2019; Yaquub et al., 2021).

To meet such expectations, organisations must ensure knowledge transfer can really occur after training sessions (Anjum et al., 2021). It is due to the fact that training is generally considered a significant human resource practice for organisational growth (Kodwani & Kodwani, 2021). In view of that, it is important for organisations to recognise factors that can influence the intention to transfer training amongst their employees. By recognising factors influencing employees' training transfer conduct, organisations can take appropriate actions to ensure the lessons learned are applied more effectively into the workplace.

Moreover, in the present Industry Revolution 4.0 (IR4.0) working environment, employees at all levels require training to enhance their overall job performance.

According to Kumar (2018), there are many levels of employee groups in organisations where the first level is the individual employees including the clerical employee group. Usually, clerical employees are considered as the backbones in organisations but sometimes this employee group is overlooked in the workplace (Muschara, 2018; Robert, 2017). Like other levels of employee groups, clerical employees must be consistently upskilled and reskilled to be more competent in the workplace. Additionally, the World Economic Forum (WEF, 2018) reported that the role of clerical employees would be critically affected by the impact of the IR4.0. For that reason, organisations need to revisit their employee training initiatives. In order to manage the inevitable situation, clerical employees must be upskilled and reskilled through quality employee training programmes. Hence, it is crucial to ensure that clerical employees apply the lessons learned during training back into the workplace effectively, which in turn can produce quality job performance.

In determining a suitable instrument to collect data for this study, the decision was based on several background elements of the samples, such as job positions, locality, and workplace culture. The samples were clerical employees who were mainly Malaysians, working in a Malaysian Government-Linked Company (GLC). Furthermore, the newly developed instrument must be able to capture responses directly related to intention to transfer training conduct. For that reason, the new instrument was developed instead of adopting and adapting previous instruments which were

consistent with Hsu and Sandford (2012) who suggested that researchers must employ appropriate instruments to collect data for a specific study. Thus, it was determined that the need for a new instrument for this study was appropriate.

Therefore, an instrument was developed to collect the feedback from clerical employees after attending the training sessions as an effort to identify factors influencing their training transfer conduct. Given that it was a newly developed instrument, it must be evaluated to confirm its objectivity and clarity, as well as its validity and reliability to measure what it was supposed to measure. To determine the instrument is valid and reliable in measuring the constructs as intended, face validity, content validity, and construct validity are commonly evaluated (Hamed, 2016; Heale & Twycross, 2015). Five experts from the academic and training industry background assessed the face validity and content validity to evaluate whether the items were placed according to the appropriate constructs.

Besides that, the Rasch Model was employed to determine the validity and reliability of items developed on the instrument whereby items must show the appropriate measure of the respective constructs. The construct evaluation was crucial to ensure the scale developed was acceptable before it could be employed in the actual study. This is consistent with the fact that researchers should ensure the research instrument can collect the required data and is reliable (Hsu & Sandford, 2012; Mohajan, 2017). This paper only focuses

on the construct validity and reliability evaluation in the validation stage of the instrument development process to assess the suitability of items in the respective constructs.

The Rationale of the Study

Most organisations employ training as a mean to improve the job performance of their employees (Kodwani & Kodwani, 2021; Noe & Kodwani, 2018; Saha, 2021; Yaqub et al., 2021). In fact, training investment continues despite the effect of economic recession, such as the present recession caused by the Covid-19 pandemic (Nicola et al., 2020; Prohorovs, 2020). More so, in 2020 the WEF reported that 50% of employees would need to be reskilled by 2025 (WEF, 2020). Then again, training can only produce desired results if the expected outcomes can be achieved (Anjum et al., 2021; Baldwin et al., 2017; Yaqub et al., 2021). On the other hand, the low transfer of training by employees has created an issue as employers are dissatisfied with the training investment on human capital (Brion, 2020; Nusrat & Sultana, 2019). Apparently, only about 10% resulted in the transfer of training by employees after returning to the workplace (Brion, 2020; Iqbal & AlSheikh, 2018; Saha, 2021).

As such, the need to identify factors that could influence the intention to transfer training conduct amongst employees is necessary. This is because any actual action should begin with intention as affirmed by past and current studies (Ajzen, 2019; Code, 2020; Kim & Park, 2019). In fact,

studies on intention to transfer training are available in past and current transfer literature (Al Rakhyoot, 2017; Kim & Park, 2019). However, studies on intention to transfer training conducts by clerical employees in Malaysia are scarce. Despite many studies have been conducted on the transfer of training in a Malaysian working environment (Ab Rahman et al., 2019; Abdullah et al., 2019; Kenayathulla et al., 2019), a specific study on intention to transfer training conducts amongst clerical employees in a Malaysian GLC has yet to be performed. This presents a research gap that the study is attempting to undertake.

Thus, the study aims to determine factors that influence the intention to transfer training conduct amongst clerical employees in a Malaysian GLC. Furthermore, clerical employees need to be developed through training as they play an important role in the workplace (Lal & Singh, 2015; Zarreen, 2018), particularly in supporting organisations to mitigate the effects of the IR4.0. This effort could determine factors influencing clerical employees to apply the lessons learned in the training sessions back into the workplace. Determining factors influencing their intention to transfer training enables improvement in their application of the lessons learned after training. The improvement in clerical employees' job performance can in turn improve organisations' performance. Subsequently, a self-developed instrument was used to identify factors influencing intention to transfer training conduct amongst clerical employees.

Importance of Instrument Validation

The assessment of validity and reliability of an instrument is essential for both quantitative and qualitative research as a measure to ensure the instrument employed is valid and reliable for use in research (Hamed, 2016; Zamanzadeh et al., 2015). The reliability and validity of research outcomes essentially depend on the quality of the instrument used to collect and measure the data. Commonly, the items on the instrument must go through an evaluation process to verify the items' clarity, readability, consistency, and relevance to the specific constructs. Among the common types of assessment in determining the instrument validity and reliability are face validity, content validity, and construct validity (Hamed, 2016; Heale & Twycross, 2015).

According to Coates (2018), there are various validation procedures that can be used to substantiate the feasibility of the instrument employed in research. Among the validation, procedures include face validity that is about the language clarity, feasibility, readability, style, and format used (Hamed, 2016). While content validity is to evaluate if the items are sufficient to measure a specific construct on the instrument (Heale & Twycross, 2015). Whereas construct validity is to determine how well an instrument is supposed to measure what it is intended for (Hamed, 2016; Heale & Twycross, 2015). For that purpose, the Rasch Model was utilised to analyse data collected from the pilot study. In brief, the evaluation of validity and

reliability performed on this new instrument was to ascertain that the items were relevant and adequate to confirm their credibility.

METHODS

This study employed a quantitative approach using a self-developed online survey questionnaire to collect data from clerical employees in a Malaysian GLC. According to Toepoel (2017), quantitative web surveys are appropriate to collect responses from large groups of people and to generalise the results. In view of that, the newly developed instrument needs to be validated to determine its validity and reliability prior to actual study usage. To determine the sample size for the pilot study, a minimum of 30 participants as per a rule of thumb in education and behavioural sciences (Suter, 2014; Whitehead et al., 2016) was adhered to.

In relation to the pilot study, the samples were first selected according to a set of criteria fitting the aim of the study; minimum one-year employment and attended at least one soft skills training. Then a simple random technique was utilised to generate the sampling frame. From the sampling frame produced, 100 samples were invited to participate in the pilot survey of which 31 (31%) participants responded. As for the data collection process involved, an online survey approach was employed to collect the feedback. A link to the survey form was emailed to the selected samples for their responses. Each completed survey form was automatically reverted to the responses folder for analysis. Thereafter, the

data collected were assessed in determining the items developed pertaining to factors influencing intention to transfer training conduct could essentially measure as intended.

Scale Development

Generally, in developing the instrument, the items were formed in line with the operational definitions of the constructs and a suitable number of items were considered. Also, a common rule in formulating items was followed as the questions should be clear to enable participants to understand and answer appropriately (Brinkman, 2009; Tsang et al., 2017). As such, the generated items must be evaluated for clarity, readability, consistency, redundancy, and relevance to the construct under study. An evaluation of the instrument is to indicate that the items are relevant and comprehensive enough to confirm their credibility (Hamed, 2016; Sangoseni, Hellman & Hill, 2013; Zamanzadeh et al., 2015). On that note, the validation process of the instrument was required as it was crucial to ascertain the scale developed was acceptable before it could be tested. Prior to the construct validity evaluation, face validity and content validity of the instrument were performed.

In doing so, a panel of five experts which consisted of two academicians and three training practitioners were involved in the scale development process. The experts were selected based on their strong academic background, extensive knowledge, and familiarity with the concepts, as well as

years of working experience in the respective fields. In the process, the experts commented that a few items on the instrument needed to be rephrased in order to refine the items according to the respective constructs. Consequently, the items were rephrased and maintained on the instrument for testing in the pilot study. In short, all items were acceptable and no items were removed by the experts after the review.

Briefly, the feedback from the experts was analysed to evaluate the face validity and content validity of the instrument. For face validity, Fleiss' Kappa (Fleiss' K) was used due to its suitability for multiple raters and flexibility (Falotico & Quatto, 2015). Fleiss' K revealed the result of 0.658 that suggested the instrument as good and significant at $p = .000 < .005$. Meanwhile, for content validity, a Content Validity Index (CVI) was used where the result indicated that the instrument had an excellent CVI proportion agreement of 0.975. Thus, the items were considered relevant to the constructs being studied and ready to be tested in determining the construct validity.

Survey Instrument

In recent years, the Likert-type scale is the most popular scale format employed by researchers (Joye et al., 2017). Likewise, this study employed the Likert-type scale format to obtain feedback for analysis from the respondents of the survey. The questions prepared on the survey instrument are in the first-person form point of view where respondents are requested to select their

agreement to the items using the four-point Likert-type scale categories, namely 1 = strongly disagree to 4 = strongly agree. This newly developed instrument consists of 72 self-assessment items that represent 12 constructs. The instrument comprises of ten independent variables: Personal Intentions – PI (6 items), Personal Expectations – PE (6 items), Training Awareness – TA (4 items), Training Contents – TC (6 items), Training Delivery – TD (6 items), Post-Training Interventions – PTI (6 items), Trainer's Quality – TQ (6 items), HOD's Support – HS (6 items), Workplace Support – HS (6 items), and Workplace Climate – WC (5 items). Whilst the two dependent variables are Self-Efficacy – SEf (7 items) and Self-Motivation – SM (8 items).

For the instrument to be considered valid, it must also undergo construct validity evaluation. The instrument in effect depends on the strength of the instrument to accurately assess the construct being measured, that is the measurement precision of the identified variables by the instrument (Azwan et al., 2016). Therefore, in evaluating the construct validity of the instrument, the Rasch Model with the application of Winsteps 3.72.3 (Linacre, 2011) was utilised to analyse the data collected from the respondents. All the required Rasch analyses performed on the new instrument were measured against the acceptable quality benchmarks. Nevertheless, the benchmarks only provide some indication on the quality of data but by no mean the absolute criterion (Bond & Fox, 2015; Boone, 2016; Boone et al., 2014).

Employing Rasch Model Analysis

There are several approaches to construct an instrument where the Rasch Model measurement is one of the approaches used to construct a scale in a research instrument (Bond & Fox, 2015; Iramaneerat et al., 2011). The Rasch Model has been widely used in various aspects of research to analyse questionnaires and construct validity and reliability (Fitkov-Norris & Yeghiazarian, 2015). Besides that, the model enables an instrument to exclude a middle category for the Likert-type survey responses (Bradley et al., 2015) which seemed to be suitable for this study as the instrument employed was constructed without a middle category.

Moreover, the ability of respondents to answer the questions and the difficulty of each item are usually considered as meeting the construct validity and reliability criteria (Bradley et al., 2015; Norasmah et al., 2014). Additionally, Rasch analysis can identify items' positions in the model, whereby items closer to the hypothetical line indicates a contribution to the construct (Baghaei, 2008; Bond & Fox, 2015). Furthermore, the items can be utilised as an empirical test for construct validity since the items only measure one latent trait which indicates that items on the instrument fit the model (Boone, 2016; Sick, 2011).

However, if the differences are reasonably acceptable, the data can be considered as fitting the model because there are no perfect results (Bond & Fox, 2015; Runnels, 2012). In brief, the item reliability and strata indices indicate the extent to which the items conform with the

Rasch Model measurement. Typically, in evaluating the instrument reliability, item and person reliability and strata indices are analysed. While for construct validity, item polarity is examined by point-measure correlation (PTMEA Corr.), and items fit in the constructs are examined by Outfit MNSQ values (Bond & Fox, 2015). In general, the Rasch quality criteria used for determining the validity and reliability of the instrument are shown in Table 1.

RESULTS

After running the collected data using the Rasch Model analysis, the results for the item and person reliability and strata indices, the PTMEA correlation, and Outfit MNSQ values were generated. Thereafter, the results were analysed to determine whether the items on the instrument sufficiently fulfilled the construct validity and reliability requirement. In the event the items do not meet the requirement, appropriate actions need to be taken such as item modification, replacement, or deletion (Bond & Fox, 2015; Boone, 2016).

Reliability and Separation Index of Constructs

The Rasch Model analysis assessed 72 items on the new instrument against the acceptable quality criteria. To evaluate the construct validity of this new instrument, the item reliability and separation (strata) index and person reliability and separation (strata) index were analysed to confirm the instrument validity and reliability. Based on the criteria, the item and person reliability

Table 1
Summary of Rasch Model quality criteria

Criterion	Values	Denotations	References
Person and Item Reliability	< 0.67	Poor	Boone (2016); Linacre and Fisher (2012); Linacre (2005, cited in Norasmah et al., 2014)
	0.67-0.80	Fair	
	0.81- 0.90	Good	
	0.91- 0.94	Very Good	
	> 0.94	Excellent	
Person and Item Strata	<0.5	Less productive for measurement, but not degrading.	Bond and Fox (2015); Linacre (2005, cited in Norasmah et al., 2014)
	0.5 - 1.5	Productive for measurement.	
	1.5 - 2.0	Unproductive for construction of measurement, but not degrading.	
	>2.0	Distorts or degrades the measurement system.	
Point Measure Correlation (PTMEA Corr.)	> 0.3	Acceptable	Bond and Fox (2015); Bond and Fox (2007, cited in Norasmah et al., 2014); Boone (2016); Boone et al. (2014)
Outfit Mean Square (MNSQ)	0.5 < x <1.5	Acceptable	
z-Standardised Value (ZSTD)	-2. 0< x <2.0	Acceptable	

values < 0.67 are considered poor (Boone, 2016), whilst for the item and person strata values > 2.0 indicate the instrument is good (Bond & Fox, 2015). Table 2 below displays the results of the item and person reliability and separation indices generated by Rasch analysis.

Referring to the table, the results of the item reliability values for constructs PE, PI, TA, TD, PTI, TQ, HS, WC, SEf, and SM were in the range of fair to very good but two constructs TC (0.62) and WS (0.59) scored poor item reliability. Whilst the person reliability values for PE, TA, TD, PTI, TQ, HS, WC, WS, SEf, and SM were in the range of fair to good but one construct PI showed poor person reliability of 0.62. Normally, low item reliability is caused by insufficient

person sample size to confirm item difficulty hierarchy, whereas low person reliability is caused by the small number of items (Boone & Noltemeyer, 2017; Linacre & Fisher, 2012). Although the values for TC and WS (item reliability) and PI (person reliability) did not conform to high-reliability values (> 0.67), the values were adequate and met the acceptable level as the reliability values can be increased when the misfit items are improved or removed (Boone & Noltemeyer, 2017; Pallant, 2011).

The results in Table 2 also show the item and person strata values. In general, the value of the item strata refers to the level of item difficulties, while the person strata is used to classify people's responses to the questions on the instrument. Norasmah

Table 2
Reliability and strata result for constructs

Construct	Total Item (72)	Item		Person	
		Reliability	Strata	Reliability	Strata
Personal Expectations (PE)	6	0.73	1.66	0.77	1.78
Personal Intentions (PI)	6	0.92	3.43	0.62	1.34
Training Awareness (TA)	4	0.79	1.92	0.85	2.26
Training Contents (TC)	6	0.62	1.37	0.75	1.58
Training Delivery (TD)	6	0.80	1.99	0.70	1.54
Post-Training Interventions (PTI)	6	0.68	1.45	0.80	2.08
Trainer's Quality (TQ)	6	0.83	2.24	0.71	1.59
HOD's Support (HS)	6	0.72	1.60	0.81	2.05
Workplace Support (WS)	6	0.59	1.22	0.74	1.68
Workplace Climate (WC)	5	0.88	2.72	0.77	1.75
Self-Efficacy (SEf)	7	0.71	1.58	0.67	1.45
Self-Motivation (SM)	8	0.89	2.91	0.86	2.50

et al. (2014) cited that Linacre (2005) recommended value > 2.0 as good. Ideally, the higher value of the strata indices of the items indicates the instrument is better as the items are separated by levels of difficulty.

The overall results in the table exhibit that the item strata values for the 12 constructs were between the values of 1.22 to 3.43 and the person strata values ranged from 1.34 to 2.50. Statistically, the items on the instrument can be separated into three strata or levels of difficulty and two groups of people. In short, the results indicated that the items and person strata respectively displayed 8 constructs scored strata values < 2.0 . Usually, low item separation implies that the person sample size is not sufficient to confirm the item difficulty hierarchy, whereas low person strata is due to the small number of items on the instrument (Boone & Noltemeyer, 2017; Md Yunus et al., 2017). Likewise, the item and person separation

indices can increase if the reliability of items is enhanced by improving or deleting misfit items (Boone & Noltemeyer, 2017; Pallant, 2011).

Item Polarity of Constructs

In the Rasch Model measurement, the validity of items in a polarity item report exhibits if all items move in one direction in a construct. The main output is referred to as a correlation coefficient of measurement point which is known as the point-measure correlation coefficient. PTMEA correlation near zero or negative can mean the items are not consistent with the construct (Bond & Fox, 2015), indicating the items in the construct are not aligned with other items to measure that particular construct (Md Yunus et al., 2017). If the PTMEA correlation value is high, it implies that the items are able to distinguish between respondents' ability to answer the questions, whereas the PTMEA

correlation value < 0.30 denotes that the items do not fulfill the criteria (Bond & Fox, 2015).

Table 3 displays a summary of the PTMEA correlation for 72 items on the instrument. The results showed PTMEA correlation index on the instrument displays > 0.30 with no item nearly zero or negative index with the minimum PTMEA correlation index of 0.54 for item SEf7 and maximum index 0.96 for item WS6. Thus, the results suggested that the items could contribute to the validity measurement of the instrument.

Item Fit in Measuring Constructs

Further analysis was conducted to validate the appropriateness of items in the constructs, that is to determine how well the data fit the model. The analysis technique employed in the study to evaluate item fit was outfit means square (Outfit MNSQ) as used by Boone et al. (2014). This was consistent with Linacre (2012), who highlighted that item fit analysis only needs to report on the outfit unless irrelevant outliers contaminated

the data severely. Additionally, Rasch analysis calculates ZSTD (z-standardised) which measures the probability of MNSQ occurring by chance (Boone et al., 2014). However, in evaluating the item fit, it is recommended to examine MNSQ first then followed by ZSTD as the ZSTD value is based on MNSQ (Boone et al., 2014; Linacre & Fisher, 2012).

If the Outfit MNSQ value is higher than 1.5, it indicates that the item is not consistent with other items in the same construct. Modification or elimination of the items needs to be made to the items that fall out of the quality criteria acceptable range (Boone et al., 2014). This is because problematic items can affect the reliability and validity of the instrument. Nevertheless, Bond and Fox (2015) advised that items should not simply be dropped as such action could cause good items to be lost. Based on the quality criteria, seven items that did not fit the Rasch Model measurement were identified as shown in Table 4. Since the misfit items fulfilled the requirement of the

Table 3
PTMEA correlation results for constructs

Construct/ No. of Items	PE	PI	TA	TC	TD	PTI	TQ	HS	WS	WC	SEf	SM
1	0.92	0.79	0.93	0.89	0.68	0.85	0.79	0.86	0.90	0.95	0.63	0.55
2	0.93	0.69	0.85	0.91	0.67	0.76	0.89	0.83	0.90	0.95	0.79	0.76
3	0.91	0.72	0.95	0.93	0.95	0.82	0.87	0.90	0.93	0.90	0.85	0.90
4	0.83	0.83	0.81	0.93	0.83	0.86	0.79	0.90	0.90	0.87	0.67	0.58
5	0.83	0.75		0.91	0.88	0.86	0.73	0.85	0.85	0.86	0.79	0.75
6	0.81	0.80		0.91	0.68	0.89	0.70	0.81	0.96		0.75	0.89
7											0.54	0.88
8												0.90

Table 4
Misfit items

No	Item	Outfit MNSQ	Outfit ZSTD	Construct
1	SM1	3.22	5.1	Self-Motivation (SM)
2	SM2	2.44	3.7	Self-Motivation (SM)
3	SEf3	2.25	2.3	Self-Efficacy (SEf)
4	PI2	3.54	4.9	Personal Intentions (PI)
5	PTI3	2.07	3.1	Post-Training Interventions (PTI)
6	HS5	1.90	2.4	HOD's Support (HS)
7	HS6	2.47	3.8	HOD's Support (HS)

relevant constructs, improving the items can increase the reliability and strata values of the items in the constructs, thus the items were examined to modify the problems and retained.

DISCUSSION

The new instrument was developed to gather data in determining factors influencing intention to transfer training conduct amongst clerical employees. Then the items on the instrument must be validated to ensure they could measure as intended. The evaluation could indicate whether the items are relevant to confirm the instrument's credibility which is crucial to produce valid and reliable outcomes (Hamed, 2016; Zamanzadeh et al., 2015). The Rasch Model measurement was employed to verify the validity and reliability of items on the newly developed instrument to ensure the suitability of items in the respective constructs. Essentially, the Rasch Model analysed the item reliability and strata index for the instrument reliability and examined the point-measure correlation (PTMEA Corr.) and Outfit MNSQ values for the construct validity.

From the analysis on the item reliability and strata index for the instrument reliability, all items and persons reliability generally achieved high-reliability values (> 0.67). However, item reliability values for TC (0.62) and WS (0.59) and person reliability for PI (0.62) did not conform to high-reliability values. Whereas for the item and person strata indices, eight constructs showed a low index (< 2.0). The low values in the item reliability and strata index were due to insufficient person sample size to confirm item difficulty and the low values in the person reliability and strata index were due to the small number of items on the instrument. Nevertheless, the values are sufficient in meeting the acceptable level as both the item reliability and item strata index values can be increased once the misfit items are improved (Boone & Noltemeyer, 2017; Pallant, 2011).

Meanwhile, for the construct validity, Rasch analysis generated positive PTMEA Corr. values for all the 72 items in the constructs (> 0.30) with no item nearly zero or negative index. The results implied that all the items moved in the same direction of the measurement scale and correlated

with the other constructs on the instrument (Bond & Fox, 2015). To sum up, the findings implied that the items are able to distinguish between respondents' ability to answer the questions which fulfilled the criteria.

As for the item fit analysis, only Outfit MNSQ was analysed as there were no irrelevant outliers that contaminated the data. The Outfit MNSQ results exhibited that a total of 65 items were found to be fit and seven items (SM1, SM2, SEf3, PI2, PTI3, HS5, and HS6) in the constructs were misfit which, hence, require improvement. Since the misfit items are relevant to the constructs assessed, the seven items are retained on the instrument after the items were checked for weaknesses and modified.

CONCLUSION

The study intends to determine factors influencing intention to transfer training conduct amongst clerical employees. Using this instrument, the data collected in the study could provide a better insight into factors influencing their intention to transfer training conduct into the workplace. As a result, the application of lessons learned in training into the workplace could be improved. This effort enables organisations to make required improvements if needed so that clerical employees could apply the lessons learned more effectively after training. Accordingly, clerical employees could improve their job performance which, to an extent, could support organisations in mitigating and navigating the IR4.0 challenges.

For that purpose, the new instrument was developed for data collection whereby the instrument must undergo the validity and reliability test. The test was required to ascertain the instrument could measure the constructs as intended. Employing the Rasch Model, the analysis was performed to determine the validity and reliability of the items in the constructs. Thereafter, the analysis produced a valid and reliable instrument to evaluate relevant constructs under study. Now, the instrument is ready to be utilised to investigate factors influencing intention to transfer training conduct amongst clerical employees in a Malaysian GLC.

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Exploration of HR Managers Perspectives in Hiring and Retaining Practices of People with Physical Disabilities

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ABSTRACT

This study aims to explore employers' attitudes and perceptions in hiring and retaining people with physical disabilities. Semi-structured interviews were carried out with eleven human resource managers working in the private sector of Islamabad. Transcripts comprising participants verbatim were analyzed using Thematic Analysis and a descriptive approach. The reliability of the research was established by ensuring credibility, dependability, transferability, and conformability. Inter-rater reliability was found satisfactory. Findings show six major themes namely employers' attitude, policy awareness and implementation, perceived concerns and challenges by employers, barriers to employment of people with disability (PWD), provision of reasonable accommodation and, career development and retention policy. The research findings indicate that human resource managers generally have socially desirable, favorable attitudes towards the employment of people with disabilities. However, in-depth exploration indicated either attitudinal barriers or apprehensions to hire PWD due to the lack of resources and limitations in policy implementation. Findings show that small and medium-sized organizations face greater challenges in hiring and retaining PWD. Further, a dire need for governmental and legislative support to the employers is highlighted. Implications of research findings have been discussed.

Keywords: Attitude, employment, people with disabilities, perception, physical disability

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INTRODUCTION

Employment is considered a critical element of societal membership and every person should have equal access to employment without any prejudice based on personal characteristics such as race, religion, disability, or color of a person. People

with disability (PWD), however, are more probable to come across barriers to employment as compared to those without disabilities. PWDs all over the world are less likely to be employed than people without disabilities (World Health Organization & World Bank 2011). Notably, workers with disabilities are more likely to report underemployment, involuntary part-time, and lower than average salaries (Baldrige et al., 2016).

The consideration of disabilities is an emergent issue in most developing Asian countries. Pakistan is one of the largest populations comprising of youth reported 2.94% of its total population as PWD and it is reported that the employment rate of PWD is as low as 14% (Waqar, 2014). Despite the numerous policies (e.g. Disabled persons employment and rehabilitation ordinance, 1981) on the employment and inclusion of PWDs, the employment rate remains low as compared to the people without disabilities. A study shows that general prejudice exists within the society against PWD. Generally, employers hesitate to engage people with disabilities in the workforce due to costing and accommodation issues. Limited research has been done to explore the concerns of the employers as the focus is more on the development of PWD rather than on the needs of the human resources managers (Heera & Devi, 2016). Human resource (HR) managers as major decision-makers can perform a vital role in providing equal opportunities to PWD. They can formulate policies and procedures that promote inclusivity. Critical HR matters

such as equal employment opportunities for PWD, career development plans, reward systems, and job design can be reviewed and redesigned to engage PWD and thus promoting a barrier-free environment for them to work.

This study, therefore, aims to investigate the attitudes and perceptions of HR managers in hiring and retaining people with physical disabilities as well as to identify their concerns and challenges that influence the willingness in employing such people. Physical disability refers to a limitation on a person's physical functioning, mobility, dexterity, or stamina. The findings will contribute in improving existing HR practices and approaches for hiring and retaining PWDs.

LITERATURE REVIEW

Disability in Pakistan

According to the International Labour Organization (2007), there are more than 650 million people with some disability, and majority of these people live in developing countries. Asia and the Pacific region have the largest number of people with disabilities i.e. 60% of this population resides in Asia and the Pacific according to the UN estimates. According to the census (1998), 2.49% of the total population of Pakistan constitutes people with disabilities. According to the data, the highest percentage of disabled people was found in Punjab (55.7%), followed by Sindh (28.4%), NWFP (11.1%), Baluchistan (4.5%), and then Islamabad (0.3%). The data revealed that

most of the people had a physical handicap and the number of males with a disability was higher than women in both rural and urban areas (Pakistan Bureau of Statistics; Government of Pakistan, 2021).

Legislation and Policy Reforms

Pakistan announced its first national policy supporting disability in 2002 to empower people with disabilities. Before this Disabled Persons' (Employment and Rehabilitation) Ordinance (1981) was publicized. Under this order it was the responsibility of the government to work towards the prevention of disabilities; the provision of medical care, education, training, employment, and rehabilitation to the persons with disabilities. This ordinance also introduced a quota system, which made it mandatory for private and public sector organizations to reserve a 2% quota for the PWD.

The National Plan of Action 2006 (Government of Pakistan, 2002) was developed to translate the National Policy for the Persons with Disabilities 2002 into practice. This legislative development sets a larger context to accommodate and mainstream people with disabilities in a different segment of society including the workplaces. It focused on ensuring inclusion, access, and equalization of opportunities for people with disabilities. Pakistan has also signed the "*Convention on the rights of persons with disabilities 2006*". This convention obliges the signatory countries to develop a legal framework that will aim to provide equal opportunities to the PWDs in all spheres of life.

Employers Perception towards the Employment of People with Disabilities

Employment has proved to be beneficial for PWD as it helps them in their skill development, income generation, reduction in social isolation, and contributes to life satisfaction, and civic skills (Schur, 2002). However, most PWD are unemployed indicating the need for diligent efforts to increase their employment. In the United States, 56% of people with disabilities are employed (U.S. Census Bureau, 2018).

Schur (2002) reported that less than 50% of the people with disabilities (those seeking jobs) were employed as compared with 82% of the people without disabilities. Whereas in Pakistan only 14% of the PWDs are employed, the rests of the PWD are dependent on their family members for financial support (Waqar, 2014). A study shows that 95% of the people who are employed are not satisfied with their jobs and are facing the issue of under-employment (Sajjad, 2008). This shows limitations in implementing the existing laws of disability, especially in relation to the reservation of jobs for people with disabilities (Ramachandra et al., 2017).

The perceptions and attitudes of employers can have a major impact throughout the hiring process as these perceptions permeate through the entire employment cycle starting from the process of job posting and hiring to the retention and career development of people with disabilities. Therefore the perspective of employers is pertinent in providing and maintaining employment opportunities for

people with disabilities (Bruyere al., 2004; Heera & Devi, 2016).

Negative attitudes and discrimination are cited as the major barrier in the employment of people with disabilities despite all the policies and initiatives taken by the state (Ruggeri-Stevens & Goodwin, 2007). The negative attitudes might be the result of past working experience or frequent exposure to disability (Perry et al., 2008; Unger, 2002). Literature also suggests that employers having working experience with a person with disabilities had positive attitudes and are more willing to hire and integrate people with disabilities (Gilbride et al., 2003).

Female employers are reported to have more favorable attitudes towards PWDs rather than male employers (Perry et al., 2008). Evidence shows that some employers do not fully accept workers with physical disabilities (Jean-Joseph, 2020). Employees with disabilities were rated low on monthly performance evaluations as compared to the employees without disabilities (Smith et al., 2004).

Another barrier in the workplace includes a lack of manager's awareness and knowledge about the care of the PWD (Selvi, 2018). The employers/managers lack the knowledge on how to cater to the needs. Further, the presence of stereotypical attitudes of the managers and coworkers, the lack of required skills, and the cost associated with the career development of PWD play a major barrier in the hiring process (Paez & Arendt, 2014).

Despite the numerous challenges reported by the employers, positive aspects of employing PWD at the workplace were reported. Coworkers who had work opportunities with PWD described their experiences as positive (Ruggeri-Stevens & Goodwin, 2007). Employees having a disability were reported to be more committed, dedicated, and loyal to the organization, and hiring them may lead to tangible benefits for the organization such as assistance by the state, the flexibility in tax credits, and funds for disability training programs (Geng-qing & Qu, 2003; Sajjad 2008).

Considering the mixed picture regarding the attitudes at the workplaces towards PWD, this research aimed to explore the perspectives of HR managers that influence the willingness of employers in hiring and retaining PWD.

Theoretical Background

This study is based on the social model of disability proposed by Oliver (1996). This model emphasizes the barriers to access and inclusion of people with disabilities that are created by mainstream society. It asserts that people with disabilities are disabled by the environment they live in and not by the features of their own bodies as per the medical model. These barriers maybe are physical such as lack of infrastructure in buildings or can be attitudinal. This model, therefore, helps in recognizing these barriers that make the inclusion of PWD also exist at the workplace.

Rationale

Numerous studies have focused on the employment experiences of PWD, however, with little focus on the needs and demands of employers (Gottlieb et al., 2010). Majority of the previous studies focus on whether employers hold a negative attitude towards hiring people with disabilities but do not explore employers' perspectives in a comprehensive and contextual context. Further, the impact of employers' demographic variables (size of the organization and industrial sector) has not received much attention. This study is therefore based on descriptive thematic analysis to explore the attitudes and perceptions of employers. (Kang, 2013; Robert & Harlan, 2006).

In addition, there has been limited literature on employer perspectives towards employing disabled people, particularly in Pakistan (Ahmed et al., 2011; Sajjad, 2008). Further previous studies in Pakistan have focused on general disabilities. A focus on a selected disability type can give an in-depth perspective (Ahmed & Khan, 2011; Sajjad, 2008). Therefore this study will explore the attitudes and perceptions that influence the hiring and retaining decisions of employers working in the different industrial sectors and different sizes of organizations.

RESEARCH METHODOLOGY

This research is qualitative in nature as the aim was to explore the perceptions, and attitudes of qualified experts responsible for the hiring, retention, and career development of potential job seekers having a physical

disability. It was based on an inductive approach with the elements of deduction hence thematic analysis was used to identify the attitudes and perceptions regarding concerns and challenges faced by the employers and extends previous studies such as by Nowell et al. (2017).

The data were analyzed using thematic analysis, based on a descriptive approach with a focus on lived experience. Lived experience is understood from a life-world approach which is a sum of physical surroundings and everyday experiences that make up an individuals' world and becomes the starting point for understanding lived experiences. Hence, the life-world forms the foundation for our understanding of lived experiences (Dahlberg et al., 2008).

This research is directed by the following research questions:

- What is the employers' perspective about the policies for the inclusion of people with disabilities?
- What are the concerns and challenges faced by employers while hiring individuals with physical disabilities?
- What initiatives are taken for the career development and reasonable accommodations of employees with physical disabilities?

Sample

Given the exploratory nature of the research, the data was collected by using the purposive sampling technique. Human resource managers from Telecommunication and NGO sectors in Islamabad were approached,

having a minimum of two years of work experience in the field of HR and a degree or specialization in Human Resource management participated in this study. Preference was given to employers having experience in working with people with physical disabilities. The two-year work experience in HRM criterion was set as such employers get opportunities to participate in the hiring of new employees and are well aware of the organization's policies and culture. Further, the size of the organization was determined by the number of employees in each organization. It was decided that small-scale organizations have 10-49 employees, medium-scale organizations have 50-249 employees and large-scale organizations have more than 250 employees (OECD, 2021). Eleven participants were interviewed for this study. The demographic details of the participants are as stated in Table 1.

The sample size was not predefined as the numbers of participants in a qualitative study are defined by the degree to which the research question of the specific study has been addressed. It was observed that by the tenth interview the information was repetitive, however; one additional interview was conducted to confirm the saturation point (Javadi & Zarea, 2016).

Semi-structured Interviews

Semi-structured interviews were conducted for exploration. The interview protocol refinement framework proposed by Castillo-Montoya (2016) was followed to develop the semi-structured interview guide. The

interview consisted of questions aligned to the objectives of the study. All the interviews were conducted at the workplace of the participants and were audio-recorded with consent. The average time duration was 40-45 minutes for each. The participants were ensured about the confidentiality of the data.

Data Analysis

The interview data were analyzed thematically by following Braun and Clarke (2006). In the first phase, the data was transcribed and read 2-3 times to facilitate initial theme generation (Bogdan & Biklen, 2007). In the second phase, three broad categories were defined on the basis of the research questions – method of deduction (King, 2004). All the transcripts were coded manually by underlining the data extracts. Coded data were then assembled together within each code by copying the extracts of the data into MS excel against the codes that emerged.

In the third phase, similar codes were grouped together into potential themes. Visual representation of data assisted the theme formulation. The name of each code was written and the codes were organized into emerging themes. In the fourth phase, clear themes emerged. Themes that did not have clear distinction were merged under a single broader theme and a thematic map was finalized (Figure1). Further, the themes were checked against the coded extracts and the raw data to ensure validity. In the fifth phase, the themes were defined to gain clarity on the aspects of data captured by each theme. As a part of refinement,

Table 1
Demographic characteristics of the sample (N=11)

Participant	Education	Gender	Designation	Experience in HR	Have experience working with PWD	Sector	Company size
P1	MBA, LLB	Male	General manager finance, HR manager	10 years	Yes	NGO	Small
P2	MBA	Male	Manager training and development	6 years	Yes	Tele-communication	Large
P3	BBA (HR)	Male	HR executive	4 years	Yes	Tele-communication	Large
P4	BBA (HR)	Male	GM- Talent acquisition and management	3 years	Yes	Tele-communication	Medium
P5	MBA	Male	HR executive	2 years	Yes	Tele-communication	Medium
P6	BCS, MS-HR	Male	Head of OD (HR)	12 years	Yes	Tele-communication	Large
P7	MS- Anthropology	Female	Director operations	15 years	Yes	NGO	Medium
P8	MBA	Male	HR manager	6 years	Yes	NGO	Medium
P9	MS project management	Female	Assistant manager HR	5 years	Yes	NGO	Medium
P10	MBA	Male	Head of HR	10 years	No	NGO	Medium
P11	MBA	Male	Head of services	6 years	Yes	NGO	Large

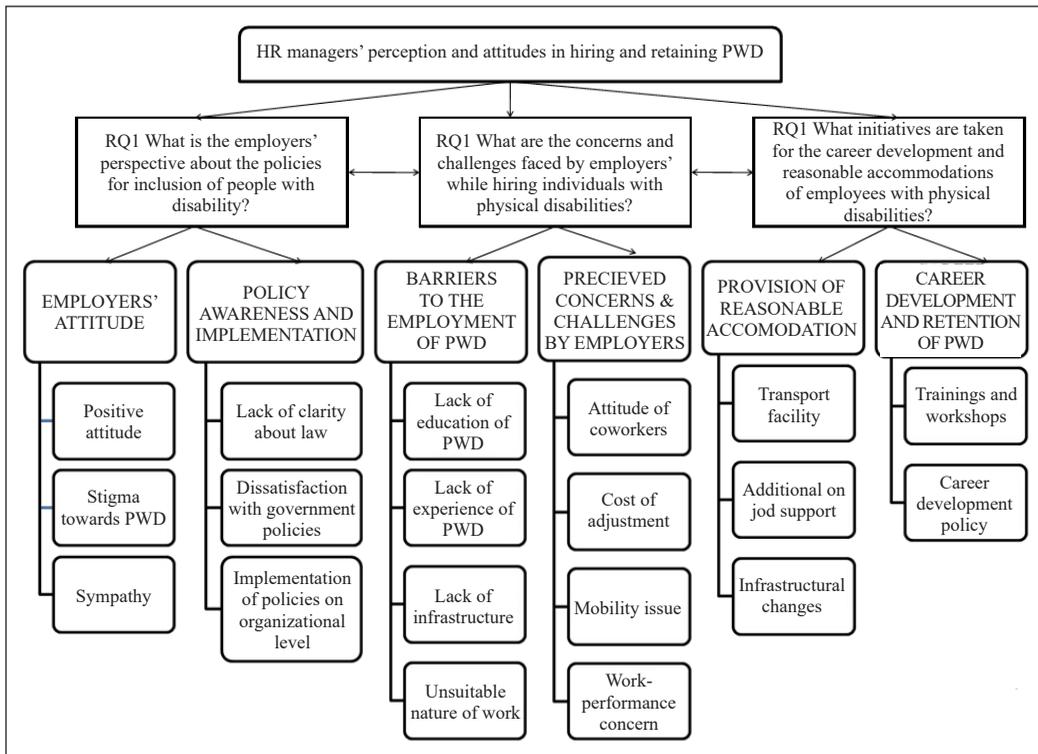


Figure 1. A thematic map on HR managers' perceptions towards hiring and retaining PWD

subthemes were identified and a final thematic map emerged. Verbatim was quoted to provide clarity in reporting.

The issue of validity and reliability was dealt with by adopting the criterion proposed by Lincoln and Guba (1985). Ensuring credibility, dependability, transferability, and conformability helped in establishing trustworthiness in qualitative research. Table 2 provides brief information about ensuring reliability and validity for this study.

FINDINGS

Six key themes emerged from the analysis, namely: employers' attitude, policy awareness, and implementation of perceived concerns and challenges of employers,

barriers to employment of PWD, reasonable accommodation for work, and career development and retention of PWD. Here the focus was exclusively on physical disabilities. Next, these themes have been discussed briefly.

Theme 1: Employers' Attitude

The first theme; employers' attitude represents the way the employers think and feel about people with disabilities. It includes the opinions employers hold about PWD and their actions towards them. Three subthemes emerged under this theme; positive attitude, stigma towards PWD, and doubting abilities of PWD. Employers generally showed a positive attitude towards

Table 2
Establishing trustworthiness

Credibility	Examining the existing literature. Published and established protocol for thematic analysis was followed (Braun & Clarke, 2006). Transcripts were sent back to the interviewees to check the accuracy of the transcription (Albarracin, 2018; Morse, 2015). The data and quotes were repeatedly reviewed for alignment and reporting. Independent researcher having experience of research in the field of business management was included in the study to calculate the percentage agreement (Lincoln & Guba, 1985). 10% of the transcribed data were coded by the independent researcher. The Cohen kappa was also found substantial (.77) which indicated that the coding of the data was free from researchers' personal bias (Burla et al., 2008).
Dependability	The research procedure is descriptive and clearly documented to establish logical connections (Tobin & Begley, 2004).
Transferability	Descriptions and justifications were provided to support the analysis.
Conformability	A detailed account of methodology was given with justifications for each research decision. Research journals were maintained during the research process to avoid bias. This included documenting meetings with co-researcher, appointments with research participants, maintaining diagrams to build the thematic map, documenting emerging ideas, definitions, descriptions, and thinking processes as a starting point prior to and during the data interpretation (Malagon-Maldonado, 2014).

the hiring of PWDs however after in-depth probing, stigmas and sympathetic attitudes were observed. Most employers in small and medium-scale organizations hold a belief that people with physical disabilities might not be able to perform effectively.

P5: "The major challenge is that whether the PWD will be able to perform or not...and even if they are hired, the focus of the employer will remain on the performance of the PWD. In an interview also they will think if the person would be able to perform his job effectively or not."

The findings suggest that employers sympathize PWDs and hire them due to anti-discriminatory cultural and religious

values however they do not provide them with positions as per their qualifications due to existing stigmas resulting in underemployment of PWD.

P8: "Employers will only hire PWD in order to gain blessings from God or to avoid sins and for religious satisfaction."

All the employers had a previous positive experience while working with people with disabilities yet their sympathetic attitude limits the potential and opportunities of such people. They do not hire them due to existing stigmas, and factors such as unsuitable nature of work, lack of experience and education, infrastructural issues, and cost-related concerns.

Theme 2: Policy Awareness and Implementation

The second theme refers to the understanding of the government policies for people with disabilities and the extent to which these policies are being implemented (generally or at the organizational level). Three subthemes emerged under this theme; lack of clarity about law, dissatisfaction with government policies, and implementation of policies on an organizational level. Most of the employers found unaware of the national policies. While other employers who were aware believed that national laws do not fully support the inclusion. They reasoned it to the State's approaches around the medical models of disability. All employers suggested that there is a lack in the implementation plan of the relevant policies.

P2: *"We have very good policies but we need implementation plans for them."*

P8: *"I think there must be but again it all depends on the implementation because we always lack in the implementation thing. Policies are there, we have signed UN Convention, we have signed each and every you know convention, signatures, MOUs whatever but again when it comes to implementation so there's always no implementation plan."*

When further explored, most of the employers did not have any formal written

policy aiming at the employment of PWDs. Due to fewer numbers of applicants with a disability; employers did not find it necessary to develop separate policies for PWD. Employers believed that reserving quota can address the issue of unemployment of PWD however due to reasons like unsuitable nature of work, directing resources and quota system adaptation is not possible.

P1: *"....so it is not that we do not want to take those people but again limited resources and different work nature actually won't allow us to hire people on the quota system."*

Employers' workings in the NGO sector, which is solely based on humanitarian approach, also hesitated in fixing quota as they stated that most of the hiring is project-based due to which fixing quota is not applicable.

P1: *"We cannot locate a quota because you never know that how or what type of project you get, in that project what type of people you want for example you are implementing some training programs; you will need a trainer if you are doing some counseling stuff you will need a psychologist so you cannot take 1 or 2 percentage of the people on the quota system that they will come here they will sit here and they will perform these ongoing jobs because there are no such ongoing jobs in our setup."*

Theme 3: Perceived Concerns and Challenges of Employers

This theme refers to the employers' perception or estimation of the challenges while hiring and retaining people with physical disabilities. Four subthemes emerged under this theme: attitude of co-worker cost of adjustment, mobility issue, and work performance concern. All the employers believed that their nature of work requires frequent movement due to which PWDs are not suitable for the positions. They believed that the lack of mobility of PWD can limit their work abilities and work performance.

P9: *"No one can work in the field without a leg.."*

Further, the findings show that small and medium-scale employers were concerned about the additional cost in adapting the premises or to assist the health-related issues or general issues of PWDs.

P4: *"Also in some organizations costing would be an issue because they would have to amend their work stations, they would have to tailor some things with regard to that person's needs."*

Most of the employers were also concerned about the work performance of the PWD. They were sure that their coworkers would be happy and supportive of the PWD. However, 18% of the employers stated that they are concerned that the negative attitude of coworkers will affect the employee personally and professionally.

P8: *"Coworkers will be helping, if I talk about my society and Islam, we always tend to help others. Even if we take small steps but we help. So they will help each other. Even in our organization, the culture is very friendly. If a person comes from any department, he is accepted and we start looking at him as a part of us."*

Theme 4: Barriers to the Employment of PWD

This theme discusses the existing barriers or the challenges in the employment of people with disabilities at the workplace which influence the employers' decision. Four subthemes emerged under this theme; lack of education of PWD, lack of experience of PWD, unsuitable nature of work, and lack of infrastructure. Most of the employers stated that the nature of work is unsuitable for the PWDs. The nature of work in their respective organizations requires frequent movement and fieldwork which is not suitable for PWDs.

P3: *"you know I have a position for a telecommunication engineer and that guy has to roam around every day, they have to check the towers, he has to maintain all the SOPs, so in such position, if a disabled guy applies it's very hard for me to hire.."*

The employers further perceived that the unsuitable nature of work can cause health or safety implications, especially in the telecommunication sector. Further

employers working in small and medium scale organizations stated that one major existing barrier is the lack of infrastructure and necessary resources to overcome these barriers. Moreover, most of these organizations are situated in buildings and plazas which do not observe universal design hindering the employment of PWD.

P4: *“Most of the organizations are small scale or I would medium as well, they have their offices in certain plazas so the main constraint was the infrastructure.”*

P7: *“Other than that employers don’t hire them as they would have to make structural changes for such people. They might need different toilets or entrances or different setups so they don’t want to hire and get into this hassle.”*

Employers stated that PWD does not have the relevant work experience and the required education for the position. Employers believe that the PWD are viewed as a burden in society due to which they are excluded from the basic rights; they are not provided with standard education making it difficult for employers to hire them on merit.

P8: *“They will not be put into schools. They will be sent into madrassas (religious schools). The family would say that we should teach them at home, they won’t need any job as they won’t be able to perform.”*

Theme 5: Reasonable Accommodation for Work

Provision of reasonable accommodation refers to any change in the work environment/job that enables a person with a disability to enjoy equal employment opportunities. Three subthemes emerged under this theme; transport facility, additional on-the-job support, and infrastructural changes. Employers agreed that they had already provided or would be willing to provide reasonable accommodations for employees with disabilities.

P4: *“We are installing our own lift and that in the other building we have already installed a ramp and we are going to do that here as well. So we are somewhat working on the infrastructure”*

However small and medium scale employers were concerned about the cost associated with the provision of reasonable accommodation. It was found that most of the employers provided transport facilities to the PWD however some of them stated that any kind of accommodation in terms of transport would be provided.

P1: *“if a person with a little bit of a disability like she is unable to walk or she is unable to travel frequently in the field, so as an employer we definitely think that we should be you know we should give her a little bit of the leverage that we can give her the vehicle so that at least*

she can go to the community on the office vehicle and then she can perform her duty “

Further, all the employers stated similar health and other benefits are provided to all the employees; no benefits are given to the employee with a disability.

Theme 6: Career Development and Retention Policy

Career development and retention theme refers to the efforts of the employers to train and develop an employee for internal benefits and for the employee's satisfaction in order to retain the employee ultimately lowering the organization's turnover rate. Three subthemes emerged under this theme; general training and workshops, lack of career development policy, and up-skilling needs. Most of the employers stated that numerous training and workshops are being held for all the employees but there is no specific training aimed at the development of PWDs.

P1: “Not specific training but definitely overall HR training are being given to you know the people who are there on that positions but not categorically to train on these type of topics where you know we can seek a people hire from different backgrounds and different disabilities so not that particular on that topic but overall human resource management training is being given.”

Further no career paths were devised specifically for the PWD mainly because of the lack of development policy for the PWD. This might be due to the low number of quotas reserved for the PWD or the low number of applicants. Further, it was found that there is a need to design programs that can help the PWDs in developing basic skills needed for their career-making to assist them in becoming the best fit for the organization.

DISCUSSION

Employer's perspectives and attitudes towards disability play a vital role in the employment of people with disabilities. The employers participating reported having experience of hiring and working with PWD. Only one participant did not have any such experience. All employers generally showed a positive attitude however, after in-depth probing, stigmas and sympathetic attitudes were noted. Most employers in small and medium-scale organizations doubted the abilities of PWD and viewed them in terms of their disability rather than their abilities. They shared interrelated concerns that affect the entire employment cycle. Even when people with disabilities are employed, these workers are more likely to report underemployment, involuntary part-time or conditional employment, and unfair salaries (Arsh et al., 2019; Konrad et al., 2013). This general mindset of employers could be due to the lack of understanding about disability (Ang, 2017).

Findings enabled understanding culture-specific factors as hiring people

with disabilities was viewed as a source of spiritual fulfillment to gain personal satisfaction and blessings from God as Islamic teachings focus on the fact that no discrimination should be done among people based on color, race, or religion and everyone should be treated equally in the society. The Employers sympathize with PWDs and hire them due to their cultural-religious values however they do not provide them with positions as per their qualifications.

Further employer's attitudes were found to receive influence by the previous experiences. Previously employers were reported to have a previous positive experience while working with people with disabilities as researchers reported that PWD is more energetic, enthusiastic, and are more loyal to the organization. (Heera & Devi, 2016). On a contrary, it was found that employers hesitate in PWD due to the perceived challenges. Further, factors such as unsuitable nature of work, lack of infrastructure, cost issue, lack of experience and education, and perceived challenges and concerns of employers were cited as the barriers in the employment of PWD. Findings contradict the literature that suggests that employers who have positive previous experience in working with people with disabilities find it easier to integrate PWD in their workforce despite the barriers (Sajjad, 2008). Generally, the findings indicated positive attitudes of employers seemed to be a superficial perspective.

Further, it was found that the employers aware of the laws believed that the national

laws do not fully support the employment of PWD. This might be because the state often focuses on the impairments of the PWD (medical approach). They tend to focus on the disability of the person and provide them with assistance accordingly, instead of adopting a comprehensive rights-based approach. Employers state that due to a lack of implementation and proper monitoring systems the employers are unable to adapt laws and policies to support PWD. The telecom-based employers were willing to adopt quota systems however lack of proper and strategic action plan makes it difficult for the small and medium scale organizations to implement national policies in terms of adaptation of quota, providing reasonable accommodation, and the adaptation of universal design. Further, the NGO-based employers showed reluctance in adapting quota as these organizations hire an employee according to the project requirements to which makes it difficult to predetermine the number of employees as resulting in underemployment of PWD.

Further, it was found that the implementation of the policy was influenced by the size of the organization rather than by the industrial sector. It was observed that both the small and large scale organizations had general written policies to promote inclusivity however large scale organizations were found more willing to adopt quota system. Contrarily small-scale and medium-scale organizations lacked awareness regarding the national policies aiming at the hiring and retaining of people

with disabilities and were unwilling to adopt the quota system due to limited resources and a low number of employees. However, the employers from all three organizational sizes were found to be sympathetic. The employers believed that PWD deserves a fair chance however the employers are hesitant while hiring them due to limited resources. The existence of policy addressing the employment of people with disabilities had low variability by the industrial sector. Both the telecommunication sectors and NGOs had no written policy aiming specifically at the hiring and retention of people with disabilities however all organizations had general policy promoting inclusivity. This general policy refers to a clause in the formal policy stating that no discrimination will be done on the basis of color, race, or religion of the job seeker. The recruitment procedures, job succession paths were the same as people without disabilities. All the employers believed that there is a dire need to have national and organizational level support to include PWD in the workforce. The result also revealed challenges and concerns into two categories; the perceived challenges and the actual barriers in the employment of PWD. The perceived challenges by employers may be a result of the existing stigmas towards the PWDs. Despite the previous positive experience when including people with physical disabilities in the workforce it was seen that most of the employers were reluctant in hiring people with physical disabilities due to the perceived challenges and concerns. Perceived challenges were influenced by

the actual challenges such as is the lack of reasonable accommodation and resources for the mobility of the potential employee.

The findings show that most of the employers were concerned about the work performance of people with disabilities. They believed that people with disabilities might not be able to perform well as per the needs of the organizations. Due to this mindset, most PWD are not given a fair employment chance. This finding is consistent with the literature that employers doubt the work abilities of the PWD (Mansour, 2009). Despite having previous positive experience employers tend to hold stereotypical views about PWD.

Most of the employers were confident that their coworkers would be happy and supportive of the PWD as previously employed PWD have had a positive experience while working in their organization. The employers stated that their organizational culture promotes inclusivity which will support PWD at each step. However, 18% of the employers stated that they are concerned that the coworkers will stigmatize the PWD which will affect the employee well-being. This finding supports the literature largely but also contradicts literature that indicates openness and acceptance for the employees with disability (Naraine & Lindsay, 2011).

With regards to the barriers in the employment of PWDs, most of the employers stated that the nature of work is unsuitable for them. They stated that the nature of work requires frequent movements and fieldwork. The employers stated that

the unsuitable nature of work can cause health or safety implications, especially in the telecommunication sector. Further, the employers working in non-profit organizations stated that the hiring is usually project-based.

Another major barrier cited by the employers was the lack of infrastructure. Employers working in small and medium scale organizations stated that one major reason for the lack of infrastructure is the lack of resources available. Employers consider the additional costs of adapting the premises to the needs of the PWD unfavorable due to which the hiring of PWD is discouraged. As per the literature review costing related to infrastructural changes is cited as a major concern in small-scale organizations (Ramachandra et al., 2017). However, in this study, it was found that costing is a major issue for medium-scale organizations as well. Further employers stated that most of the medium and small-scale organizations are situated in buildings and plazas and are not disability friendly. This may be one reason for the fewer number of applicants as stated by the employers.

Employers further stated that people with disabilities do not have the relevant work experience and the required education for the position but at the same time recognized the importance of educating PWDs.

With regards to career development and retention initiatives for the PWD, most of the employers stated that numerous training

and workshops are being held for all the employees but there is no specific training for PWD. This finding is consistent with the literature as it suggests that other than the attitudes of employers, workplace practices such as lack of training opportunities for people with disabilities result in their lower employment and retention rate (Bruyere et al., 2004). Further the employers stated that no career paths or development policy exists to support PWD. This indicates that altering career paths can lead to higher employment rate of PWD (Bonaccio et al., 2020)

Further, the employers agreed that either they had already provided or would be willing to provide reasonable accommodations for employees with disabilities if required. However, small and medium scale employers were concerned about the cost associated with the structural change which discourages the employment of PWD. Most of the employers provided transport facilities to the PWD however some of them disagreed and stated that any kind of accommodation in terms of transport or extra health benefits could not be provided. All the employers stated that no separate benefits are given to the employee with a disability due to a lack of resources or government support.

CONCLUSION AND IMPLICATIONS

The findings of this study support the social model of disability and recognize and highlights the barriers existing that hinder the growth of PWD. Attitudes and

perceptions of human resource managers are perplexed and they are likely to form barriers in employing people with physical disabilities. This is further reinforced by a larger legislative and social environment. Inclusion in the workplaces requires change at both cultural and organizational levels with budgetary support to create infrastructure on the basis of universal design. The findings indicate the importance of formulating and/or implementing government policies to support hiring and retention of employees in all types of organizations.

The findings may also encourage organizational managers to develop organizational level strategies for employing PWDs and supporting them the attitudinal change and reasonable accommodation strategies in addition to a focus on training and development.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This study only included private sector employers however exploring both private and public sectors can give a deeper understanding of policy implementation. Further, this study could not gauge the perspective of the employees. However future researches may take the perspective of the employees to find the discrepancies amongst the employees and the employers.

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Role of Forensic Evidence in Upholding Justice: Exploring Islamic Law and the Experience of Syariah Courts in Malaysia

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ABSTRACT

In Islamic law of evidence, there are several forms of evidence commonly used by courts to establish facts. In today's era, a form of evidence called forensic evidence has also emerged. A question then arises, what is the appropriate legal basis for acceptance of this forensic evidence in the Islamic law of evidence. This paper focuses on the evolution of the Islamic law of evidence and investigates the position of forensic evidence in Islamic law from sources such as the Quran, the Prophet's traditions, and the practices of the Companions of the Prophet. In addition, this study also looks at the experience of the Malaysian Syariah Courts in terms of how forensic evidence is dealt with in hearing family law cases. The research design of this study is content analysis. Data were obtained by document analysis, including books, papers, journals, case reports, and other records relating to the role of forensic evidence. The methods used to interpret the data for this qualitative research are analytical and deductive. As a result, it can be said that forensic evidence is not an unfamiliar matter in the Islamic law of evidence. In fact, forensic evidence has been relied on by the Syariah Courts of Malaysia in making several decisions for certain cases in order to ensure that justice is upheld in society.

Keywords: Circumstantial evidence, forensic evidence, Islamic law of evidence, Islamic justice, Syariah Court

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INTRODUCTION

What is forensic? In general, it means the application of scientific methods and techniques to the investigation of crime. In other words, forensic can be understood as a body of knowledge relating to scientific methods of solving crimes, involving examination of objects or substances that are

involved in the crime. According to Glugston (1998), forensic science is the application of scientific techniques in the investigation of a case. Thus, we can say that forensic science refers to a branch of science that is used in the investigation process to obtain proof (Pass & Allan, 2009). For example, forensic medicine would be relevant in the case of a person's death caused by poison. Thus, the court needs someone who has the expertise in the medical field to determine the cause of death for judicial purposes in court proceedings. The knowledge relating to the determination of cause of death, for example the finding of any sign indicating that the victim has been poisoned is an example of forensic expertise.

There are many different types of forensic evidence in scientific practice. Among the major categories of forensic evidence are DNA, fingerprints, and bloodstain pattern analysis. Fingerprint evidence can be more important than DNA in cases where identical twins are involved. As currently practiced, the information given to the court either by scientists or by other technical skilled persons is regarded as an expert forensic witness. For example, any evidence submitted by the police to the court such as fingerprints, blood, and hair is referred to as forensic evidence.

In Islamic law of evidence, forensic evidence often referred to its relevance as *qarinah* and *ra'y al-khabir*. However, the focus of this study is the acceptance of *ra'y al-khabir* and *qarinah* in terms of reliability, validity, and strength to be accepted as forensic evidence. The terms of forensic evidence used in this study are referred to

the evidence obtained by scientific methods testified by the expert forensic witness who was called to the court to give the testimony to strengthen the facts in the cases. Analysis of forensic evidence is used in civil as well as criminal proceedings and can often help to establish the guilt or innocence of possible suspects. Forensic evidence can also be used to link between one crime and another. For example, DNA evidence can link the same offender to several different crimes. This linking of crimes helps the authorities to narrow the range of possible suspects and to identify patterns of crimes.

In Malaysia, there was no specific reference to forensic evidence in the Evidence Act 1950. As the study was concerned, forensic evidence relates to an expert forensic witness. The definition of experts should therefore be referred to in Section 45 of the EA 1950 that is a person especially skilled in foreign law, science, or art, or in questions as to identity or genuineness of handwriting or finger impressions. Similar to that set out in Section 33 of the Syariah Court Evidence Act (Federal Territories) 1997 on the definition of an expert. However, the Malaysian Syariah Courts use the definition of an expert as a *qarinah*. The word "science" in both of the definitions has shown that the discussion on forensic evidence should refer to this legal provision.

METHODS

This study is qualitative research as it focuses on the subject of the study; the role of forensic evidence in upholding

justice. The research design of this study is content analysis. Data were collected using document analysis, namely books, articles, journals, case reports, and other materials relating to the role of forensic evidence. This research makes use of both primary data and secondary data such as articles and journals from electronic sources, books, and also the cases in court which is unpublished material. All of these materials are important because they help provide a detailed explanation of the topic. The approaches used to analyse the data under this qualitative research are analytical, deductive, and inductive. Analytical is the purpose to look at an issue more closely and in-depth for example: what is forensic? In this study, the deductive method was used to conclude the subtopic mostly by doing some predictions upon which is deduced from the acceptance of forensic evidence by the Quran.

SIGNIFICANCE OF FORENSIC EVIDENCE IN THE ISLAMIC JUSTICE PROCESS

In the judiciary process, the law of evidence is very important. With it, the judge can decide upon any claim or dispute between parties with a higher degree of proof. There are many Quranic verses that prohibit the people from concealing evidence, command them to give evidence honestly, and demand that they must be trustworthy and just. This is on the reason that by giving the evidence is meant as conveying information and confession as a trustee and a witness before Allah. The Quran says in Surah al-Nisa', verse 58, which means:

Allah doth command you to render back your trusts to those to whom they are due, and when ye judge between man and man, that ye judge with justice, verily how excellent is the teaching which He giveth you! (al-Qur'an, al-Nisa' 4: 58)

This verse vividly commands the people to judge between themselves (the disputants) with justice and equity. If the dispute is related to a trust item, that item is something that must be preserved as best as possible and it must be returned to its owner upon expiration. The sense of justice here is obligatory and delivering justice is the responsibility of all. Therefore, if justice can be upheld through the process of forensic evidence, then a forensic investigation must be carried out in order to ensure justice is obtained in a particular case.

The Quran says in Surah al-Ma'idah, verse 42, which means:

If thou judge, judge in equity between them, for Allah loveth those who judge in equity. (al-Qur'an, al-Ma'idah 5: 42)

In verse 49 of Surah al-Ma'idah, the Quran says, which means:

And this (He commands): judge thou between them by what God hath revealed, and follow not their vain desires, but beware lest they beguile thee from any of that (teaching) which God hath sent down to thee. (al-Qur'an, al-Ma'idah 5: 49)

In this verse, Allah commands the Prophet to judge disputes between people by that which Allah has revealed and ordered, and not to follow their desires, and to beware against some people who may tempt the Prophet away from what Allah has revealed to him. From this verse, it can be understood that if the process of analysis of equipment or of limbs of the victim involved can help to obtain evidence to solve a case, then the process of forensic investigation must be carried out.

The Quran says in Surah al-Nisa', verse 105 which means:

We have sent down to thee the Book in truth, that thou might judge between men, as guided by Allah, so be not (used) as an advocate by those who betray their trust. (al-Qur'an, al-Nisa' 4: 105)

People would be able to value justice when it can be implemented with efficiency, trust, and equity. The judge, therefore, should be qualified to preside over the judicial proceedings as has been commanded by Allah. In every case, Allah commands men to act justly, and not to let enmity lead them to deviate from justice. The Quran says in Surah al-Ma'idah, verse 8 which means:

O ye who believe! Stand out firmly for Allah, as witnesses to fair dealing, and let not the hatred of others to you make you swerve to wrong and depart from justice. Be just, that is next to piety. (al-Qur'an, al-Ma'idah 5: 8)

It is not enough for people to uphold justice they are expected to be its standard-bearers. They are not supposed to be concerned with justice merely in their own dealings but should always strive for its triumph. They should do everything within their power to ensure that injustice is eradicated and replaced with equity and fairness (al-Mawdudi, 1978).

The testimony of the people should be offered solely for the sake of Allah. Their testimony should not be biased in favour of any party. They should not make use of any opportunity for personal aggrandizement, and they should not seek to please anyone other than Allah.

Since justice is one of Allah's attributes, Qadri (1973) stressed that one has to stand firm for it. Godly justice is higher than man-made justice, for it searches out the innermost motives because men are to always act as if they are in the presence of Allah, to whom all things, acts, and motives are known.

The Quran says in Surah al-Nisa', verse 135 which means:

O ye who believe! Stand out firmly for justice, as witnesses to God, even as against yourselves, or your parents, or your kin, and whether it be (against) rich or poor, for God can best protect both. Follow not the lusts (of your hearts), lest ye swerve, and if ye distort (justice) or decline to do justice. (al-Qur'an, al-Nisa' 4: 135)

This verse declares that all information and testimony, including any forensic

evidence, should be given without any discrimination, even though it may be unfavourable to our own interests or to the interests of our parents or kinsmen. The witnesses who are called to court are the witnesses of Allah, therefore their being present as a witness to give testimony in court is due to Allah, not to anything else. The triumph in a trial is meant to be taken as the triumph of justice and the triumph of the security of rights. The Quran says in Surah al-Baqarah, verse 283 which means:

Conceal not evidence, for whoever conceals it, his heart is tainted with sin. (al-Qur'an, al-Baqarah 2: 283)

Concealing true evidence applies both in cases where a person does not appear to give evidence and where he avoids stating facts (al-Mawdudi, 1978). Whoever has any facts or evidence in a case, Islamic law commands that person to give co-operation as a witness. Likewise, the experts, are also urged to use their expertise and skills to help the court to identify the actual offenders. Without them, it would be difficult for the court to uphold justice in society.

The Quran says in Surah al-Baqarah, verse 282 which means:

The witnesses should not refuse when they are called on (for evidence). (al-Qur'an, al-Baqarah 2: 282)

The above verse means that no person should refuse when they are summoned (to give evidence). Such obligation has been placed upon every person in order to be able

to achieve justice in society. Likewise, when experts or skilled persons are called upon to the court to submit their views in certain cases, it becomes their responsibility to do so in order to achieve justice in society.

ACCEPTANCE OF FORENSIC EVIDENCE BY THE QURAN, THE PROPHET'S TRADITION, AND THE PRACTICES OF HIS COMPANIONS

Among the types of evidence accepted by Islamic law is the opinion of experts, also known as expert evidence. In Islamic law terminology, the testimony given by a particular expert on a case is referred to as *ray' al-khabir*. According to Bahnasi (1962), expert testimony is the opinion given by someone who has expertise in a relevant field related to a particular case. For example, in cases involving death suspected to have been caused by certain factors, the judge needs to have a certain level regarding what exactly caused the victim to die. Therefore, the court needs to obtain accurate and authentic evidence through the views and opinions of experts in the field of forensic medicine.

Expert opinion is usually concerned with scientific and technical elements involving people who are highly skilled in a particular field, such as scientists, technicians, and forensic medicine expertise. In such cases, the court will have to rely on the testimonies given by experts to assist the court in making a decision.

In the Islamic law of evidence generally, the means of proof are confession, testimony, and oath. Is forensic evidence acceptable in

Islamic law? The Quran says in Surah al-Nahl, verse 43, it means:

And We sent not before you except men to whom We revealed [Our message]. So ask the people of the message if you do not know. (al-Qur'an, al-Nahl 16: 43)

In this verse, Allah commands believers to ask the people who have received the message if they do not have knowledge as to a specific thing. According to a few commentators of the Quran like al-Qurtubi (1950), people of the message are the persons who have knowledge in a particular field or in a certain matter. Thus, we can say that judges, lawyers, and also prosecutors generally do not possess knowledge in specific fields such as pure science, mechanical engineering, medical pharmacology, medical diseases, and others. Hence, according to the above Quranic verse, when a case comes to the court which requires some scientific evidence, it becomes the court's obligation to pursue persons having that knowledge or expertise on the relevant specific matter, such as medical doctors, chemists, pathologists, and others who have sufficient knowledge to guide the court in the right direction in deciding such a case.

Ibn Qayyim (n.d.) gave some examples related to the need for forensic experts to testify in court. For example, the task of identifying the types of wounds, and determining whether they are serious wounds or not, should be done by a doctor who specializes in the relevant type of

injury. Similarly, if the court needs proof in relation to veterinary medicine, of course, it would be necessary to consult the views of a veterinarian.

In another Quranic verse, namely Surah Yusuf, verse 18, we are told the story of the Prophet Yusuf, where his brothers claimed that the Prophet Yusuf was killed by a wolf, which means:

And they brought upon his shirt false blood. [Jacob] said, "Rather, your souls have enticed you to something, so patience is most fitting. And Allah is the one sought for help against that which you describe. (al-Qur'an, Yusuf 12: 18)

According to the interpretations of al-Qurtubi (1950), the jurists have said that Prophet Ya'qub, the father of Prophet Yusuf, knew of the lies committed by the brothers of Prophet Yusuf by only seeing the clothes of Prophet Yusuf that had been handed over to him which were still in good and perfect condition so that Prophet Ya'qub said: When will the wolf become wise, he ate Yusuf but did not tear his clothes?

From the story of the Prophet Ya'qub and the Prophet Yusuf above, we can say that the Prophet Ya'qub was a man of high knowledge, and therefore he could figure out that what was told to him about the Prophet Yusuf having been killed by a wolf was a lie. The evidence he received was a fraud. The Prophet Ya'qub was able to know all that through the high knowledge and skill he possessed. The height of knowledge that the Prophet Ya'qub had can be compared to the expertise in forensic science today.

Another example that supports the argument that forensic evidence is acceptable by Islamic law is the Quranic verses 25-28 of Surah Yusuf, which means:

And they both raced to the door, and she tore his shirt from the back, and they found her husband at the door. She said, "What is the recompense of one who intended evil for your wife but that he be imprisoned or a painful punishment?" [Yusuf] said, "It was she who sought to seduce me." And a witness from her family testified. "If his shirt is torn from the front, then she has told the truth, and he is of the liars. But if his shirt is torn from the back, then she has lied, and he is of the truthful." So when her husband saw his shirt torn from the back, he said, "Indeed, it is of the women's plan. Indeed, your plan is great. (al-Qur'an, Yusuf 12: 25-28)

These verses tell about the Prophet Yusuf's struggle to escape from a woman who wanted to embrace and hug him. As a result, his shirt was torn from the back and the woman's husband had been able to discover that his wife had lied and that the Prophet Yusuf was a righteous man.

In the above verses, the words "*witness from her family*" refers to a man or a wise man, who had witnessed the case and can be said to be a skilled person, which in our time can be likened to a forensic expert. In this incident, the person in question was one with great insights with regard to the situation.

There are also some cases taken from the Prophet's traditions that can be linked to forensic practice. One example is that the Prophet once made a decision based on the views and opinions of experts who determined the lineage of a companion. The Prophet accepted the views of hereditary experts as proof of lineage.

The science of determining lineage is called *qiyafah* and it was pioneered in the time of the Prophet by some of the Arabs including Bani Mudlij which was mentioned in several stories in the time of the Prophet, among them the story of Usamah and his son Zayd. *Qiyafah* in terms of language means the physical matching of one object with another object. Meanwhile from a practical point of view, matching one's lineage with that of another person can be done through the physical features or characteristics of one's appearance.

A person who specializes in the field of *qiyafah* is called *qa'if*, namely one who is an expert in determining the lineage or offspring of someone. In brief, we can say that *qa'if* is a person who has the skills, ability, expertise, knowledge, and the trust of the community to practice *qiyafah*. It is recorded in the classical record that those known as *qa'if* are not specific to a particular tribe or race (Zaydan, 1984). In fact, a *qa'if* can be anyone having special knowledge and the ability to put that knowledge into practice. Shabana (2012) mentioned that the role played by *qa'if* can be likened to the role of forensic experts and scientists today. From the record, a companion named Mujazziz al-Mudlaji from Bani Mudlij,

Umar al-Khattab and his father al-Khattab bin Nufayl, Abu Ubaydah al-Jarrah, and also the Bani Asad were among those having skill, talent, and expertise in this field (Hoyland, 2005; Shabana, 2012).

It has been related by the authority of A'ishah that one day the Prophet came to her with extreme happiness, 'O A'ishah, do you not see that Mujazziz al-Mudlaji looked at Usamah bin Zayd and Zayd bin Harithah and both of them were under a blanket, both of them had their heads covered and their legs were exposed and he (Mujazziz) said:

*Indeed, some of these legs come from one another (similar).
(Muslim, (1412H/1991M).*

The happiness of the Prophet upon hearing Mujazziz's opinion on the lineage of Usamah bin Zayd shows that the Prophet had recognized Mujazziz's expertise in the field of determining lineage.

From this tradition of the Prophet, the indication is that Islamic law accepts the views of experts when a case has to be decided.

Another case that can also be used to relate to forensic science is the case of the assassination of Abu Jahl in the battle of Badr by two young men of 'Ufra, who both claimed that they had killed Abu Jahl. The Prophet asked them whether they had washed their swords. They answered 'no'. When the Prophet looked at their swords, he found that blood still stained one of the swords. He decided that the owner of the sword which still had blood on it was the rightful party in his claim.

Similarly, it has been narrated that Umar bin al-Khattab had made a decision without any objection from other companions regarding the fixed (*hudud*) punishment for adultery upon an unmarried pregnant woman based on clear evidence (Malik, 1989). In another case, Abdullah bin Mas'ud decided to whip an alcoholic person based on the smell of alcohol on his mouth (Zaydan, 1984).

RESULTS AND DISCUSSIONS

Forensic Evidence in the Court: To What Extent it is Acceptable as a Form of Evidence

In this matter, the Islamic schools of law have differing approaches. Some of them accept the forensic evidence to serve as proof in all cases, including for cases of fixed punishment, as long as the evidence is strong and undoubted. However, others do not accept forensic evidence except for civil cases. Accordingly, for criminal cases such as adultery, drinking alcohol, *qazaf*, and murder cases, the only types of evidence admissible are confession and witness testimonies. This means that the level of strength is different in criminal and civil cases, depending on the discretion of the judge who assesses the strength of the evidence against a great deal of prejudice in the proceedings.

Forensic evidence may be accepted as evidence for the use of *ra'y al-khabir* and *qarinah*. In criminal cases, the *qarinah* must be proved beyond reasonable doubt and the level of strength for civil cases is the balance of probabilities. Forensic evidence

such as *qarinah* or *ra'y al-khabir* cannot be used directly but is used to support other evidence. For example, in the case of *takzir*, both *qarinah* and *ra'y al-khabir* can be used to reinforce the evidence to prove the case.

Among the Islamic schools of law that accept forensic evidence for all cases are the Maliki and Hanbali schools of law. As stated by Ibn Farhun (1884): 'Indeed a part of methods of judgment in the Maliki school is to adhere to circumstantial evidence'. From this statement, it can be understood that the Maliki school of law accepts forensic evidence as one of the methods of providing proof for all cases, given that forensic evidence was recognised as one of the categories of circumstantial evidence or *qarinah*.

Likewise, in the Hanbali school of law, Ibn Qayyim (n.d.) stated: 'The opinion of one doctor is sufficient in cases of serious injury if two are not available. Similarly, the expert witness of one veterinarian is sufficient in cases of the disease of an animal'. The Hanbali School of Law accepts forensic evidence as a testimonial to the expert witness. The doctor is an expert to justify the injury to humans and the veterinarian is an expert to determine the injury to humans.

The Islamic justice system is not narrow and troublesome, in fact, it strongly emphasizes that justice must be upheld in any circumstances. Therefore, if a judge finds it difficult to decide a case and requires the views of experts such as doctors, scientists, veterinarians, pharmacists, and others, the judge must obtain their expert

views first before making a decision. In this regard, al-Sarakhsi (1986) stated: "If a ruler faces difficulty in determining the value of the stolen property he should seek the opinions of the experts. But if the experts differ in their opinions about the values, for example, some of them estimate it at ten dirhams and the others fix it by less than that, the punishment of *hudud* will not be implemented on the person accused because such a fixed punishment would be implemented when the amount of the stolen property reaches a specified amount and it is reckoned not enough when there is a difference of opinion among the experts as to its value".

In his record, Ibn Qayyim (n.d.) explained the position of Islamic scholars regarding the use of forensic evidence. He said that although they did not explicitly adhere to the use of expert evidence to establish proof in court, in reality for certain cases they refer to the views of experts to make decisions. For example, in the case of treasure (*rikaz*), should there be signs that it was owned by Muslims, then it is considered as property found (*luqatah*) but if there are signs that it was owned by non-Muslims, then it is counted as treasure. To see whether that property was owned by Muslim or not Muslim, surely an antique expert would need to be called in to make a determination of the matter.

The relevance of expert opinions in resolving a court case has also been expressed by contemporary Muslim scholars. Among them is al-Zuhayli (1998) who stated that a female doctor's opinion is required to

determine whether or not the virginity of a woman is intact. Likewise, in cases to decide the amount of compensation payable for injuries, the opinion of a specialist doctor is required. Meanwhile, in order to check the existence of latent defects on consumer goods, the opinion of an expert on goods is required. In both cases, the opinion of the doctor as an expert witness can be used to reinforce the facts of the case in court.

Thus, this study has shown that *qarinah* and *ra'y al-khabir* are relevant and acceptable as forensic evidence in court based on the discussion of the Islamic Law School.

Forensic Evidence in Malaysia: The Experience of the Syariah Court

Forensic evidence has long been admissible in the Syariah Courts of Malaysia for purposes of establishing facts. As is well known, the use of forensic evidence in the Syariah Courts is not limited to civil cases only. However, a Syariah Court does not have the jurisdiction to handle serious criminal cases such as murder, theft, rape, and so on. Among the types of cases heard in the Syariah Court which allow forensic evidence to be admitted are cases relating to the determination of lineage and confirmation of the pronouncement of divorce.

Cases on Determination of Lineage.

Forensic evidence was relied on in the following cases to determine the doubtful lineage of a child.

The Case of Sabah State Syarie Prosecutor v. Rosli Abdul Japar [2007] 1 CLJ SYA 496.

The accused in this case, Rosli bin Japar, was charged with an offence under s. 80(1) of the Syariah Criminal Offences Enactment (State of Sabah, 1995) for the offence of having illicit intercourse with a woman named Murni which resulted in her giving birth to an illegitimate child. To prove the case in court, the prosecutor submitted the testimony of an expert witness. The said expert witness testified that the Deoxyribonucleic Acid (DNA) test was conducted on the accused and his partner proved that the accused was the father of the illegitimate child. The accused was later given the opportunity to take an alternative DNA test to refute the prosecution's medical evidence. The accused failed to present any evidence but argued that the results of the DNA test presented by the prosecutor cannot be used as evidence to prove the case against him pursuant to s. 86(1) of the Syariah Courts Evidence Enactment (State of Sabah, 1992) which states that "Evidence in the case of adultery that carries *hudud* punishment is not acceptable unless witnessed by four male witnesses".

Following this, the court called upon the accused to enter his defence. The main question was whether the accused would be able to cast any reasonable doubt on the prosecution's case.

The Syarie Prosecutor had succeeded in proving the prosecution's case based on expert evidence through scientific proof, namely in the form of DNA test reports. DNA tests were conducted on

the blood specimens of the three donors, namely Hasmawi Abdullah, Murni binti Muhammad, and Rosli bin Abdul Japar. The DNA tests were conducted by a DNA expert named Mohd Izuan bin Othman from the Department of Chemistry Malaysia, Petaling Jaya, Selangor.

Pursuant to s. 33(1), 33(2), and 33(3) of the Syariah Courts Evidence Enactment (State of Sabah, 1992), the court accepted the expert evidence as proof of adultery. The court also accepted the prosecution's argument that there was a strong indication that the accused's relationship with Murni led to illicit intercourse and the birth of an illegitimate child. The failure of the defence to submit alternative DNA test results gave rise to two possibilities, namely: (i) such test results, if submitted, would be detrimental to their case; and (ii) the results of the test is not different compared to the first test made by the prosecution.

The Case of Eddyham bin Zainuddin v. Rahimah binti Muhamad (05000-006-0011-2012). This case is an unreported case that was initially heard in the Seremban Syariah High Court. It is concerned with the determination of lineage and the decision of the High Court was delivered on 15 August 2012. This case has been cited as an example to show that the Syariah Courts in Malaysia do accept the opinions of forensic experts as an admissible form of evidence to be considered when they decide on cases.

In this appeal case, the appellant was not satisfied with the decision made by the Seremban Syariah High Court Judge that

the appellant's second son, Muhamad Syafiq bin Eddyham, was in fact the appellant's legal or biological son. Based on the application made by the appellant, the court directed the appellant to conduct a scientific deoxyribonucleic acid (DNA) test to obtain more accurate confirmation regarding the lineage of the child. Consequently, the DNA test was performed by the Forensic Division of the Department of Chemistry Malaysia using the blood samples of the appellant, the respondent, and also the child.

After analyzing the blood samples from the three individuals involved, the chemist, Normazlina Zainuddin, reported in writing that the appellant was not the biological father of the child. However, the trial judge rejected the chemist's written report because the expert witness had not been called to the court to testify that the child was not the appellant's biological child, as allowed by s. 33 of the Syariah Courts Evidence Enactment (Negeri Sembilan, 2003). At the same time, the appellant was found to have deliberately delayed the action of denial of the lineage. If this particular issue is viewed from an Islamic point of view, it should not be delayed. Therefore, the court decided that the written report should be rejected.

Based on the above two cases, it can be concluded that forensic evidence has been relied on by the Syariah Courts of Malaysia in cases involving the determination of a child's lineage which involves a scientific report issued by a recognized chemist.

Divorce Confirmation Case. Forensic evidence is also accepted in divorce confirmation cases such as in cases involving

allegations of black magic influence and also in cases involving the state of a person's mental health when pronouncing divorce.

The Case of Mohd Zulhaini Uzir v. Fadzlina Mohd Fadzil [2012] 1 CLJ (SYA). This case is a divorce application case between Mohd Zulhaini Uzir and Fadzlina Mohd Fadzil. In this case, the appellant appealed against the decision made by the Judge of the Syariah Subordinate Court that the triple divorce pronounced by the appellant against his wife (respondent) on 20 August 2011 was valid under Islamic law. The appellant argued that the court erred in failing to take into account the fact that the appellant was in a state of rage and without consciousness when he pronounced the divorce.

It was further argued that the trial court should have called a forensic psychiatrist to determine the appellant's mental state at the time when he pronounced the divorce, but the trial court had failed to do so. The court should have also considered that the respondent was three months pregnant at the material time as alleged by the appellant. Based on the judgment notes, the trial judge made a statement about the appellant's conduct while testifying in court, saying that was often difficult for the appellant to answer court questions clearly, and he also misleadingly changed his answers. But the trial judge erred by not taking into account why the appellant so acted like that. It was likely that the situation occurred because the appellant had been bewitched. Based on the testimony of the respondent, the appellant had ever been treated for black magic.

By right, the trial judge should use the provisions of s. 33 of the *Syariah Courts Evidence Enactment* (State of Penang, 2004) to call a forensic psychiatrist in order to determine the appellant's level of sanity and not merely rely on the appellant's evidence alone. Accordingly, the court ordered the appellant and the respondent to be called back immediately so that the case could be retried in relation to the issues that had been stated.

The Case of Zakaria@Supar bin Ali v. Haznah@Maznah binti Embong [2012] 2 ShLR 12. This case is a divorce case with a triple *talaq* pronouncement. On October 27, 2006, at about 8 pm, the appellant pronounced divorce on the respondent with the words, "I divorce you with three *talaq*". Before the divorce was pronounced, there was a fight involving the appellant, the respondent, and their children. The appellant became angry when the respondent talked back to him. The appellant also almost hit his daughter but was then stopped by his son who pushed the appellant to the bed. Then, the appellant quickly got up and went on to say to the respondent, "Ok, I divorce you with three *talaq*". In his testimony in court, the appellant had explained that while he was pronouncing the divorce on the respondent, he had lost self-control and was in a state of over-anger and depression.

Based on the appellant's statement, the judge of the Marang District Syariah Subordinate Court decided that there had been triple *talaq* that took place outside the court and without the court's permission.

The court in making the decision referred to the medical report made by Dr. Wan Munazri bin Wan Mustafa, a psychiatrist, Department of Psychiatry and Mental Health, Sultanah Nur Zahirah Hospital, Kuala Terengganu. The medical report stated that the applicant had received psychiatric treatment since August 1992 until the time when the case took place. The appellant had been diagnosed with organic personality change with depressive illness. The appellant often got into an epileptic state due to having been involved in accidents, and he was also often irritable, overly sensitive, impulsive, anxious, and had low self-control especially when he was in about of depression.

The Syariah High Court was of the opinion that the Marang District Syariah Subordinate Court had not carefully evaluated the appellant's state of mind before making a decision and had failed to call Dr. Wan Munazri bin Wan Mustafa, a psychiatrist in charge of making a medical report on the appellant to come to court and answer several questions. It was found that the failure of the Marang District Syariah Subordinate Court to call the relevant psychiatrist to give evidence had left these questions unanswered.

Based on the above two cases relating to confirmation of the pronouncement of divorce, it is clear that forensic evidence is accepted by the Syariah Court to determine the condition of the husband when pronouncing the *talaq*, to evaluate whether he may have been under the influence of black magic or was an unstable mental state. Although there are cases that do not refer to

expert witnesses before judgment is made, the arguments given indicate that expert evidence is often needed to explain the findings in the scientific reports to the court.

Thus, it can be concluded that forensic evidence has been accepted by judges in the Malaysian Syariah Courts to resolve certain cases, as demonstrated in the above three cases. Case analysis shows that forensic evidence can be accepted in Islamic evidence law as a form of evidence to establish facts.

CONCLUSIONS

From the above discussion, it can be concluded that forensic evidence can be accepted as one form of proof for certain cases in order to help judges make fair and informed decisions. From the excerpts of the Quran cited and the Prophet's traditions, it can be said that forensic evidence has existed and been practised in the history of Islamic law. In addition, it can be said that forensic evidence can be used as *qarinah* which can strengthen other forms of evidence in proving criminal and civil cases.

In the present Islamic judicial legal system, evidence given by forensic experts is equivalent to the opinion of experts, also known in Arabic as *ra'y al-khabir*. Such form of evidence through the testimony of a qualified person in relation to a particular field is now considered as acceptable. The opinion given by such an expert is based on his or her specific high-level knowledge. In this case, the judge will place reliance on the opinion of experts to assist him in deciding a case fairly. Therefore, it can

be concluded that forensic evidence for the purpose of establishing proof is not something unfamiliar and foreign in the Islamic judicial system.

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Identification of Adaptive Capacity's Drivers in an Urban River Neighbourhood based on Community Experiences

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ABSTRACT

Urban river neighbourhood communities have been swiftly adapting to rapid urbanisation despite the unsolved issues with their rivers. These issues indicate that there are gaps that need to be addressed, particularly the ones related to social aspects. In an attempt to fill in those gaps, this study aimed to identify the drivers of the adaptive capacity of an urban river neighbourhood community in Kg. Pertanian, Kulai, Johor. Data were elicited through focus group discussions with 27 residents followed by subsequent personal interviews. The obtained transcriptions were analysed by Nvivo12. From the results, it was found that there were three dominant drivers, namely 'community identity', 'community response', and 'stakeholder agency'. 'Community identity' refers to the community's contentment with life and its essential neighbourly relationships. 'Community response' reflects the community's process of learning from experience and how its residents used the knowledge to benefit the community's well-being. Finally, 'stakeholder agency' encompasses the community's engagement and communication with stakeholders to avoid conflict during upcoming planning for its urban river and neighbourhood. These drivers were based on the community's experiences or social memory. Interactions during floods and community events became the foundation for social memory. The interactions also bonded the people in the community, which was evident from the residents' participation. All in all, the

adaptive capacity and consequently the resilience of the urban river neighbourhood community can be attributed to three drivers: 'community identity', 'community response', and 'stakeholder agency'.

Keywords: Adaptive capacity, community, neighbourhood, social memory, urban river

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INTRODUCTION

Communities are, undeniably, one of the keys to the world's sustainability, and are one of the backbones that make up nature (Darby & Sear, 2008). Unfortunately, they have negatively affected the surrounding environments through their activities (Harper, 2004; Li et al., 2019). Examples of such activities include land expansion, especially in urban areas, for housing and industry have encroached upon rivers and placed pressure on river landscapes (Chan, 2005). Furthermore, these activities have caused urban rivers, which are known for their versatile functions for society (Baschak & Brown, 1994; Chan, 2005) and are one of the focal points of this study, to deteriorate, as what happened in many countries, including Malaysia. The damage is further exacerbated by climate change that increases flood risk (Palmer et al., 2009; Verbrugge & van den Born, 2018). Additionally, the rivers are also degraded by engineering works that changed their natural physical form (Gregory, 2006). All of these showed that human intervention would only damage urban rivers' functions and cause riverside communities to face the consequences.

It has been shown in history that humans established their neighbourhoods close to rivers for many reasons, which included disposing of waste. Then, the established neighbourhoods became a place for social interaction (Baschak & Brown, 1994; Chan, 2005; Rahman & Yatim, 1990). Over time,

emotional bonds between communities in the neighbourhoods developed (Gleye, 2015), even when the neighbourhoods were urbanised. Disappointingly, they have also become the polluters of rivers. Pollution is not a new issue in urban river studies as it has surfaced since the early industrial era (Chan, 2009; Chan et al., 2003; Chen et al., 2018; Elfithri et al., 2011; Eze & Knight, 2018; Kumar et al., 2018; Wang, 2018). Serious attention is needed to address urban river degradation from a social perspective. This situation is worsened by the lack of concern from the communities, despite the efforts to raise awareness (Sakai et al., 2018). The negative impact of this mostly goes back to the communities that live close to urban rivers (Chiang, 2018). This situation reveals how urban rivers that were once strategic locations for neighbourhoods deteriorate due to developments (Asakawa et al., 2004). It also shows how the communities in the neighbourhoods are instrumental in curbing this problem.

Particularly in Malaysia, rivers are one of life's sources that were historically responsible for the growth of neighbourhoods (Chan et al., 2003). Md. Yassin et al. (2010) believed that without rivers, Malaysia would not have its glory in history. As this study focused specifically on identifying the adaptive capacity of a community by an urban river, the neighbourhood becomes the setting. The next subsection explains the definition of adaptive capacity in relation to the urban river neighbourhood.

Overview of a Community's Adaptive Capacity in an Urban River Neighbourhood

Adaptive capacity is primarily a social phenomenon in social-ecological systems and is one of the fundamentals for resilience (Choudhury & Haque, 2016; Folke et al., 2010). The Intergovernmental Panel on Climate Change (IPCC) has defined adaptive capacity as '*the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities or to respond to consequences*'. In other words, it reflects the ability of systems to adjust to changes, moderate impact, and cope with potential damage or disturbance (Cutter et al., 2008; Wilson, 2012). Community resilience focuses on the state of communities after or whilst adapting to changes, whereas adaptive capacity refers to the communities' way of handling change. In this study, the adaptive capacity of an urban river neighbourhood community is evaluated based on the community's experience during floods and community events.

Adaptive capacity is sometimes expressed as a community's capacity to respond to surrounding changes (Robinson & Carson, 2015). As a community is unable to control all situations (Magis, 2010), the capacity is related to the diversity of responses that are based on available options, which reflects the community's flexibility in handling unexpected changes (Fazey et al., 2018; Holling & Meffe, 1996). The adaptive capacity mainly depends on the communities' experiences of past and

present events (Keen et al., 2005; Osborne et al., 2007; Wilson, 2012). The embedded experiences later became the communities' social memory, a factor responsible for shaping their next action after disturbance.

Social memory is related to memorised past events (von Bertalanffy, 1968). Schama (1995) noted that social memory is influenced by the impact of past events, and by understanding a community's actions, a better understanding of its neighbourhood's landscape can be achieved. The community's experiences in an urban river neighbourhood matter because they accumulate and become part of the community's social memory. Subsequently, they form a pathway that influences the community's adaptive capacity. The pathway is intricately related to social memory; it acts as a guide for the community and becomes the key to the community's resiliency (Wilson, 2014). The community is driven by social memory because the pathway is demonstrated by the influence of collective memories (Stark, 1991). In this study, the community's experiences are considered in order to understand its social memory and consequently, adaptive capacity.

This study focuses on the floods and community events experienced by a community. In an urban river neighbourhood, the community is closest to the river is the most affected. Because they are the most exposed to the river and the events that happen around it, they become the unit of analysis that gives a better reflection of the neighbourhood's adaptive capacity.

Gap of Study

As the community became this study’s data source, its adaptive capacity and its neighbourhood had to be considered together. Adaptive capacity is mostly studied in relation to disaster risk reduction and rural, whilst urban river neighbourhood is mostly studied concerning river restoration and river ecology. Not much attention has been given to the social aspect of urban river neighbourhoods and adaptive capacity. Table 1 summarises the studies related to adaptive capacity and urban river neighbourhoods.

Human intervention has been affecting all aspects of urban rivers, including the rivers’ form and functions, on a global scale (Wohl, 2014). As a result, the rivers face persistent environmental issues since 2003, mainly pollution, as indicated by many authors (e.g.: Chan, 2005, 2012; Chan et al., 2003; Elfithri et al., 2011; Parsons & Thoms, 2018).

Despite the pollution, there are still communities, excluding squatters, that live next to rivers and are reluctant to move. Their existence further indicates the need for the community to be highlighted in this study, as the issues relate to anthropogenic. It also suggests that the community has the ability to adapt. Furthermore, communities are considered as the root of the success of urban river neighbourhoods because they are the residents of the area, and offered pertinent information for this study. Wilson (2012) has provided a total of 35 drivers that are composed of economic (12 drivers), social (16 drivers), and environmental (7 drivers) capitals. This study adopted the social capital drivers to explore adaptive capacity further, as the aforementioned author did not specifically mention the setting. This study attempts to identify the drivers that existed in an urban river neighbourhood in Kg. Pertanian, Kulai, Johor as well as explore the neighbourhood through its community.

Table 1
A summary of studies related to adaptive capacity and urban river neighbourhoods, and the need to bridge the gap

	Adaptive capacity		Urban river neighbourhood	
Field	Disaster risk reduction	Rural studies	River restoration	River ecology
Authors	Ling and Chiang (2018), Patel and Gleason (2018), Rufat et al. (2015)	Chaudhury et al. (2017), Jiang et al. (2016), Lisnyj and Dickson-Anderson (2018)	Åberg and Tapsell (2013), Chen et al. (2018), Junker and Buchecker (2008), Podolak (2012)	Jim and Chen (2003), Schmidt et al. (2016), Solins et al. (2018)
Description	Adaptive capacity is at its infancy in urban river neighbourhoods (Hunter, 2011; Wilson, 2012)		There is a need to give attention to the social aspects of urban river neighbourhoods (Chaffin & Scown, 2018; Kumar et al., 2018) because its focus has been solely on	
	Adaptive capacity in an urban river neighbourhood is essential to ensure that the community and the neighbourhood can sustain through disturbances			

METHODS

This study was conducted in an urban river neighbourhood and depended on its community's responses during focus group discussions and interviews to explore the community's adaptive capacity. The selection of the study area and respondents is described in the next subsection. The subsequent subsection explains the methods of data collection, and the last subsection elaborates on the tools of analysis.

Selection of a Study Area and Respondents

The neighbourhood is located in Kg. Pertanian, Kulai, Johor. Kg. Pertanian is a 126-acre kampong that is surrounded

by domestic, industrial, and residential lands. It is populated by 1400 residents and 248 houses and is close to the Skudai River, which is one of the 11 main rivers in Johor. The community is under the careful supervision of the Department of Irrigation and Drainage (DID) as the distance between its office with the neighbourhood is only 1.4 km (an 18-minute walk). Figure 1 illustrates the location plan of the study area. The close supervision from DID leads to better river issues exposure to the community. Because of this, Kg. Pertanian was chosen as the study area. Site visits were carried out for the researcher to be familiar with the neighbourhood and to establish rapport with its community.



Figure 1. Location of of interest in Kg. Pertanian, Kulai, Johor

A total of 27 residents that live near the river participated in the data collection. The respondents were selected based on their willingness to participate in focus group discussions. Their willingness signified their commitment to their neighbourhood (Robinson & Carson, 2015) as they volunteered to elicit data regarding their adaptive capacity. Genuine and accurate responses during the discussions and interviews were guaranteed as they were dedicated. Because of constraints in terms of finance and transportation, non-probability sampling was used (Fink & Gantz, 1996; Neuendorf, 2017) to elicit data from the residents. The sampling was also used because the discussions were conducted on a Wednesday, which was a working day. The day was decided by the representative from the community after it was agreed that most of them would be available to participate. It was unclear as to how many would be available; thus, the researcher did not expect any specific numbers of the respondents. This study adopted purposive sampling as it was purposely for the community of the urban river neighbourhood, of which residents were valid respondents due to their exposure to their surroundings.

Focus Group Discussions and Personal Interviews

Data were elicited from focus group discussions and subsequent personal interviews. Four focus group discussions were carried out during a community workshop held in the Dewan Pusat Aktiviti Warga Emas (PAWE) community hall. Before the discussions, two talks about river challenges and the role of communities were given by experts. Then, the discussions were carried out simultaneously due to time limitations. Each group consisted of five to seven respondents and a researcher's assistant as the moderator that will ask questions. Then, the respondents were briefed by the researcher about the focus group discussions' procedure. Figure 2 illustrates the flow of the workshop.

The sets of questions had four headings, namely (i) river issues, (ii) river management and maintenance, (iii) river environment preferences, and (iv) the neighbourliness in the neighbourhood. The questions focused on the community's awareness and perception of their experiences living close to a river. Each section consisted of four to ten questions, which were asked by the researcher's assistants. The assistants were



Figure 2. The flow of the community workshop, which included talks and focus group discussions

also allowed to ask follow-up questions whenever necessary to elicit meaningful data and skip questions indirectly answered to other questions. In a qualitative study, the goal is to understand the processes and relationships within the unit of analysis (Neuman, 2014). Thus, the questions were improvised according to the situation to ensure that the respondents understood their meanings. The discussions took approximately 30 minutes and were recorded using the assistants' smartphones for the sake of convenience.

The much later personal interviews were carried out periodically to support the results and ensure the clarity of responses. The interviews were recorded using a smartphone and carried out at places most convenient to the respondents, such as somewhere near their homes or in the community hall. Four personal interviews were done with three respondents with time spent between five minutes up to an hour. These respondents were considered those who knew the neighbourhood the most because they were well known by the residents and played a part in the community's organisation. They knew the well-being of the residents the best. The interview questions were meant to clarify any unclear answers from the focus group discussion. Three interviews were recorded, while one was purposefully unrecorded to avoid inconvenience to other respondents. Despite that, notes from the respondent's feedback were still taken.

The responses to the discussions and interviews were recorded verbatim as they reflected real experiences in the urban

river neighbourhood. Finally, the raw data were transcribed, translated from Bahasa Malaysia to English, and analysed using Nvivo12.

Tools of Analysis

The hierarchy chart in Nvivo12 was used to identify the drivers of the community's adaptive capacity in its urban river neighbourhood. The drivers are listed and discussed in the next section. The results were examined further using content analysis to explain the relationship that influenced their adaptive capacity.

As illustrated in Figure 3, the process of analysis started by listing the drivers outlined by Wilson (2012). Next, the transcript was read to identify statements that complemented the drivers adapted. It was irrelevant whether the statements indicated positive or negative impressions. The process continued by writing down manually all identified themes that complemented the drivers. Next, the transcript was reread carefully to identify the themes that reappeared in the discussions. There is meaning in reappearing themes, and thus, they must not be ignored (Krippendorff, 2004). Adaptive capacity became the foundation for the analysis, which would later provide a roadmap to generalisations (Neuendorf, 2017) regarding the community. The dominance of the drivers was based on assigned codes of the transcriptions (Tobi, 2016). Nvivo12 helped the researcher to be familiar with the data pattern and develop the relationship between drivers as well. In this paper, only the interrelation between the

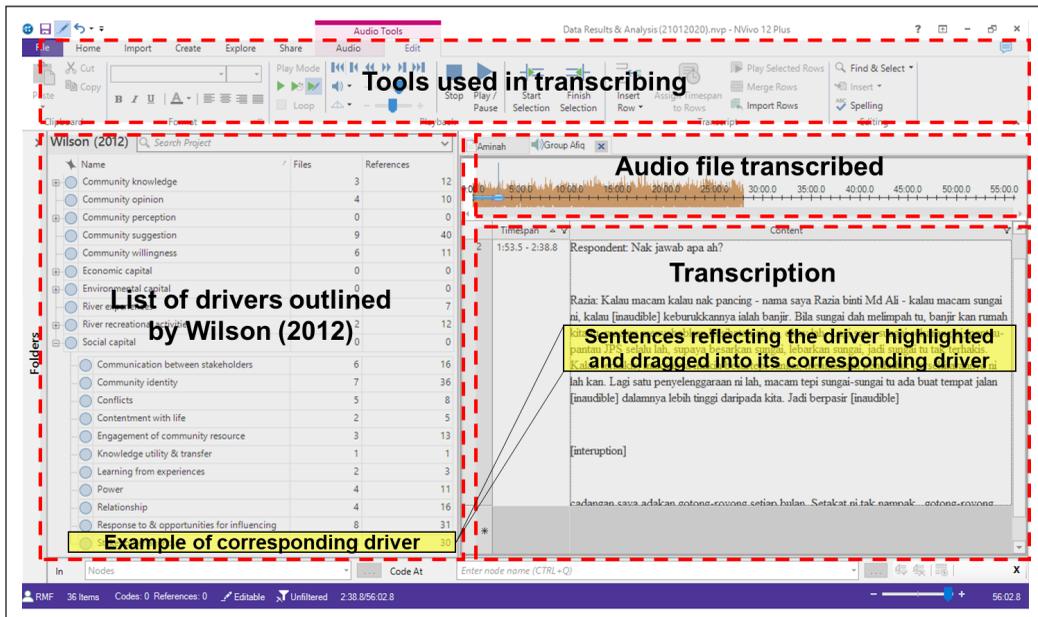


Figure 3. The interface of the audio transcription in Nvivo12

main drivers was focused on when trying to gain a deeper understanding of the adaptive capacity.

RESULTS AND DISCUSSION

This study adapted the social drivers from Wilson (2012) to examine the adaptive capacity of a community in an urban river neighbourhood. Out of 16 drivers, 11 were identified from the community's experiences, which means that these drivers influenced the way the community adapts to its living environment. Three drivers were found to be the most dominant, namely (i) community identity, (ii) community response, and (iii) stakeholder agency. How the three drivers became the main drivers that affected the community's adaptive capacity is discussed later. Figure 4 illustrates the dominance of the 11 drivers that were present in the neighbourhood.

It was found that the three drivers were connected by the community's interaction with its living environment and stakeholders in its neighbourhood. The following subsection explains the relationship between the community and the drivers. The subsection after that explains the relationship between the community and the drivers. The subsection after that explains the community's drivers, which reflected the community's adaptive capacity.

The Relationship Between The Community And The Drivers

The results shown are based on the community's experiences that involved interactions among the residents and stakeholders that took place in their urban river neighbourhood. Figure 5 shows the summarised of the three dominant drivers.

The most dominant driver is 'community identity', which describes the background of

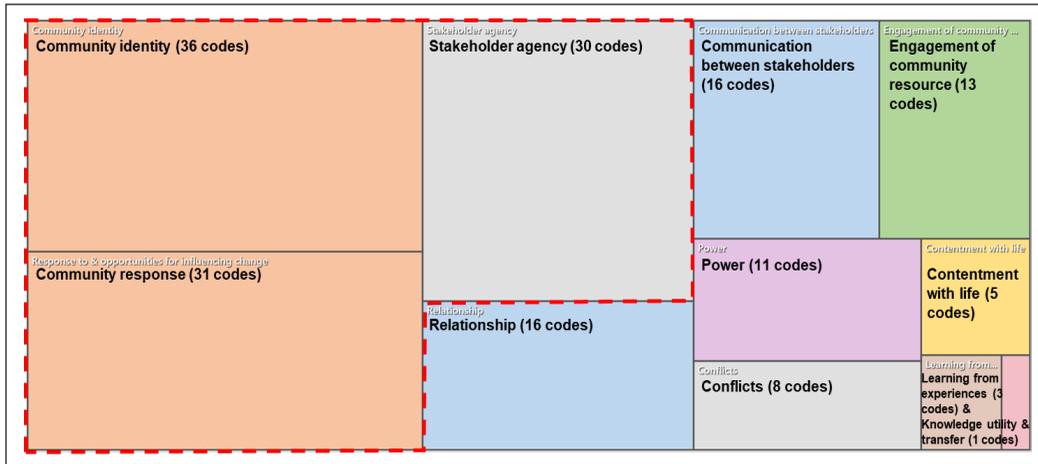


Figure 4. Community identity, community response, and stakeholder agency were the main drivers in the urban river neighbourhood

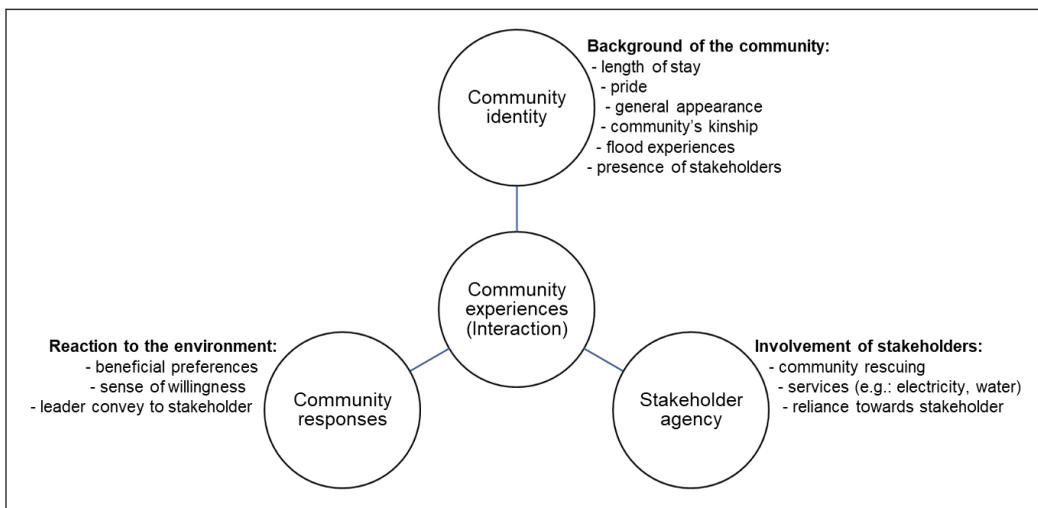


Figure 5. The three drivers that influenced the community's experiences in its urban river neighbourhood that involved interactions between the residents and the environment

the community and its neighbourhood. The driver is affected by the community's length of stay in the neighbourhood. It was the most dominant because the residents have stayed there for a long time, 49 years at most. The average length of stay was 21 years. The number of years showed that the residents were there long enough to see the changes

that took place and experienced the frequent flooding in the neighbourhood before 2007. After that, their urban river was widened and deepened by stakeholders. According to one of the residents, the neighbourhood would be flooded every time it rained, which shows that flooding was frequent before the urban river was physically modified. The flood was

worst in 2004, where they were forced to evacuate their neighbourhood and relocated to a neighbouring community hall as the water level reached rooftops, as illustrated in Figure 6. Multiple stakeholders, such as City Council, RELA (volunteers), and Kawasan Rukun Tetangga (KRT), assisted them during the evacuation. This engagement with multi-background stakeholders for assistance has become part of the community's identity and has helped them adapt to disturbance.

'Community identity' is also associated with a sense of pride for residents of the urban river neighbourhood. When the residents won the 'National Cleanest Kampung' competition three times in a row during the 1990s, they felt proud, which stemmed from the long length of stay mentioned in the previous paragraph. The pride trumped the devastation that they felt from the floods, and made them view their river more positively. The existence of fishes further supports the healthy status of their river. The existence was evident from the

fishing activities that were part of their daily activities. In other words, the sense of pride from the community was associated with a well-managed ecosystem (Frischenbruder & Pellegrino, 2006; Zinia & McShane, 2018). In maintaining the ecosystem, the City Council also played a role. The council authorised pickup trucks to collect garbage around two to three times per week in the neighbourhood. The action of responsibility shows that with proper waste management, the risk of river pollution can be reduced, as well as nurture the community for better waste management. When it comes to urban river neighbourhoods, proper waste management is one of the factors that need to be addressed as it potentially reduces river pollution (Brotons & Mallari, 2016) and leads to a community that perceives its neighbourhood as clean.

This finding encapsulates the residents' contentment with life because their well-being was taken care of by stakeholders. Additionally, they had a sense of kinship



Figure 6. The approximate flood water level according to the community, compared with the usual water level

with each other, which made bonding and connecting easier. This relationship further shows that the community shared a sense of trust and support among each other. For example, the community did not only just greet each other, but they shared stories of their everyday life. Their connection as neighbours made them appreciate the neighbourhood's environment. One of the residents said that even if she was provided with a better living environment elsewhere, she would prefer to stay because the values practised here made it comfortable for living.

Community events in the neighbourhood required the community's participation to be successful. Examples of such events include *gotong-royong* (the cleaning up of surrounding areas in preparation for events), *kenduri* (a Muslims-organised activity that includes prayer recitations and feasts but welcomes everyone), annual celebrations (e.g., Maulidur Rasul, Independence Day), and awareness campaigns. These events also provided opportunities for interaction, which aided the community in being socially connected (Granovetter, 1973). Being socially connected would lead a community to become resilient, and this has been supported by Nemeth and Olivier (2017). The community events represented the cultural background of the residents.

Their participation signifies familiarity between residents, which resulted in contentment when participating in community events. The participation also indicates that the people in the community had a sense of relatedness (Di Fabio &

Saklofske, 2018) because of their kinship. Therefore, the idea of living in harmony, both environmentally and socially, included the changes after flood occurrences and community events. These enabled them to adapt to the disturbance in the urban river neighbourhood.

The second driver, 'community responses', denotes the community's way of reacting to changes that influenced its urban river neighbourhood. An example of changes is the reduction of flood risk through the widening and deepening of the neighbourhood's urban river. The significant modification was done by the Department of Irrigation and Drainage (DID) to ensure that flooding was mitigated. It succeeded, as the community no longer experience floods after 2007. The community's responses to changes after the 2007 flood can be categorised as follows.

- (i) Preferred the same conditions: The community preferred the existing environment to be maintained in future developments.
- (ii) Willing to try new things: The community was willing to try new things; the residents suggested improvements for their urban river neighbourhood.
- (iii) Assimilation of both: The community preferred the existing environment with some improvements.

The responses show that the residents had different opinions on what would benefit them. The reason why some preferred their existing environment was because they

appreciated what they already had, and this finding was supported by Asakawa et al. (2004). They did not experience flooding again, which made them feel content with the current environment.

Some residents were willing to experience new things, as they have seen firsthand the benefits of the past changes that were due to floods. They knew that the changes allowed them to overcome disturbances and continue living in their neighbourhood. The residents' acceptance of change shows that their experience has taught them the willingness to embrace change. One of the residents shared how the community's experience taught them not to buy expensive furniture for fear of more floods. Aside from willingness to change, the residents were also willing to share responsibility and knowledge. An example of responsibility-sharing can be seen through their preference for having local contractors participate in river management. They believed that it would be easier for them to report any river-related issues that might threaten their well-being. Through knowledge-sharing, they could provide information relevant to river management as they know details that were different from the authorities'. From these points, it can be said that knowledge through experience affected the community's adaptive capacity.

The final response is the assimilation of the first two, where some residents would tolerate some necessary changes to their existing environment, should the changes benefit their well-being. They provided suggestions for future improvements despite

being somewhat content with their current lifestyle. They highlighted the need for landscaping, especially by the riverside. One of the residents suggested beautifying the river bank by planting more trees along the urban river. It is noteworthy that the opportunity for the community to be exposed to greenery is critical for the community's health and well-being (Hunter, 2011). These findings showed that they preferred to maintain the existing environment, but with some additional improvements. The suggestions given would definitely benefit them. It is affirmed that the community's responses towards their environment contributed to their ability to adapt to the urban river neighbourhood.

The third driver, 'stakeholder agency', refers to the involvement of local stakeholders with the community in the urban river neighbourhood. The stakeholders include the Department of Irrigation and Drainage (DID), RELA (volunteers), and Kawasan Rukun Tetangga (KRT). They played significant roles during the floods as the community needed rescuing back then. One of the residents described that during their hour of need, the community relied entirely on the stakeholders' support because that was the only help they had. Due to floods, the community and stakeholders became interconnected. After the urban river was widened and deepened, the approximately 2-meter everyday water level no longer exceeded. These aids from the stakeholders showed that their presence was essential for the community's survival.

Moreover, the community received services such as water supply, electricity, and welfare fund from the stakeholders. Their well-being was guaranteed by the stakeholders, and this was beneficial for the residents. Consequently, the community was able to adapt when disturbances occurred. These findings showed that cooperation between the community and stakeholders' was needed to avert crises. Cooperation such as theirs is vital for a sustainable future (Dendler et al., 2012; Li et al., 2019) because they were the key players in the neighbourhood. Some studies regarding rural areas (Nørgaard & Thuesen, 2020) also emphasised the relationship between stakeholders and the community.

Other than floods, community events that involved the stakeholders were also beneficial to the community's togetherness and awareness. An example of the event is Community in River (CoIR) in 2018. There were *gotong-royong*, competitions, and a talk that was given by the Department of Irrigation and Drainage (DID) aimed to increase the residents' awareness of their living environment. They expressed that they did not only participate in river cleaning, but also in fishing and drawing competitions. The community's participation proves that their engagement with their urban river contributed positively to their togetherness during the events. Their gathering also gave them the chance to interact with each other, thus promoting social cohesion (Fonseca et al., 2019; Granovetter, 1973) between the community and stakeholders.

Although awareness was not evident in the community, the fact that the urban river neighbourhood was their home indirectly instilled some consciousness about taking care of their surroundings. Their engagement with their river created a sense of willingness to experience change, as changes had benefitted them during past floods. In addition, they also experienced political change. In 2018, a conflict arose when the government appointed a new village head that was an outsider. The appointment affected them, as the village head act as their representative for communicating with stakeholders, which had always been local. Despite preferring the former village head, they accepted the new representative and were willing to get to know him. One resident even suggested a visit around the neighbourhood from the new village head in an effort to get to know him. This change shows that they were accepting in times of difficulties.

The village head's authority should always be complemented by the community's cooperation. Communication between the community and stakeholders about the community's needs is also vital as it has the potential to drive the community to be resilient. Thus, it is important for the community and stakeholders to be understanding to ensure that disturbance in the urban river neighbourhood can be overcome. One of the ways to establish such understanding is through the community responses, by which conflict during upcoming plans for the neighbourhood can be avoided.

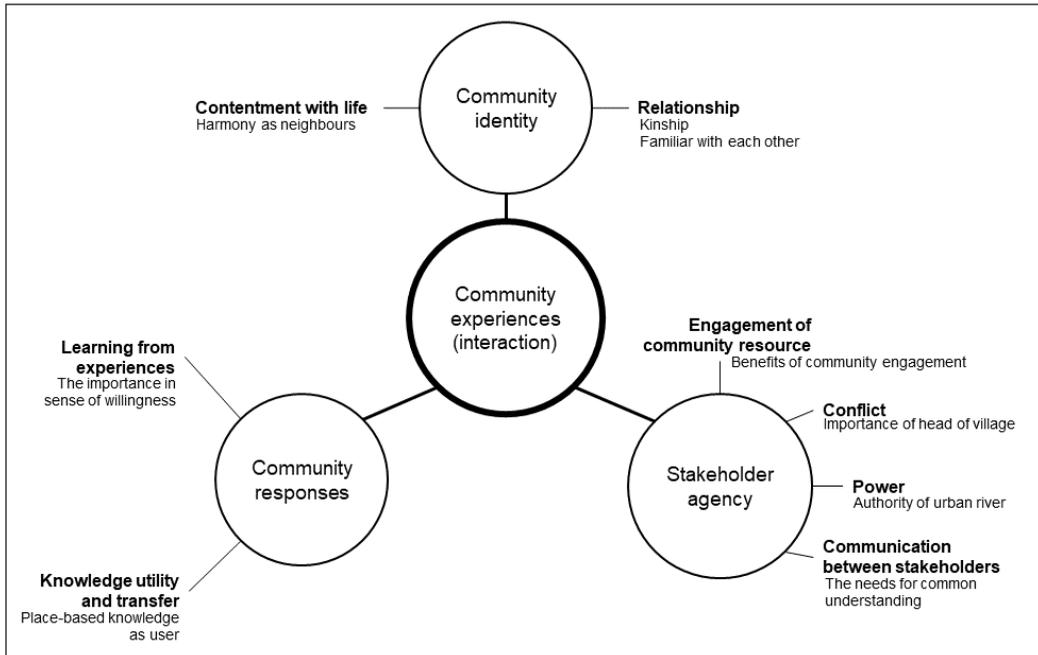


Figure 7. The three main drivers and eight supporting drivers that were identified to influence the adaptive capacity of the community in the urban river neighbourhood

Figure 7 summarises the identified drivers for the urban river neighbourhood community. The first is ‘community identity’, which is composed of contentment with life and neighbourly relationships in the urban river neighbourhood. It is essential for the community to be socially connected, especially in times of need. Secondly, ‘community responses’ include the process of learning from experience and using the knowledge to benefit their well-being. Thirdly, ‘stakeholder agency’ encompasses the community’s engagement in ensuring the state of its urban river as a resource in its neighbourhood. However, the stakeholders still have authority over the urban river. For that reason, conflict is inevitable because it involves communication between the community and stakeholders. The main

and supporting drivers identified must be considered in future planning for the urban river because they are the community’s essence. It should be noted that the drivers are manipulated by past experiences or also known as social memory. The next subsection further elaborates the influence of social memory on the community’s adaptive capacity in the urban river neighbourhood.

Social Memory on the Adaptive Capacity of the Community in the Urban River Neighbourhood

The frequent engagement between the people within the urban river neighbourhood has formed collective experiences or memories. As the community gains experiences, its neighbourhood grows, and the residents will develop a sense of familiarity with their

river (Åberg & Tapsell, 2013). The floods and community events also contributed to their familiarity. Their involvement with stakeholders was already within their social context, and it reflected the community's reliance. Their experiences would later accumulate into collective memories. As it depends on past and present events (Keen et al., 2005; Osborne et al., 2007; Wilson, 2012), the community's experiences with those events became one of the roots to the drivers that reflected the community's adaptive capacity. In other words, collective memories were responsible for shaping their adaptive capacity.

Other than past events, the formation of the community's social memory could also be attributed to the community's daily activities in Kg. Pertanian. One of the residents, who had lived for 42 years in the neighbourhood, mentioned that she visited the urban river every day. The residents have been exposed to their surroundings every day, for 21 years. This exposure is common in natural and built-up areas (Samuelsson et al., 2018). That period allowed them to see changes and nurture their adaptive capacity through social memory.

Moreover, community events were still held in the neighbourhood, as they were part of the norm. The repeating events led to the accumulation of experience, which in turn became their social memory. The events also built social connectivity between the community, stakeholders, and their environment. For example, one of the residents who had stayed for 43 years mentioned that *gotong-royong* was carried

out together with their neighbours. This helped the residents to be more socially connected, in addition to their kinship. Their closeness is supported by Nemeth and Olivier (2017)'s study, which emphasised the importance of being together. This closeness was already embedded within the community, which was evident from the community events. Hence, the social memory of the community involved togetherness and allowed the residents to be adaptive when living in the urban river neighbourhood.

CONCLUSION

In conclusion, the adaptive capacity of the community of Kg. Pertanian along Skudai River in Kulai, Johor was based on the experiences gained from interactions with neighbours and stakeholders. Their adaptive capacity was also influenced by the flood experiences, in which stakeholders assisted them in times of need. Community events, including *kenduri*, *gotong-royong*, and daily activities such as walking and sightseeing, portrayed the importance of social connectivity within the urban river neighbourhood. The events and floods taught the community to be reliant on the stakeholders for adaptability, which later became part of their identity. This reliance would later benefit them and their neighbourhood, should disasters occur. It is also evident that their adaptive capacity was influenced by social bonding through interactions with the stakeholders. It can be said that the community's adaptive capacity within the neighbourhood was fueled by

its experiences, which also influenced the three drivers: 'community's identity', 'community's responses', and 'stakeholder agencies'.

Based on these findings, it is believed that readers in the built environment field will be able to incorporate the social phenomena in the river neighbourhood into other parts of social science. The drivers identified in this study can also be studied as a topic of psychology or some other field because this study did not explore the community's behaviour. The findings could also help in the landscape design of places close to rivers to show how the environment is significant to people who use it regularly. The study limitations focused only on a particular neighbourhood: a river neighbourhood. It should be noted that the community's points of view are dynamic and change from time to time. Because of the dynamics, this study's findings may not apply to the following generations. Despite that, it is believed that this study can be beneficial to future generations facing an uncertain future. Adaptive capacity is a process that somehow guides communities to evolve based on social memory. Thereby, it presented the process of community change and the drivers that influenced the change.

This study extends the knowledge boundary of resilience, from which adaptive capacity originates. As mentioned in the gap of study, adaptive capacity is still in infancy (Hunter, 2011; Wilson, 2012). The focus that this study put on a river neighbourhood adds to the social aspect of resilience study.

This study offers an insight to stakeholders on the social phenomena present in the river neighbourhood community. The community's norm is essential and should be considered in future river development as the river is part of their home. Thus, stakeholders should consider using the bottom-up approach in the future. The combination of the bottom-up and top-bottom approaches can ensure a more holistic approach. It is hoped that this study will benefit those who appreciate the river as one of life's sources through the exposure of adaptive capacity.

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Does Nutrition Really Matter for the Productivity of Smallholder Farmers?

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ABSTRACT

Household-level data from Malaysia Smallholder paddy farmers are used to test whether higher caloric intake enhances family farm labour productivity. This study contests the notion behind the efficiency wages hypothesis. Farmers' productivity is estimated using Data Envelopment Analysis. To avoid estimation bias from reverse causality, we utilize a two-stage least square approach by choosing prices, household demography, and farm assets as instrumental variables. The results show that high caloric intake significantly affects farmers' productivity in a non-linear relationship. Farmers with obesity and overweight conditions produce less per unit of inputs and supply more labour than farmers with normal BMI and normal weight. The model results show that production inefficiency increases significantly with the high consumption calories, high BMI, and obesity of farmers providing solid support for the nutrition-productivity hypothesis. The marginal effect on productivity falls drastically as caloric intake increases. These outcomes recommend that investing in the health sector in rural areas will improve farmer productivity. Policymakers should develop approaches that will maximize agricultural investments' contribution to agricultural productivity and the overall rural economy.

Keywords: Agricultural, farmers, health status, nutrition, productivity

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INTRODUCTION

In the health economics literature, food intake is an important determinant of work effort per unit time or units of labour efficiency. Previous empirical findings explain that poor food intake leads to poor well-being (Owen & Corfe, 2017) or low productivity (Strauss, 1986; Ulimwengu,

2009). An undernourished household will face issues in decreasing body strength and lower resistance to infections (Chandra, 1992; Efthimiou et al., 1988; Millward, 2017; Sullivan et al., 1990), weight loss, and muscle wasting (Badi & Ba-Saddik, 2016; Bunker et al., 1987; Castaneda et al., 1995; Gersovitz et al., 1982), mortality (Payette et al., 2002; Myrskylä & Chang, 2009), and longer periods of illness and hospitalisation (Weiss et al., 2016).

Unfortunately, a large proportion of the undernourished are smallholder farmers (Chiputwa & Qaim, 2016; FAO, 2014), and farmers arguably will have low productivity due to this poor nutrition situation (i.e., Popkin, 1978; Quaye, 2008; Strauss, 1986) as farming requires a lot of labour (Euler et al., 2017). The heavy labour activities in farming can create high energy demands that cannot be met from limited access to nutritious food (Wiggins & Keats, 2013). In a light, malnourished farmers theoretically have low productivity due to their nutritional status.

Conversely, recent studies argue a positive relationship between nutrition and productivity (i.e., Fanzo, 2017; Powell et al., 2015; Sibhatu & Qaim, 2018; Sibhatu et al., 2015). Sibhatu and Qaim (2018), for example, argue that further diversifying small-farm production would be a good strategy to improve nutrition. Fanzo (2017) provides evidence that both market-based solutions or diverse production strategies are better for diets. Rising food prices force low-income households to save their money and ignore healthy nutritional intake benefits (Lo et al., 2009). Households experiencing

poverty consistently have poorer nutritional outcomes than wealthier members of their society (Dowler & Dobson, 1997). Consequently, high-calorie intake does not mean having good health (i.e., Robinson et al., 2013). Higher calorie intake puts smallholder farmers into a complex health situation, where they may trap into obesity case; a factor that reduces productivity.

This nutrition–productivity issue is exacerbated by the fact that healthy food is expensive, and bad food is cheap (Darmon & Maillot, 2010). Smallholder farmers most likely living in poor conditions, eat unhealthy food leading to obesity (Little et al., 2016). This differs from prior findings before 2010, such as Aromolaran (2004), whereas more calorie intake, better productivity. In today’s research context, higher calorie intake worsens farmers’ productivity due to their nutritional value. As a result, a farmworker who has been inadequately nourished all his life may have poor health and not be very productive (Hu & Wang, 2019). Intriguingly, smallholder paddy farmers play a significant role as food producers in developing countries such as Malaysia (Fahmi et al., 2013). Considering the importance of these paddy farmers, this study re-examines the relationship between nutrition status and productivity of paddy farmers in Malaysia. Apart from it, we argue that the nutrition-productivity hypothesis may have different results with a farmer’s health condition. For obese and overweight farmers, high caloric intake may lead to decreasing productivity. Meanwhile, for normal-weight farmers, nutrition status and productivity have a positive association.

Paddy farmer in Malaysia presents an ideal case study for other countries, especially those that rely on the agricultural economy. We argue that Malaysia offers interesting snapshots, whereas the findings can be generalized for other countries despite several slight differences in economic features. Firstly, most countries are highly dependent on a particular crop for food, rice as the staple food in Malaysia. However, agricultural productivity growth is still slow, which is a prominent trend among countries that depend on rural farmers' agricultural produce. Paddy is widely cultivated by smallholder farmers in rural parts of Malaysia.

Secondly, rural areas share the same characteristics, with these communities mostly belonging to the low-income group and consuming less healthy food. Previous research shows that malnutrition reduces productivity (Hu & Wang, 2019). Considering the strong influence of calories on productivity conditions, we proposed to investigate the relationships between farmers' health status and food intake and their agricultural productivity. This problem is evident among rural farmers, such as in Indonesia, where health status significantly affects productivity (Marliyati et al., 2018). This research differs from previous studies such as Croppenstedt and Muller (2000), LaFave and Thomas (2016), and Strauss (1986). Previously nutrition intake is good due to healthy food availability. Currently, healthy food is expensive, and bad food is cheap. Poorer households consume less healthy food and are more susceptible to

unhealthy cheaper food. Lower-income groups have a monotonous diet with little variation (Dowler & Dobson, 1997). It may be different from Strauss (1986), where more calorie intake leads to better productivity. However, a different scenario may arise from unhealthy, cheaper food, possibly leading to low productivity. Secondly, this study modified Croppenstedt and Muller (2000), LaFave and Thomas (2016), and Strauss (1986) by adding BMI and obesity as moderator variables to contribute to the model.

In sum, the research's first objective is to investigate the relationship between nutritional status and productivity. Secondly, the research aims to determine the relationship between health status and productivity. Lastly, the research examines the moderating effect of health status on the relationship between nutritional status and productivity. We follow and modify the seminal paper of Strauss (1986) and introduce the moderating effect's health status variable. We have extended it to a new empirical context and modified the model according to some measures and definitions. We focus on how health status may play a significant role in the relationship between nutritional status and productivity. We take a different approach which we will explain in the methodology section.

Therefore, the contribution of this research is fourfold. First, to establish mutuality among various literature works, this study's major contribution is the theory extension for the relationship between calorie intake and productivity by adding

Body Mass Index (BMI) as the moderator. Secondly, the research emphasizes the critical role of calorie intakes for farmers' productivity. Thirdly, this research broadens the theoretical and practical expectations of how this study can be applied to other corresponding studies in developed and developing agricultural nations. Lastly, policymakers can make the practical decision that draws special attention to the study's strengths and limitations to initiate a suitable blueprint that will aid the farmers.

Literature Review

The research conceptualization of this research is under efficient-wage theory, nutrition-productivity hypothesis, and dual labour-market theory. We contest these three theories to reveal the moderating effect of health status on the relationship between farmers' nutritional status and productivity. This section discusses the existing literature that provides the basis for our hypothesis and thus re-examines the relationship between nutritional status and productivity in the context of farmers' health status.

Efficient-wage Theory. Efficiency wage theory is commonly used to explain food distribution within a household and how it leads to involuntary unemployment (Strauss, 1986). The definition of efficient wage is more on the equilibrium ratio of wage given voluntarily to productivity. If the efficiency wage is met, it motivates the workers to work productivity, or in other words, higher wages boost employee morale and increase worker's productivity.

This theory explains why many labour-intensive sectors have lost their workers. With a small efficient wage received in those sectors, labour productivity may decrease. Studies from Harris (2014), Piper (2014), and Strauss (1986) argue that labours cannot afford high nutrition, leading to decreasing productivity. In agricultural-massive countries, when the wage received by farmers is small, the outcomes will be two: (i) lower productivity due to no energy (biological aspects); and (ii) exit from agricultural sectors and transforming the agricultural land into commercial and industrial properties (Rigg et al., 2018).

Despite the overwhelming evidence of testing this theory, those findings might not prevail in paddy farming for two reasons. First, paddy is partially industrialised in many countries. This makes paddy prices relatively competitive, leading to higher returns than other plantations that are either not-industrialised at all (i.e., vegetables, fruits) or fully industrialised (e.g., palm oil, soybean, rubber, coffee). Second, smallholder paddy farmers could receive a higher government incentive, given the importance of rice as a staple food. The savings of paddy farmers could be relatively higher, leading to better nutrient intake.

Nutrition-Productivity Hypothesis. The nutrition-productivity hypothesis postulates that nutritional status affects labour productivity. When daily food rations exogenously increased, worker productivity increases. In the seminal study in this area, Kraut and Muller (1946) reported that

the high caloric intake of German coal miners, steelworkers and workers dumping debris increases their hourly productivity. Wolgemuth et al. (1982) test this hypothesis and show that energy intake is positively related among road construction workers in Kenya. Strauss (1986) is one of the early studies that test this hypothesis within farmers' context. Strauss's findings report that output was increased in Sierra Leone when they had higher caloric intake. Using this hypothesis as a research framework, we argue that farmers with better nutritional status will have higher productivity.

Many studies have provided a rationale for research in nutrition by examining the relationship between nutritional status (calorie intake) and health (Bianchetti et al., 1990; Yu et al., 2003), physical activity (Castetbon et al., 2009), socioeconomic (Bianchetti et al., 1990), productivity (Haddad & Bouis, 1991; Irvine et al., 2011; Strauss, 1986), cognitive development (Freeman et al., 1980), work performance (Senkal et al., 2002). Most previous studies have a gap in the health economics literature about how nutrition affects each of these characteristics. However, nutritional status and productivity have not been considered in Malaysia. Therefore, we further identify the relationship between nutrition (calorie consumption), BMI (anthropometric or clinical health variables), and productivity.

Hypothesis Development.

Nutrition (Calorie Intake) and Productivity.

Popkin (1978) revealed that improved nutritional status might significantly impact

labour productivity. Strauss (1986) shows a highly significant effect of caloric intake on labour productivity. Deolalikar (1988) indicates that market wages or farm output are sensitive to changes in workers' daily energy intake. The human body can adapt to inadequate nutrition in the short run. However, it cannot adapt to readily chronic malnutrition that eventually results in loss of weight-for-height. The marginal effect on productivity falls drastically as caloric consumption rises but remains positive at moderately high intake levels. Suppose households cannot access nutritious food to attain requisite micronutrient requirements. In that case, they typically have poor health, reduced physical performance, and low labour productivity, which reduces economic growth (Croppenstedt & Muller, 2000). Hu and Wang (2019) indicate that nutritional deficiency can significantly decrease workers' productivity and labour supply in the short term. Tiwasing et al. (2019), indicates that calorie intake contributes to higher farm productivity. Investment in improving productivity is possible by increasing macronutrient consumption.

H₁: Higher nutrition leads to an increase in productivity

Health Status (BMI) and Productivity.

Kedir (2009) established that BMI positively and significantly affects productivity. According to Ulimwengu (2009), production inefficiency increases significantly with the number of days lost to sickness. By measuring health status using BMI, Pagan

et al. (2016) indicate that obesity negatively affects workers' psychosocial well-being and productivity. According to Goettler et al. (2017), higher BMI in workers imposes significant costs through lost productivity. There is a significant relationship between health status resulting from the presence of central obesity¹ and the number of days absent from the plantation for health reasons. Farmers suffering from central obesity have a higher number of absent days due to health reasons than farmers not suffering from central obesity (Marliyati et al., 2018). According to Linaker et al. (2020), people from lower socioeconomic positions are more likely to have physically demanding occupations. The implication is that obesity, yet another consequence of low social-economic position increases the risk of premature loss of personal economic productivity.

H₂: Health condition like Body Mass Index has a significant role for farmer's productivity

The Moderation Effect of BMI on the Relationship Between Calorie Intakes and Productivity. Spurr (1983) asserted that body size may have a different effect on labour productivity than daily caloric intake. Farmers are more physically fit because the greater amount of exercise or work compensates for greater caloric intake (Donham & Thelin, 2016). However, obesity occurs in the farming population mainly due to modern technology implementation such

as mechanized farming (Pickett et al., 2015). Obesity can significantly impact farmers' ability to perform farm work (Hunsucker, 2016). Rural residents in India with low BMI require fewer caloric intakes of about 1,100 and 1,400 kcal/day depending on size and gender (Ferro-Luzzi et al., 1997) compared to the most rural population in India that requires approximately 2240 kcal/day per day (Deaton & Dreze 2009). Rural Muslim farmers in India can spend more time working on the farm than during Ramadan, whereby fasting causes productivity to fall, caused by fewer caloric intakes (Schofield, 2014).

H₃: BMI moderates the relationship between calorie intake and productivity.

MATERIALS AND METHODS

Since the main objective of this study is to examine the moderating role of health status on the relationship between nutritional status and productivity of paddy farmers, we provide a brief discussion of the data, the regression model, and all key variables used in this main analysis. The control variables are described in Appendix A.

Data and Sample

The sampling frame of this research is all paddy farmers in Sarawak. We obtain the data from a field survey via face-to-face interview. The data is limited due to the relatively small population of paddy farmers in Sarawak, around 35,915 farmers. The probability sampling method of stratified random sampling is utilized in this study. The stratum is based on the

¹ Central obesity is an excess accumulation of fat in the abdominal area.

division in the Sarawak area. Choosing the stratum has to meet the criteria that the division is an important area for Malaysia's commercialized paddy plantation.

The criteria for inclusion in our sample are: (1) they must be smallholder paddy farmers, (2) the farmers must reside in the paddy farms area, and (3) the production does not involve a third party. Note that the new paddy commercialization scheme allows the big companies to take over the business chain, from seeding until selling. The owners of paddy farms only receive a proportion of it. Those smallholder farmers who are in this scheme are also excluded. Following this sampling procedure, we follow the sampling size calculation from Sekaran and Bougie (2010) and found it with a population of 35,915, margin error of 10%, and confidence level of 95%, the minimum sample has to be 96 respondents. This small sample is common for agricultural economics study within specialised plantation (in our case, we only focus on paddy-rice farms) (Chauhan et al., 2006; Dhungana et al., 2004; Kornginnaya, 2013; Montiflor et al., 2008; Saka & Lawal, 2009; Terano & Mohamed, 2014; Wadud & White, 2000). Nevertheless, our field trip successfully reached the final total sample size of 115 farmers after conducting data cleaning and non-response bias test.

Research Model

The pioneering paper of Strauss (1986) specifies a linear regression model with all contemporaneous variables for the function of productivity. To accommodate

the possibility of moderating the effect of health status in line with Hypothesis H3, we extend their specification by including the interaction term between health status and nutrition.

The baseline model is the productivity function following the established model of the farm household model of Singh et al. (1986). The factors of farmer's productivity consist of several families that taking part in an agricultural activity ($familylabour_i$), a total of hired labour ($Hiredlabour_i$), total capital ($Capital_i$), the total land used for agricultural activities ($Land_i$), and the average age of the participants in the agricultural process (). The regression model is as follow:

$$\begin{aligned} Productivity = & \beta_0 + \beta_1 familylabour_i \\ & + \beta_2 Hiredlabour_i + \beta_3 Capital_i \\ & + \beta_4 Land_i + \beta_5 Age_i + \varepsilon_{i,t} \end{aligned} \quad (1)$$

We introduce the nutrition proxy into model (1) to reveal the effect of nutrition on productivity. The regression model is as follow:

$$\begin{aligned} Productivity = & \beta_0 + \beta_1 Nutrition_i \cdot \\ & + \beta_2 familylabour_i + \beta_3 Hiredlabour_i \\ & + \beta_4 Capital_i + \beta_5 Land_i \\ & + \beta_6 Age_i + \varepsilon_{i,t} \end{aligned} \quad (2)$$

We argue that there is a possibility of a non-linear effect of nutrition on productivity. The nutrition effect may diminish productivity at a certain point.

This argument is consistent with health literature findings that overeating is bad for human activity resulting in decreasing health conditions (Mozaffarian, 2016). To accommodate the possibility of a non-linear relationship, we add the quadratic value of nutrition as another predictor for productivity. The regression model is as follow:

$$\begin{aligned}
 \text{Productivity} = & \beta_0 + \beta_1 \text{Nutrition}_i \cdot \\
 & + \beta_2 \text{Nutrition}_i^2 + \beta_3 \text{familylabour}_i \\
 & + \beta_4 \text{Hiredlabour}_i + \beta_5 \text{Capital}_i \\
 & + \beta_6 \text{Land}_i + \beta_7 \text{Age}_i + \varepsilon_{i,t}
 \end{aligned} \tag{3}$$

As our final regression model, we specify the estimation by introducing two variables: the moderating variable (health status) and the interaction term between nutrition and health status (Nutrition * Health Status). The regression model is as follow:

$$\begin{aligned}
 \text{Productivity} = & \beta_0 + \beta_1 \text{Nutrition}_i \\
 & + \beta_1 \text{Nutrition}_i + \beta_2 \text{Nutrition}_i^2 \\
 & + \beta_3 \text{Health}_i + \beta_4 \text{Nutrition} * \text{Health}_i \\
 & + \beta_5 \text{familylabour}_i + \beta_6 \text{Hiredlabour}_i \\
 & + \beta_7 \text{Capital}_i + \beta_8 \text{Land}_i + \beta_9 \text{Age}_i \\
 & + \varepsilon_{i,t}
 \end{aligned} \tag{4}$$

Variable Definition

Productivity. Based on Cobb and Douglas’s (1928) theory of production, the measurement for physical production

is quantified by changes in the amount of labour and capital which are used to produce goods and secondly to discover the relationship that exists within the factors of labour, capital, and product. However, it was an early attempt to investigate productivity for the manufacturing industry. Hence, recent studies have included the theory in investigating agricultural productivity (Dharmasiri, 2012). Additionally, Data Envelopment Analysis (DEA) is applied in examining agricultural production efficiency. (Linh, 2012; Wadud & White, 2000).

Data Envelopment Analysis (DEA) is used to measure paddy farmers’ productivity for this research. The selection of the following outputs and inputs is selected based on Chauhan et al. (2006) to measure the productive efficiency of paddy farmers. The inputs are paddy inventory, machinery, total cultivated land, hours worked, hired labour. Meanwhile, the output in the form of paddy production was selected to measure efficiency in paddy production.

$$\text{Productivity} = \frac{\text{Weighted Sum of Inputs}}{\text{Weighted Sum of Outputs}}$$

Nutrition. The measurement follows Strauss’s (1986) paper, whereby the effect of current nutritional status is based on the monthly caloric intake on monthly farm production. Furthermore, we consider calorie consumption expressed in kilocalories (kcal) as an indicator of food access (Euler et al., 2017). Data on monthly food consumption were collected, and using

food composition tables from the Malaysian Food Composition Database (2020), data on the number of different foods consumed were converted to calories to get an estimate of household calorie consumption (De Haen et al., 2011). We adopt from calorie-intake inventory (Strauss, 1986), which is later commonly used in agricultural economics research such as Glewwe et al. (2001), Ogbuoji et al. (2020), and Strauss and Thomas (1998). The total household calorie consumption from the 30-day recall was then divided by 30 to obtain a calorie value per day.

Health Status. This research adopts the same procedure as past research conducted by Ulimwengu (2009), which empirically used Body Mass Index (BMI) as an indicator of health status. To ensure that the results are accurate, this research has two separate steps to measure BMI. First, the BMI score is used as a measure whereby it is defined as weight in kilograms divided by height in meters squared (kg/m^2). The second measure is the categorical variable of BMI. Following the World Health Organization (2000), we

treat normal (BMI score: $18.5\text{-}24.9 \text{ kg}/\text{m}^2$), overweight (BMI score: $25\text{-}29.9 \text{ kg}/\text{m}^2$), and obese (BMI score: $> 30 \text{ kg}/\text{m}^2$). In medical literature, overweight and obesity share similar risk and activity levels. Therefore, the reading will be 0 for normal and 1 for non-normal (overweight and obese).

RESULTS AND DISCUSSIONS

Descriptive Statistics

Table 1 presents the summary statistics for the variables in the estimation model. Focusing on the key variables, the mean value of productivity is 0.3092 with a minimum value and a maximum value of 0.05 and 1. This implies two important descriptive findings. First, the productivity of paddy farmers is averagely low. The median value of 0.228 confirms our conclusion where 50% of farmers in low productivity level. Second, the variance of productivity level is good. We have a farmer with near zero productivity and a farmer with a perfect productivity level. The nutrition level shows that the meant caloric intake is 2,612 kcal per day per farmer. The range is good with

Table 1
Summary statistics of 115 paddy farmers

	Minimum	Maximum	Mean	Std. Deviation	Median
Age (year)	23.00	83.00	54.487	12.974	54.00
Land (acre)	1.00	4.00	1.950	0.897	2.00
Family labour	1.00	4.00	1.530	0.666	1.00
Hired Labour	1.00	4.00	1.320	0.600	1.00
Capital (rm)	0.00	4150.00	786.455	727.095	500
BMI (kg/m^2)	20.05	46.66	26.366	4.315	25.80
Calorie (kcal/day)	1341.16	3557.486	2612.497	625.663	2216
Productivity (log)	0.05	1.00	0.309	0.249	0.228

one farmer with 1,341 kcal per day and a farmer with a very high-calorie intake (7,557 kcal). Our anecdotal evidence reveals that farmers with low and high-calorie intake have the lowest and highest productivity, respectively. Lastly, the BMI score's health status shows that the farmers' average BMI is 26, implying farmers are overweight. The lowest value of BMI is 20 kg/m² implying an ideal weight category. Interestingly, we have a farmer with a very high BMI, which 46.66 kg/m² implying obesity level 3. Note that the lowest and highest BMI score is not from the farmer with the lowest and highest productivity level.

Result Analysis

Nutritional Status and Productivity. Table 2 consists of three columns, columns (1), (2), and (3). Column (1) shows the results of the baseline model for this study from estimation model 1. Column (2) reveals the results of the estimation model (2). Lastly, Column (3) reports the regression results from Model (3).

The findings from Columns (1), (2), and (3) are consistent. First, all the control variables share a similar conclusion. Family labour and land have significant effects on productivity. Higher family labour leads to lower productivity. Meanwhile, higher cultivated land leads to better productivity.

Table 2
Nutrition results

	1	2	3
Calorie		-0.0153*** (0.003)	-0.0458** (0.019)
calorie2			0.0005* (0.0003)
Family Labour	-0.0712** (0.032)	-0.0637** (0.026)	-0.0708*** (0.025)
Hired Labour	0.05 (0.037)	0.0462 (0.0290)	0.0504* (0.028)
Capital	0.0529 (0.0338)	0.0286 (0.0300)	0.0268 (0.0300)
Land	0.0897*** (0.020)	0.0709*** (0.019)	0.0696*** (0.019)
Age(Ln)	-0.0326 (0.084)	-0.0324 (0.062)	-0.0669 (0.060)
Constant	0.0937 (0.381)	0.7114** (0.272)	1.3170*** (0.456)
R-Squared	0.1557	0.3482	0.3734
F Value	6.54	10.22	9.43

Note: *, **, *** indicate the significant level for 1%, 5%, and 10%, respectively. The values stated are beta coefficient values, except the value inside parentheses which are standard error values.

Total hired labour, total capital, and average age do not affect productivity.

For the key variables, Column (2) and Column (3) surmise that the relationships between nutritional status and productivity are non-trivial. These columns show a negative association indicating higher caloric intake leads to decreasing productivity. In other words, a farmer with a higher nutrition intake (calorie intake) will end with low productivity. To tackle the issue of non-linear relationships, Column (3) reveals the quadratic value of nutrition. It shows a positive association between nutritional status and productivity after the nutrition is under the quadratic form. Therefore, we can surmise that nutrition does discount the farmer's productivity. Nevertheless, this relationship was below a U-shaped relationship where there is a point where productivity increases again when nutritional intake is adequate.

Full Model Results

In this section, all three hypotheses, H_1 , H_2 , and H_3 , are empirically tested to achieve the research objectives. The results are presented in Table 3. For robustness, the measure of health status in Column (1) and Column (2) is different from the measure used for Column (3) and Column (4). Column (1) and Column (2) use the BMI score as the measure whereby is defined as weight in kilograms divided by height in meters squared (kg/m^2). Column (3) and Column (4) use the categorical variable of health status. We treat normal (BMI score: 18.5-24.9 kg/m^2), overweight (BMI score:

25-29.9 kg/m^2), and obese (BMI score: > 30). In medical literature, overweight and obesity share similar risk and activity levels. Therefore, the measurement will be 0 for normal and 1 for non-normal (overweight and obesity).

In Hypothesis 1 (H_1), we hypothesize a positive relationship between nutritional status and productivity. The results in Column (2) of Table 3 reveal a negative association between nutritional status and productivity ($\beta = -.0969$ $SE = 0.022$). It suggests that more nutrition intake or more calorie intake receives a lower proportion of productivity. Practically, this result suggests that one-unit change of nutrition intake (calorie intake) is associated with 0.0969 decreases in productivity level, which is consistent with Camacho and Ruppel (2017), whereby high-calorie consumption leads to be laziness, which are the symptoms of obesity and overweight. The similarities reaffirm Goettler et al. (2017) findings which indicate productivity loss due to obesity and overweight. The findings are not supported by the efficiency wage theory, where more caloric intakes make a farmer less productive.

We also test Hypothesis 2 about the significant role of health status on productivity. Column (2) reveals that health status is statistically significant and contributed negatively to productivity. It indicates that larger health status leads to lower productivity of the farmers. An increase of one unit of health status decreases the productivity of -0.1045 for Column (2). The result is reaffirming (Goettler et al.,

2017; Linaker et al., 2020; Marliyati et al., 2018) research, whereby the studies found that overweight and obesity to be associated with decreasing levels of productivity.

For the main research objective (H3), we examine the interaction term effect to reveal the moderating effect of health status on the relationship between nutritional status and productivity. Column (2) reports the moderating effect of the interaction term between nutrition and health status is statistically significant at a 1% significance level with a coefficient value of 0.0026. It implies that the moderating effect has a positive relationship with productivity where the higher the interaction term between nutrition and health status, the higher the productivity. In economics terms, a one-unit increase in the interaction term between nutrition and health status increases productivity by 0.0026 for Column (2). Hence, the outcome of the findings is aligned with Donham and Thelin (2016) and Spur (1983), whereby health status strengthens the findings of a positive effect of nutrition on productivity. Therefore, health status and nutrition are two important factors in increasing productivity.

As a robustness check, we re-estimate model (4) with an alternative measure of health status. This moderating variable is measured under the dummy variable. The other measures remain the same. Re-testing Hypothesis 1 (H1), we find that nutrition has a positive relationship between nutritional status and productivity. The results in Column (4) of Table 3 reveal a negative association between nutritional status

and productivity ($\beta = -.0472$ SE=0.011). It suggests that more nutrition intake or more caloric intake receives a lower proportion of productivity. Practically, this result suggests that the one-unit change of nutrition intake is associated with 0.0472 decreases in productivity levels. It is consistent with our findings in Column (2).

We also re-test Hypothesis 2, and Column (4) reveals that health status has a non-trivial relationship with productivity ($\beta = -.5746$ SE=0.137), indicating a positive relationship. It suggests that the productivity of farmers with overweight or obesity is significantly different from farmers' productivity with normal health status, and the difference is up to .5746. The coefficient value suggests that farmers' productivity with overweight or obesity condition is underperformed compared to farmers with normal health status. This result is also consistent with our result in Column (2).

Lastly, the re-test of H3 surmises the same conclusion. The interaction term is significant, implying a significant moderation effect ($\beta = .0137$ SE=0.004). The positive coefficient means that health status strengthens the relationship between nutritional status and productivity. Practically, productivity of farmers with overweight or obesity will increase due to higher calorie intake.

Moderation Effect

We further study the moderation impact by following Dawson (2014); thus, we plot it in Figures 1 and 2. This interaction is illustrated in Figure 1, where the model

Table 3
Health status moderation results

	1	2	3	4
Nutrition	-0.0417** (0.018)	-0.0969*** (0.022)	-0.0370** (0.016)	-0.0472*** (0.011)
Nutrition2	0.0004 (0.000)	0.0002 (0.000)	0.0004 (0.000)	0.0002 (0.000)
HealthStatus	-0.0134*** (0.004)	-0.1045*** (0.028)	-0.1159*** (0.027)	-0.5746*** (0.137)
Nutrition*HealthStatus		0.0026*** (0.001)		0.0137*** (0.004)
Family Labour	-0.0680*** (0.024)	-0.0705*** (0.023)	-0.0548** (0.023)	-0.0569*** (0.022)
Hired Labour	0.0607** (0.027)	0.0605** (0.026)	0.0525** (0.026)	0.0576** (0.025)
Capital	0.0072 (0.028)	0.026 (0.028)	-0.0039 (0.027)	0.0159 (0.026)
Land	0.0467*** (0.017)	0.0580*** (0.016)	0.0391** (0.017)	0.0538*** (0.016)
Age(Ln)	-0.0601 (0.059)	-0.0742 (0.057)	-0.049 (0.056)	-0.0622 (0.055)
Constant	1.6650*** (0.419)	3.7715*** (0.744)	1.4376*** (0.389)	1.9467*** (0.369)
R-Squared	.4193	.4675	.4568	.5073
F Value	8.7	9.68	10.22	13.37

Note: *, **, *** indicate the significant level for 1%, 5%, and 10%, respectively. The values stated are beta coefficient values, except the value inside parentheses which are standard error value

uses the BMI score. As shown in Figure 1, both the low and high BMI curves show a decline from low-calorie intakes to high-calorie intakes. The curves then intersect at high-calorie levels. From the curve in Figure 1, farmers with high BMI scores are more productive than farmers with low BMI scores when caloric levels are high.

Meanwhile, the interaction is presented in Figure 2, where the model uses the categorical indicator. As depicted in Figure 2, both the low and high BMI curves show

an inclined projection as higher caloric levels. The curves intercept at high caloric levels, and similar to Figure 1, farmers with high BMI shows to be more productive than low BMI farmers when caloric intakes are high.

Table 4 of Cohen's F² reconfirms the results by showing a small moderation effect. As shown in Table 4, caloric intake was significantly related to productivity, and BMI significantly moderated this relationship.

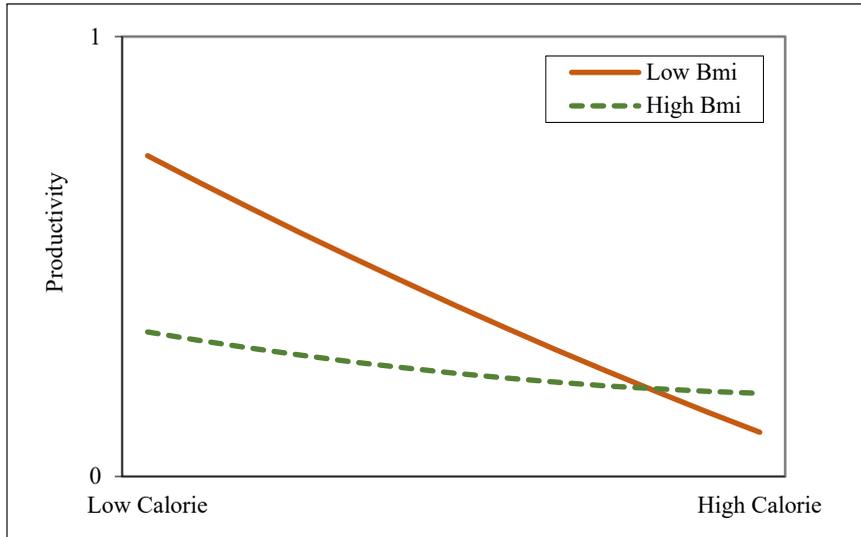


Figure 1. Model is using the BMI score

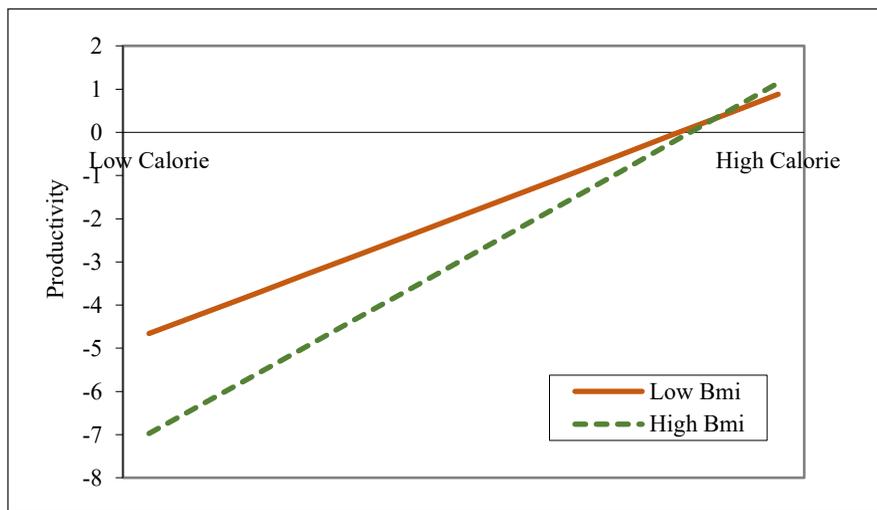


Figure 2. The model is using the categorical indicator

Table 4
Cohen F-squared results

	Hi-Lo BMI	Normal-Overweight
R-Squared with Moderation	0.4675	0.5073
R-Squared without Moderation	0.4193	0.4568
F-Squared	0.090516	0.102496
Conclusion	Small	Small

Robustness Check I: Sub-Sampling Results Splits of Normal – Overweight farmer.

As a robustness check, we omit the BMI variable from equations (4), (5), (6), and (7) and employ a sub-sampling approach. We further run the robustness check to confirm the results from Table 1 and Table 2. We divide the sample into two groups. The first group is normal weight, with a BMI index between 19 and 25, and the second group is overweight, with a BMI index higher than 25. The total number of respondents with normal BMI was 67 respondents. Meanwhile, 48 farmers were in

the overweight condition. After regrouping the sample, we run our new estimation model ² using a sub-sampling approach and report it in Table 4.

Table 5 summarizes that the sub-sample results show a similar conclusion between normal farmer groups and overweight farmer groups. Calorie has a significant effect on productivity for both normal and overweight farmer groups. Both normal and overweight farmer group indicates higher-calorie leads to lower productivity.

$$^2 \text{Productivity} = \beta_0 + \beta_1 \text{Calorie}_{i,t} + \beta_2 \text{Calorie2}_{i,t} + \beta_3 \text{familylabour}_{i,t} + \beta_4 \text{Hiredlabour}_{i,t} + \beta_5 \text{Capital}_{i,t} + \beta_6 \text{Land}_{i,t} + \varepsilon_{i,t}$$

Table 5
Body mass sub-sampling results

	Normal (n=67)		Overweight (n=48)	
	8	9	10	11
Calorie	-0.0225*** (0.004)	-0.0396* (0.020)	-0.0070*** (0.002)	-0.0243* (0.013)
calorie2		0.0003 (0.000)		0.0003 (0.000)
Family Labour	-0.1252 (0.076)	-0.1390* (0.077)	-0.0345* (0.019)	-0.0368** (0.018)
Hired Labour	0.1151 (0.084)	0.106 (0.080)	0.0429* (0.023)	0.0464** (0.023)
Capital	0.0133 (0.076)	0.0048 (0.079)	0.021 (0.025)	0.0223 (0.025)
Land	0.1013* (0.057)	0.1026* (0.057)	0.0437*** (0.013)	0.0430*** (0.013)
Age(Ln)	0.0631 (0.119)	0.022 (0.131)	-0.1299** (0.058)	-0.1382** (0.057)
Constant	0.6164 (0.516)	1.0674 (0.796)	0.8126*** (0.257)	1.1156*** (0.329)
R-Squared	0.4708	0.475	0.3362	0.3532
F Value	8.9	9.9	11.32	9.81

Note: *, **, *** indicate the significant level for 1%, 5%, and 10%, respectively. The values stated are beta coefficient values, except the value inside parentheses which are standard error value

The estimation coefficients are interpreted as a one-unit increase of calories, leads to a 2.25% decrease in productivity or a 0.0040 decrease for the normal farmer group. In the overweight farmer group, an increase in calories will reduce productivity by about 0.70%.

Robustness Check II: Effect of Land Ownership. As an alternative robustness check, we perform another subsample for equation (2) to (7), where we re-run the farmer according to scale land. We divide our total sample into two groups: low and high-scale land groups. It is for robustness check to ensure the effect of land ownership. One can argue that the nutrition-productivity relationship is due to the farmer's land ownership. Farmers with small land may not require higher calorie intake compared to large land ownership farmers. We divide the sample into two groups. The first group is small-scale land, where land ownership is lower or equal to the median. The second group is large-scale landowners, where land ownership is higher than the median. We re-run the estimation model and report it in Table 6.

The results are not very different. Calories harm productivity for low-scale land and high-scale land groups. The estimation coefficients are interpreted as a one-unit increase in calories, leads to a 9.75%, and 3.90% decrease in productivity or a 0.0270 and 0.0170 decrease in productivity for the small-scale land group in column 15 and column 17, respectively, where Full Model means. In a high-scale land group, an

increase in calories will reduce productivity by about 9.57% and 5.17% or reduce 0.0320 and 0.0170, respectively, in column 21 and column 23.

BMI has a negative effect on productivity for low and high-scale land groups. The estimation coefficients are interpreted as a one-unit increase of calories, which leads to a decrease of 10.23% and 52.47% of productivity or leads to a decrease of 0.0360 and 0.1710 for the smaller-scale land group column 15 and column 17, respectively, where Full Model means. In the high-scale land group, an increase of calories will reduce the productivity of about 11.09% and 65.11% or reduce 0.0070 and 0.1800 of productivity, respectively, in column 21 and column 23.

The findings recommend two important conclusions. First, BMI is more important than calories in knowing productivity. In Table 1, one calorie is positively significant for another level of productivity. Meanwhile, Table 5 reports that BMI index is an essential factor for productivity, whether the farmer is normal weight or obese. Consequently, BMI plays a vital character in decreasing productivity, and yet, calories will strengthen that relationship.

Secondly, calorie is a significant factor for productivity, even in different situations such as normal or overweight farmer groups and low or high scale land. Moreover, Table 5 shows that the moderation results have the same conclusion as Table 2 and Table 3. This acknowledges that calorie is strengthened by the relationship between BMI and productivity.

Table 6
Effect of land ownership

	Small Scale Land											Large Scale Land				
	12	13	14	15	16	17	18	19	20	21	22	23				
Calorie	-0.0146*** (0.004)	-0.0513** (0.021)	-0.0458** (0.021)	-0.0975*** (0.027)	-0.0387* (0.021)	-0.0390** (0.017)	-0.0165*** (0.004)	-0.036 (0.026)	-0.0356 (0.025)	-0.0957*** (0.032)	-0.032 (0.023)	-0.0517*** (0.017)				
calorie2		0.0005* (0.000)	0.0005 (0.000)	0.0002 (0.000)	0.0004 (0.000)	0 (0.000)		0.0003 (0.000)	0.0003 (0.000)	0.0002 (0.000)	0.0003 (0.000)	0.0002 (0.000)				
BMI			-0.0073 (0.005)	-0.1023*** (0.036)	-0.0778** (0.033)		-0.5247*** (0.171)		-0.0188*** (0.007)	-0.1109*** (0.041)	-0.1505*** (0.044)	-0.6511*** (0.180)				
Bmcalorie					0.0028*** (0.001)		0.0135*** (0.005)		0.0026** (0.001)			0.0149*** (0.005)				
Family Labour	-0.0993*** (0.029)	-0.0986*** (0.030)	-0.0974** (0.030)	-0.1089*** (0.029)	-0.0873*** (0.030)	-0.0982*** (0.027)	-0.0677* (0.040)	-0.0749* (0.040)	-0.0562 (0.039)	-0.0547 (0.039)	-0.0445 (0.039)	-0.0454 (0.038)				
Hired Labour	-0.1333*** (0.031)	-0.1109*** (0.037)	-0.0749* (0.039)	-0.0864** (0.040)	-0.0762** (0.031)	-0.0927*** (0.034)	0.0732* (0.037)	0.0773** (0.038)	0.0713* (0.037)	0.0708** (0.035)	0.0637* (0.036)	0.0723** (0.035)				
Capital	-0.0098 (0.035)	-0.0123 (0.034)	-0.0188 (0.036)	-0.0002 (0.035)	-0.0259 (0.036)	-0.0079 (0.034)	0.0476 (0.055)	0.0375 (0.059)	0.0146 (0.055)	0.023 (0.055)	-0.0046 (0.053)	0.001 (0.050)				
Age(Ln)	-0.1217 (0.099)	-0.1630* (0.092)	-0.1263 (0.094)	-0.1499 (0.094)	-0.0831 (0.095)	-0.1168 (0.093)	0.0175 (0.074)	-0.0058 (0.078)	-0.0413 (0.068)	-0.0551 (0.067)	-0.0515 (0.064)	-0.0613 (0.062)				
Constant	1.5210*** (0.452)	2.2681*** (0.589)	2.1984*** (0.590)	4.3995*** (1.139)	1.8597*** (0.586)	2.3680*** (0.635)	0.7261** (0.300)	1.1239* (0.628)	1.7544*** (0.542)	3.9996*** (1.103)	1.5431*** (0.486)	2.2769*** (0.473)				
R-Squared	.3756	.4113	.4336	.4916	.4669	.5168	.2891	.2989	.3575	.4077	.3985	.4584				
F Value	5.14	5.41	4.62	6.18	5.13	6.49	4.66	4.49	4.74	4.93	6.08	8.55				

Implication

To understand the coefficients, we measure the implied output elasticities and marginal products. Table 7 reports them using the estimates from Model 3 of Table 1. Other stipulations offer approximately similar patterns. The estimates show roughly constant returns to scale. Interestingly, the model estimates without the calorie function (col. 1) imply a return to scale of 0.381. Family labour has a calorie elasticity, and marginal product effects from the log-reciprocal specifications of the effective

family labour function are lower, -0.350 and -0.071, respectively. Calories have calories elasticity and marginal products, which are -4.919 and -0.046. Both are sizable, negative signs, and statistically significant. Table 7 of the magnitude of this elasticity differs expansively from high-consumption to low-consumption households.

The estimated efficiency units of labour function are designed in Figure 3. It depicts the relation efficiency of an hour of labour compared with labour that consumes calories equal to the sample mean. The function peaks at a daily intake per consumption equivalent of 6,400 kcal/day, and thereafter calories have a positive impact on effective labour. The corresponding value of $h()$ is 0.25. Roughly 2.5 percent of the sample (3 households) have an estimated daily caloric intake per consumer equivalent above this level. This is an enormously significant intake level for calories to negatively affect; however, the effective labour function is flat

Table 7
Output elasticities and marginal product at sample mean

	Elasticity ey/ex	Marginal Effect dy/dx
Calorie	-4.919	-0.046
calorie2	1.807	0.000
Family Labour	-0.350	-0.071
Hired Labour	0.215	0.050
Land	0.616	0.070

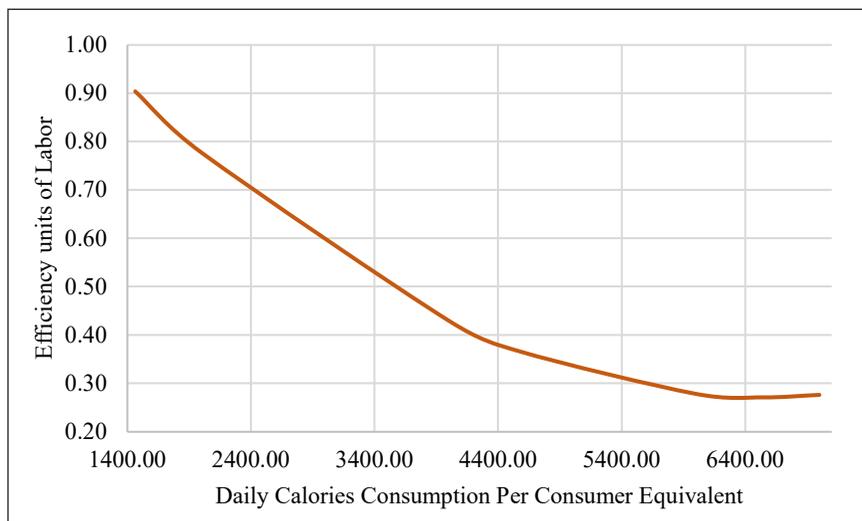


Figure 3. Estimated productivity function

by the level of 5,900 kcal/day (h is 0.28), roughly the average intake of the upper third of the sample. Indeed, this function rises very gently after 4000 calories (h being 0.43). The flattening of the effective labour function is also evident in the decrease in the elasticity of h (ϵ) with respect to calories from 0.55 at the sample mean intake to 0.35 at 4,500 kcal/day. For households with low per-consumer calorie consumption, the corresponding h (ϵ) falls much more sharply. At an intake of 1500kcal, the calorie elasticity is .90. The level of h (ϵ) is roughly 0.9, implying that most of the estimated input elasticities are low for the average set of inputs.

CONCLUSIONS

Our study is the first empirical investigation to uncover the relationship between nutrition and agricultural productivity among smallholder paddy farmers in Malaysia. We examine our research hypotheses using calories as proxies for nutrient intake, which has caused a decline in current agricultural labour productivity. These effects appear to be crucial at high intakes and much smaller at lower intakes. The effect is further amplified when BMI (health status) is added as a moderator of the relationship between nutritional status and productivity.

Agricultural labour in Malaysia contributes significantly to the country's labour productivity. Therefore, our results are an incredible source of information to justify the significant role of farmers' nutrition in productivity. They are supported by the nutrition-productivity hypothesis and

dual labour market theory. The allocative effects of good nutrition are crucial and the results have underestimated the impact of better nutrition on production supply.

To investigate this issue, some questions remain about the relationship between nutritional status and productivity. Interestingly, our results showed that calorie intake causes low productivity. Our results show the relationship with health status as also evident in the earlier study by Strauss (1986). We found that high-calorie intake is further reinforced by the outcome of BMI (anthropometric or clinical health variables). The result shows that the estimated productivity function has a negative relationship. The study shows that BMI and calories will have a negative impact on farm productivity. The study will help farmers, economists, researchers, policymakers, industry practitioners, and the government to have a deeper understanding of the impact of BMI and calories in rural Malaysia. In addition, the study fills the gap of Strauss (1986) and deepens the nutrition productivity hypothesis.

However, all our findings need to be validated by further research in other research settings to verify some facts or limitations of the research design. For example, future research could consider a broader range of smallholder farmers from different plantation types. This study uses a survey design that may under- or over-report caloric intake or production factors. Future research could incorporate experimental studies to represent actual farmer behaviour. In the meantime, agricultural economics

research in emerging countries is crucial as it could improve the productivity of the farming system, which is imperative to understand. Therefore, we suggest that future studies could further expand nutritional status and productivity in relation to other developing countries.

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APPENDIX**Appendix A**

Table 8

Key variables used in main analysis

Variables	Definition
Productivity	By following Cobb and Douglas (1928) theory of production, the weighted sum of paddy inventory, machinery, total cultivated land, hours worked and hired labour are divided by the weighted sum of paddy production to acquire productivity value.
Nutrition	Obtaining the current nutritional status of calorie to productivity follows Strauss (1986) paper. Individual's total caloric intake (kcal) per day. The total household calorie consumption from the 30-day recall was then divided by 30 to obtain a calorie value per day.
Health Status	Expressed as Body Mass Index (BMI) and measured as weight in kilograms divided by height in meters squared (kg/m^2) (Ulimwengu, 2009).
Family Labour	The family members that are in the household
Hired Labour	Non-family member which are acquired for farm production
Capital	Total monthly earnings from farm production (rm)
Land	Cultivated area (ha)
Age	Age of household head (years)

Investigating Agropreneurial Intention among Students in Higher Learning Institution using the Theory of Planned Behaviour

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ABSTRACT

This study uses the Theory of Planned Behaviour (TPB) to determine the factors influencing the intention of agriculture students in Universiti Putra Malaysia (UPM) to be involved in agribusiness. To meet the aim of this study, a Focus Group Discussion (FGD) was held among students from the Faculty of Agriculture, UPM. This method of qualitative data collection was utilized in order to gain an in-depth understanding of youth participation rates within the agriculture sector in Malaysia. A total of 20 students from UPM were involved in this study, most have had some amount of experience in entrepreneurship either formally or informally. Apart from personal factors and social norms, this study found that institutional factors, more specifically the way in which agricultural studies programs are set up, play an imperative role in influencing agropreneurial intention among students. A well-rounded, quality agropreneurship education that goes beyond theory-based learning, can in different ways positively influence the other determinants of agropreneurial

intention thereby increasing agropreneurial intention. Efforts should be intensified to align agriculture education and training. Beyond trade-based learning, it should also focus on providing knowledge, technical skills, and attributes that young farmers need for their agropreneurship careers. At the tertiary level, learning should be multidisciplinary so that students can grasp and incorporate concepts pertaining to, for example, food sciences, risk management,

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or data analytics - that can help them be dynamic in navigating the growth of their agribusiness and potential pitfalls.

Keywords: Agribusiness, agropreneur, Ajzen Theory of Planned Behaviour, entrepreneurship, youth

INTRODUCTION

Globally, the agricultural population is ageing whereby the average age of farmers is currently in the range of high-50s to early-60s (Musa, 2020, Musa et al., 2020). Youths who are the future generation need to be encouraged into a modern agricultural sector to improve global food supply and to address the issues of food security. At the same time, youth unemployment is also an issue. According to the International Labour Organisation (ILO), the global youth unemployment rate stands at 13.6% in 2020 and there are approximately 1.3 billion young people between the ages of 15 and 24 worldwide (ILO, 2020).

Further, the world population is at 7.8 billion in 2021 (United Nations Population Fund, 2020) which indicates a rapid increase. This means the demand for food will rise. Agriculture accounts for 32% of total employment globally and 39% in developing Asia and the Pacific (ILO, 2020). Yet, it still remains a less desirable career for young people. There are promising prospects of increased youth involvement in the agricultural sector if the policy goes beyond just farming and gives more emphasis on the off-farm sector and agropreneurial activities. With the interest of young people in business ventures, more policies are now focusing

on young agropreneurs to encourage youth participation in agriculture; for instance Malaysia.

Malaysia aspires to transform the agriculture sector to enable it to become an engine of growth and to add more value to the sector. At the micro-level, agropreneurship allows the individual to develop creative and innovative means in meeting the growing demand for food whereas, at the macro level, it benefits the economy by creating employment opportunities and contributing to the national income of the country (Yusoff et al., 2016). Out of the total population of 32.7 million in Malaysia, 44% are considered to be youth, and only 15% are involved in the agriculture sector (The Sun Daily, 2020). Meanwhile, the youth unemployment rate in Malaysia stood at 10.9% in 2019 – lower than the regional average of 12.2% in Southeast Asia and the Pacific, but the third-highest youth unemployment rate in ASEAN after Indonesia and the Philippines (Cheng, 2020).

Malaysia has spent billions of dollars to promote agropreneurship yet there is still a lack of interest among Malaysian youth to take part in the agriculture sector. This might be due to negative perceptions towards agriculture (Abdullah et al., 2012), or a lack of exposure to the available agropreneur programs (William et al., 2004) and could also be due to uncertainties about returns and profits in agribusiness (Man, 2008). Furthermore, young entrepreneurs often have poor access to land and capital to initiate their agriculture projects (Jamaludin, 2011).

The objective of this paper is to investigate the factors affecting the agropreneurial intention among agriculture students in one of the higher education institutions in Malaysia namely Universiti Putra Malaysia (UPM) using Ajzen's Theory of Planned Behaviour (TPB). The research questions that we aim to answer are first; based on TPB, what are the personal traits (attitude), social norms, and perceived behavioural control factors that affect agropreneurial intention among students in higher education institutions in Malaysia? And secondly, based on the findings, what can be done to encourage more youth to venture into agribusiness. The results of this study will better inform policymakers on the factors that motivate youths to venture into agribusiness and also address the challenges faced by the students that deter them from taking the agropreneurship route.

LITERATURE REVIEW

Agriculture and Entrepreneurship

Amongst the scholarly work on entrepreneurship was by Leković and Petrović (2020) that include the determinants of early entrepreneurial activity in the agricultural sector of Southeast European (SEE) countries. The research implies determinants such as national culture, personal entrepreneurial characteristics, and entrepreneurial aspirations (growth, innovation, and internationalization). Similarly, Fitz-Koch et al. (2018) conducted a systematic literature review of extant research in agricultural entrepreneurship worldwide. They identified the three key

background dimensions of the agricultural sector: identity, family, and institution, which offer promising opportunities for future research and provides the potential for the promotion and expansion of current theoretical and empirical analysis of entrepreneurship research.

Research from African countries like Kenya such as the study by Ntale et al. (2015) shows that Kenya's agricultural economy is suffering from limited agricultural entrepreneurship. Statistics show that only 6% of small farmers are adding value to their agricultural products. And farm scale is negatively correlated with agricultural entrepreneurship. The study further found that loan acquisition is highly correlated with the value-added of small farmers. The agricultural entrepreneurship readiness model is based on smallholders' personal and social factors, work experience, cultural and economic environment. Therefore, policymakers should encourage smallholder farmers to engage in agricultural entrepreneurial activities by establishing financial institutions that can borrow at reasonable interest rates.

Shifting Perceptions on Agriculture

A career in agriculture commonly evokes skeptical and negative responses from the general public. It is commonly considered to be an uncompetitive field of work involving high risks and unstable returns (Abiddin & Irsyad, 2012; Man, 2012). Seen as a dirty, dangerous, and difficult job, the profession is often associated with those of low socioeconomic status, the lowly

educated, and the unemployed. Recent government efforts to encourage young people, in particular, to consider pursuing agriculture as a career path has to some extent yielded positive responses (Noor & Dola, 2011). Careers within the agricultural sector in Malaysia are also said to be bright (Muhammad et al., 2013) and research has also shown that young farmers have the potential to excel in the field, seeing that they are a generation that is ambitious and flexible, able to adapt and identify more opportunities for business (Rezai et al., 2011).

Traditional farming has evolved with the advent of technology. It is said that young farmers with higher education levels are more likely to utilize ICT tools to improve the operational efficiency of their agribusiness (Abdullah & Samah, 2013a; Ramli et al., 2015). It can also assist in strengthening their marketing aspects and business processes. Evidence shows a positive correlation between the utilization of echo sounders and GPS, with the monthly income of young fishermen (Bolong et al., 2013). Hence, the allegation that agriculture as a profession is not favored by young people today is being challenged (Muhammad et al., 2013). On the contrary, young people are increasingly breaking barriers in the field and it has been observed that young farmers are developing interests in different areas of agriculture, for instance, contract farming (Shaffril et al., 2010). In the Malaysian context, contract farming is linked to a number of new agriculture activities such as worm or leech rearing, vanilla or herb farming, and more.

The concept of contract farming is well received amongst young farmers as it gives them the opportunity to be competitive by accessing input credit and new markets which would have otherwise be limited to them as startups. This arrangement also helps minimize production risks and transaction costs on their behalf (Bahaman et al., 2010). In the study above, data also revealed that both male and female youth alike possessed equally positive levels of acceptance towards contract farming. This finding is particularly significant since it addresses another common misconception, which is that females lack the strength and capability to be involved in agribusiness and actively participate in the agro-economy. Abdullah and Samah (2013b) refer to this determinant as 'social valuation', or in other words, the cultural factor. If society were to view the role of women in agriculture in a more positive light, it is more likely that more female graduates will also develop positive attitudes towards agribusiness.

Role of Education in Agriculture

Academic programs have a significant influence on the intentions of graduates to pursue their ambitions; as such it is imperative that agriculture programs are designed in such a way that young people feel confident enough to start up their venture after completing their studies. A closer look by researchers, however, has revealed that the content and curriculum of local agriculture courses are overly theory burdened and lack the practical training that young graduates need to become operationally ready (Alam et al., 2009).

Another study found that close to 25% of their respondents that attended public universities, underwent agriculture courses to completion without ever participating in field trips to commercial agricultural farms (Muhammad et al., 2013). Ultimately, this lack of exposure keeps young farmers in the dark and limits their experiential learning and potential. As a result, students from such programs may decide against embarking on a career in agriculture or give up easily when faced with difficulties. To remedy the weak agricultural education and training system, it is proposed that higher learning institutions consider making changes to heavily trade-based courses to include modules such as agricultural ethics and agro-economics in order to produce more well-rounded and competent young farmers (Alam et al., 2009). Those who teach such programs are also key figures and should be chosen wisely as they can either build students' confidence or diminish their intentions of running an agribusiness in the future. Entrepreneurship can be taught (Yusoff et al., 2016), and higher education institutions can tailor the system to bring out this set of soft skills among students and direct them towards agropreneurial intention. It is also recommended that academic institutions enable means for students to establish networks and investment relationships early on be it through classroom interactions, club meetings, or professional networking events (Hashemi et al., 2012).

The concept of informal mentoring is said to have been effective in encouraging graduates to venture into commercial

agriculture, and studies have shown that students' early encounters and interaction with industry leaders and mentors have helped them to establish networks and expand their agribusiness (Abiddin, 2012). Such exposure is good for knowledge sharing; and at the same time, it gets young graduates excited about the prospect of becoming involved with agribusiness in due time (Muhammad et al., 2013).

THEORETICAL PERSPECTIVE: THEORY OF PLANNED BEHAVIOUR (TPB)

The main theoretical framework used in this study is the Theory of Planned Behaviour (TPB) (Ajzen, 1991). The TPB emphasizes the importance of intention in any behaviour. The TPB is a cognitive theory that provides a useful foundation for predicting behavioural intentions and can be applied to describe many types of behaviours (Ajzen, 1991). Behavioural intentions are instructions individuals present to themselves to behave in particular ways (Ajzen, 1991). They are decisions to perform certain actions. Intentions can be inferred from participants' responses that have the form, "I intend to do X", "I plan to do X", or "I will do X". In psychological terms, behavioural intentions suggest an individual's motivation to perform a behaviour and is a reliable indicator of how hard a person is willing to try and how much effort he/she makes to accomplish a behaviour. Overall, behavioural intentions are seen as powerful predictors of behaviour, particularly in the case of purposive, planned, and goal-oriented behaviour (Nwankwo et

al., 2012). One can best predict, rather than explain, any planned behaviour by observing intentions toward that behaviour (Krueger et.al, 2000).

In the TPB framework proposed by Ajzen (1991), the intention for any action is based on three qualifications: Firstly, a positive or negative evaluation of the behaviour (attitude). The individual's intention is a fundamental factor in carrying out a given behaviour. When the intention to engage in a behaviour is stronger, the behaviour is more likely to be carried out. Second is the subjective norm which is the perceived social pressure to perform or not to perform the behaviour. It is based on how one ought to act in response to the views or thoughts of others. Subjective norm influences may include friends, family members, and colleagues. The third is Perceived Behavioural Control (PBC). It is the perceived ease or difficulty of executing the behaviour and it is assumed to reflect past experience, opportunities, and anticipated obstacles.

The use of TPB can be found in similar studies. For instance, Basir and Musa (2021) used TPB as one of the theories to determine the factors that affect Islamic agropreneurial intention. Similarly, Rehan et al. (2019) draw on TPB to explain an individual's intentions toward entrepreneurship. Vamvaka et al. (2020), on the other hand, used TPB to identify gender-related differences in the levels of and the interrelations among attitude toward entrepreneurship, perceived behavioral control, and entrepreneurial intention.

The term 'agropreneurial intention' refers to an individual's willingness to become self-employed and make a living by means of running an agribusiness venture (Yusoff et al., 2016). When the TPB is applied to the choice of becoming an agropreneur, an intention to pursue it, together with perceived behavioural control, predicts the possibility that an individual will pursue becoming an agropreneur. Intention to pursue agropreneurship, in turn, is determined by the degree an individual has a positive or negative evaluation of agropreneur, the perception of social pressure to pursue agropreneurship, and perceived behavioural control (Khapova, et.al. 2007; Tan & Laswad, 2006). Hence, it should be possible to predict whether or not an individual will eventually pursue agropreneurship by studying his or her intention to do so (Audet, 2004). Azjen's TPB has been useful in making sense of students' inclinations towards becoming involved in agribusiness, because it recognizes that multiple factors can affect an individual's intentions and that the combination of those factors is mutually reinforcing.

Attitude-Youth's Behaviour

According to the TPB, the 'attitude' towards a behaviour is determined by the total set of accessible behavioural beliefs linking the behaviour to various outcomes and other attributes. According to the TPB, attitudes are a function of the individual's beliefs that behaviour leads to particular outcomes and the individual's evaluation of these

outcomes. It represents the person's general feeling of approval or disapproval towards an object. Thus the person's attitude towards an object is a function of his evaluation of the attributes of the object (Ajzen, 1991). Fishbein and Ajzen (1975) argue that intentions to be involved in a particular activity are dependent upon the person's knowledge, experience, and information. For Addo (2018), out of all the factors involved, the most important would be the evaluation of the behaviour. This refers to individual-level traits that define a person's attitude, for example, creativity, risk-taking, proactiveness, business acumen, communication skills, leadership skills, and more. Consequently, students who exhibit such qualities are said to be more likely than others to choose agropreneurship as their future career.

Social Norm-Influence of Important People

The second component, 'subjective norm', represents individuals' perceptions about the values, beliefs, and norms held by people whom they look up to or regard as important and their desire to comply with those norms (Basu & Virick, 2008). It also refers to the individual's perception of social pressure to perform or not to perform the behaviour under consideration (Ajzen, 1991). It has been suggested that in terms of the role modelling perspective, parents have the most impact on their children's entrepreneurial careers (Shamsudin et al., 2017). Students with family business backgrounds, in particular, may develop

stronger entrepreneurial attitudes than those who do not. Having a social circle and family that is supportive of their agropreneurial endeavours reduces the social pressure and fear that is associated with pursuing what is seen as a non-conventional career path. Professional networks and acquaintances can also play a part in encouraging young graduates in the field. While there are indeed established young agropreneurs in Malaysia who have demonstrated success in their undertakings, youth participation in agriculture still remains low (Abiddin, 2012). Public figures and industry leaders provided they have the right platforms to do so, can serve as an inspiration especially to agriculture graduates who remain on the fence about whether or not to turn their interests and passions into work that is full-time.

Perceived Behavioural Control-Institutional Factors

The third TPB component is Perceived Behavioural Control (PBC) which refers to individuals' perceptions of the ease or difficulty of executing the behaviour (Ajzen, 1991). It is determined by control beliefs, i.e. beliefs about the presence of factors that facilitate or impede the performance of the behaviour in question based on past experience and anticipated issues, as well as their skills, abilities, opportunity, compulsions, and dependence upon others (Ajzen, 1991). The perception that there are limited or lack of resources or opportunities to perform a particular behaviour are unlikely to form strong behavioural

intentions, regardless of whether they hold favourable attitudes toward the behaviour and believe that significant persons would approve of them performing the behaviour (Tan & Laswad, 2006). Individuals with high levels of perceived behavioural control are more likely to actually pursue their career of choice compared to those with low levels of perceived behavioural control (Khapova et al., 2007).

In this paper, the main factor that was examined in PBC is the opportunity structure which is defined as the external factors that youths consider for their intention to turn into expectation. The opportunity structure that young people usually consider when making a decision to be involved in agropreneurship are information of the labour market, the ability to access land and credit for farming, and the opportunities available transmitted through government policies. If students perceive that they have the capacity to overcome environmental conditions, they are more likely to get involved in agribusiness. In this study, it is proposed that the institutional factor, more specifically the way in which agricultural studies programs are set up, plays an imperative role in influencing agropreneurial intention among students. It is during the duration of their studies that students are most exposed to the industry. If the academic program adequately equips young graduates with the right set of skills and knowledge, it is likely that more of them will perceive agribusiness as a promising and fulfilling form of employment for themselves.

Previous studies have suggested that it is an integration of all factors (at the individual, social and institutional level) that influences students' agropreneurial intentions (Yusoff et al., 2015) while others like Addo (2018) have pointed out that some factors carry more weight than others. In addition to that, there are also studies that similarly identify quality entrepreneurship education as being the key link between entrepreneurship barriers and entrepreneurial orientation (Shamsudin et al., 2017; Yusoff et al., 2016). This study likewise maintains that idea and goes further to posit that a well-rounded, quality agropreneurship education that goes beyond theory-based learning, can in different ways positively influence the other determinants of agropreneurial intention i.e. individual factors (attitude and perceived behavioural control) and social factors (subjective norms), thereby increasing agropreneurial intention. Figure 1 shows the relationship between the three factors, using the dynamics identified by Azjen's TPB as the basis for this study.

METHODS, DATA COLLECTION AND ANALYSIS

This study employed Focus Group Discussions (FGD) as the main method of research, in order to achieve a better understanding of Malaysian youths' intentions to be involved in agribusiness. Singletary (1994) suggests that FGD is a popular method used for qualitative studies involving a small number of controlled respondents. This method can also be used to find a variety of data quickly (assisted

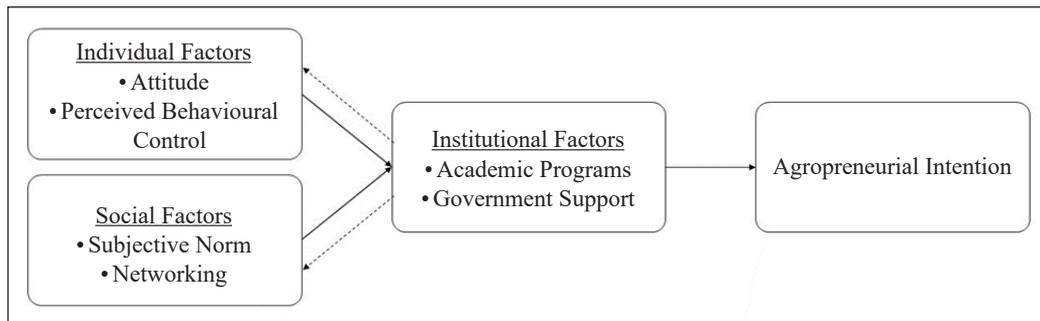


Figure 1. Factors affecting agropreneurial intention of UPM Students using Ajzen's TPB

by the recorder), so that the researchers can analyse the opinions and behavior of the sample in a more detailed manner (Berger, 1998).

A total of 20 students from various backgrounds were randomly selected from the Faculty of Agriculture, UPM. Students from UPM were chosen for this study because of UPM's involvement in the Agropreneur Incubation Program certified by MAFI. Under this program, the students involved are given direct exposure to the world of entrepreneurship. This is in line with the nation's aspirations to produce graduates that are not only excellent in academics but also capable, disciplined, creative, and innovative. The six-month-long course in UPM includes modules on fertigation, aquaculture, and hybrid indigenous chicken breeding, and ruminant breeding covering aspects such as production, processing, and farm entrepreneurship. The first two months equips students with theoretical knowledge, while the remaining four months will equip them with field (practical) skills. After completing this program, it is expected that the participants will be able to run their farms confidently, know how to

seek assistance from relevant stakeholders, and forge a broader network that can lead to collaborations and boost their farm marketing.

The respondents involved in the research were either in their 3rd or 4th year (final semester) of study in the Faculty of Agriculture, UPM (Serdang Campus) in 2019. They were divided into two main groups. The first group of 10 students was majoring in Aquaculture whereas the second group was majoring in Agriculture. These students were selected based on their enrolment in the Agricultural Entrepreneurship course (PPT 3701) that allows only cohorts from Bachelor Science Agriculture and Bachelor Science Aquaculture in Semester 2 (2019/2020) to be registered. They've completed their courses in the semester, and their experience in undertaking the entrepreneurship module in the faculty may provide relevant insight for the purpose of this study, in terms of their intention to undertake agribusiness in the future.

This study uses thematic analysis to analyse and organise the data. Braun and Clark (2006) defined thematic analysis "as

a method for identifying, analysing and reporting patterns (themes) within data. It minimally organises and describes data sets in detail and most of the time it goes further than this, and interprets various aspects of the research topic.”

The first step of familiarizing with the data involves listening to the audio of the recordings, transcribing, and reading repetitively all the transcripts from the interviews and focus group. The next stage is ‘coding’ whereby data is organised into meaningful groups. Codes identify a feature of the data that appears interesting to the researcher and refers to “the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon” (Braun & Clarke, 2006). In phase three, the researcher’s task is to “re-focus the analysis at the broader level of themes, rather than codes, involving sorting the different codes into potential themes, and collating all the relevant coded data extracts within the identified themes” (Braun & Clark, 2006). This is done by extracting the most significant themes in the text segments of each code to identify the underlying patterns and structures. Finally, after all the steps, there should be a satisfactory thematic map of the data whereby the themes are more “defined and refined” meaning that it should cover the “essence” of what each theme is about and what aspect of data each theme consists of. The themes for this study were categorized into three areas according to the Ajzen TPB framework namely attitude, social norm, and PBC, and are further discussed in the section below.

FINDINGS AND DISCUSSION

Attitude

The overall response (see Appendix 1) from participants (Table 1) of the focus groups revealed that young people in Malaysia have some level of positive acceptance towards the prospect of a career in agribusiness. What is interesting to note is that their agropreneurial intentions are by no means traditional. While most had an interest in pursuing conventional forms of commercial farming to meet recognized market demands, a significant proportion of respondents have also set their sights on modern agribusiness ventures such as agritourism.

The reason for switching from farm management is to broaden my scope of knowledge and expertise and possibly proliferate my produce.
(Participant 1, FGD 1)

Agriculture offers a plethora of opportunities and that perked up my interest to study agriculture.
(Participant 2, FGD 2)

Recent trends, both locally and abroad perhaps, have increased the popularity of agritourism activities like getaways to nature resorts, fruit-picking, and farm tours. Among this group of students, there was a keen interest in developing agritourism sites i.e. homestays in order to accommodate domestic tourists mainly from built-up city centers, who wish to experience rural living for a change. Hence it can be gathered that young people are not completely indifferent

Table 1
Description of respondents

Focus Group 1 Participants	Year, Course
1. Participant 1 (Female, 22)	Third year, Animal Husbandry Science course.
2. Participant 2 (Female, 23)	Third year, Animal Husbandry Science course.
3. Participant 3 (Female, 24)	Third year, Bachelor of Science, Agribusiness
4. Participant 4 (Female, 20)	Second year, Bachelor of Agricultural Science.
5. Participant 5 (Male, 21)	Second year, Bachelor of Agricultural Science
6. Participant 6 (Female, 21)	Third year, Aquaculture, Bachelor of Science
7. Participant 7 (Male, 24)	Third year, Aquaculture, Bachelor of Science
8. Participant 8 (Male, 22)	Third year, Aquaculture, Bachelor of Science
9. Participant 9 (Male, 24)	Third year, Aquaculture, Bachelor of Science
10. Participant 10 (Female, 22)	Third year, Aquaculture, Bachelor of Science
Focus Group 2 Participants	Year, Course
11. Participant 11 (Male, 23)	Third year, Bachelor of Agricultural Science
12. Participant 12 (Male, 23)	Third year, Bachelor of Agricultural Science
13. Participant 13 (Male, 23)	Third year, Bachelor of Agricultural Science
14. Participant 14 (Male, 24)	Third year, Bachelor of Agricultural Science
15. Participant 15 (Male, 21)	Third year, Bachelor of Agricultural Science
16. Participant 16 (Male, 23)	Third year, Bachelor of Agricultural Science
17. Participant 17 (Male, 24)	Third year, Bachelor of Agricultural Science
18. Participant 18 (Male, 21)	Third year, Bachelor of Agricultural Science
19. Participant 19 (Male, 21)	Third year, Bachelor of Agricultural Science
20. Participant 20 (Male, 23)	Third year, Bachelor of Agricultural Science

to the idea of agriculture as a profession but rather they are seeking ways to find meaning in it.

I'm keen on doing AgroTourism. I have a piece of land at Sepang and over there there's a river, fruit tree.s (Participant 2, FGD 2)

The place is perfect to establish an AgroTourism area with a little village house intact (as such to put in emphasis)... because I had experience working under AgroTourism when I did my

practical (before) at Hulu Langat, where they reared goats, opened up homestays and did plantation businesses, these got me interested to do the same. (Participant 3, FGD 2)

It was also found that there were students who enrolled in the program with little personal interest in agriculture studies, to begin with, let alone a career in agriculture. However, as the course progressed with ample opportunity for practical exposure, these students were able to identify some areas of interest and potential to them. This

shows that the relationship between the institutional factor and the individual factor is not linear.

Subjective Norms

In addition, the discussions also revealed how big of an impact, subjective norms could have on agropreneurial intentions. As per Shamsudin et al. (2017), parents have tremendous influence over their children's entrepreneurial careers. This was overwhelmingly the case for the majority of students in this study who shared how their agricultural ambitions were either directly or indirectly influenced by their parents or other relatives. It was also this particular set of students that expressed their intentions to embark on agropreneurship immediately after they graduate.

I have background knowledge about this course because of my father who happens to be a farmer and for that, he's one of the reasons who gave me the motivation to broaden my expertise further in agriculture. (Participant 4, FGD 2)

I may have no background knowledge in the field of agriculture but what drew my motivation in studying agriculture is my parents - well, one of many reasons. They have their intentions set on opening a field in the village and they need a professional handling the works and dear hopes are pinned down on their son to be the one dealing with it. (Participant 5, FGD 2)

I'm pursuing this (Agriculture) course mainly because of my family. Even though they're government employees but they do put in their own energy into palm oil fields and many more and that made me want to follow in upholding my father's legacy. (Participant 4, FGD 2)

Having said this, there is however also a very practical reason for such a response. The ownership of private land tremendously reduces the burden of starting up, especially for young farmers with little capital to invest. It is thus advantageous to have family members and networks that can offer guidance and resources to support their agropreneurship ambitions. As for students that lack such connections, the journey to self-employment is less straightforward. These students generally opt to seek salaried work while preparing for their long-term agropreneurship plan.

Of this group of students, some are keen to actively pursue agriculture-related areas of work such as research and development, farm management, pesticide or feed formulation, and the like in order to gather experience and maintain relevance. There were also a considerable few who mentioned that they had obligations to serve out scholarship bonds following the completion of their studies. This hinders them from joining the agriculture sector and limits them to the world of corporate employment. There is also an opportunity cost to the agroecconomy in terms of human capital.

Female participants of this study expressed how starting out in this line of work would be a challenge for them. Resistance to women's participation in agriculture starts early on from the home and continues in the workplace as shared by the respondents. Nevertheless, one student pointed out that females possess different strong traits than their male counterparts, hence, there is a part to play for both men and women. One example that she gave was in algae culture where there is a preference for female workers because of their attentiveness and patience.

Perceived Behavioral Control

A high-quality agropreneurship program can have positive effects on students' attitudes and their perceived behavioral control as mentioned by most of the students. This supports our proposition that a well-rounded, quality agropreneurship education can positively influence the other agropreneurial intention.

The agricultural programmes are also one of UPM's strengths relative to other higher education institutions; that was one of the factors that drove me to take this programme. (Participant 7, FGD 2)

During my foundation studies, we had field trips and were given the opportunity to work in the fields. From there, it ignited my interest in agriculture. (Participant 2, FGD 2)

During my time in UPM Bintulu, there were a few modules relating to the fishery. From there, I gained an interest in the subject of breeding (seeding) and following that, aquaculture, which led to me choosing aquaculture as my first choice. (Participant 8, FGD 1)

It is inevitable that challenges abound for budding agropreneurs and this fact is well known among the students, as they were able to list out the obstacles, they know they must face one day. One of the main issues that many participants resonated with was the difficulty of qualifying for startup funding. While they acknowledged that there are government grants and schemes available for agriculture projects, there is a lack of transparency on the steps involved in applying for them. This leaves them at a loss on where to even begin with little to no capital. Meanwhile, the students shared that private sources of funding from organizations such as the Agrobank were also available but required projects to already be in motion with a solid business plan. So, while this type of scheme would be beneficial for agropreneurs at the growth stage, it in fact does little in terms of providing financial support for young graduates that are starting out in the field and do not qualify for the funding. Hence, the discrepancies between designing financial aid packages and their delivery are something that providers must carefully (re) consider.

The majority of us here already have excitement to start (our venture in agriculture and the likes). We are passionate about it, we have the background knowledge, but the biggest hurdle is just the financial problem. Of course, if you want to apply for a loan, it is available; there are just the risks that you have to face. Some may not want to apply for a loan because even now we have student loans. (Participant 6, FGD 2)

RECOMMENDATIONS FOR AGROPRENEURSHIP IN MALAYSIA

Several recommendations can be made based on the key issues identified in this study and this can be summarized in Figure 2. Firstly, efforts should be intensified to align agriculture education and training in Malaysia with the development objectives of the country and the labour market. Curriculum and teaching methods must be

updated in response to local needs, interests, and merit. Agriculture courses at the diploma level should not be limited to job tasks. It should focus beyond trade-based learning, providing knowledge, technical skills, and attributes that young farmers need for their agopreneurship careers. Likewise, at the tertiary level, learning should be multidisciplinary so that students can grasp and incorporate concepts pertaining to, for example, food sciences, risk management, or data analytics that can help them be dynamic in navigating the growth of their agribusiness and potential pitfalls.

Secondly, a strong research and development (R&D) environment has proven to increase the productivity and competitiveness of young farmers. In Australia for example, the majority of government support comes from broad-based policies with a lesser emphasis on policy interventions and regulations, and more so on funding R&D, farm financing, drought relief, and the like (Sterly et al., 2018). Senior and experienced members of

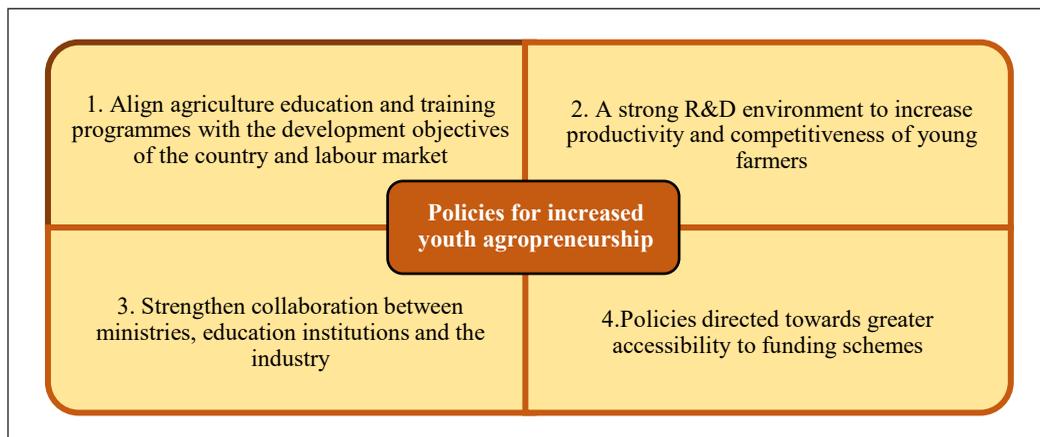


Figure 2. Proposed policies for increased youth agropreneurship

the industry are an asset and can positively contribute through their participation in the teaching, training, and mentoring of students (Rezai et al., 2011).

Thirdly, greater inter-ministerial collaboration, namely between the Ministry of Agriculture and food industries and the Ministry of Education is needed. Private-public partnerships are also mutually beneficial, and a whole government approach is needed to realize the potential of youth involvement in agriculture. Based on this study, for example, it is observed that young people have an interest in developing agritourism sites. Hence, closer collaboration between the relevant authorities including the Ministry of Tourism, Art and Culture as well as the Ministry of Entrepreneurship Development and Co-operatives can facilitate the ease of doing business for the young agropreneurs.

Finally, policies need to be directed towards greater access to funding schemes. For example, in the USA, young and beginning farmers, along with minorities and new entrants are given preference for access to direct lending and loan guarantee programs to help them expand their agribusiness into a viable production unit (Sterly et al., 2018). Furthermore in Japan, the government has policy support mechanisms such as strict controls on imports and elaborate agriculture insurance schemes in place to better protect local producers (Reyes et al., 2017). Based on models like these, the Malaysian government can do more to give their young agropreneurs a greater sense of security in pursuing their ambitions.

THEORETICAL, PRACTICAL AND MANAGERIAL IMPLICATIONS

The theoretical implication suggests that in addition to personal factors and social norms, this study found that the institutional factor, more specifically the design and structure of agricultural studies programs, plays a critical role in influencing agropreneurial intention among students.

In terms of practical and managerial implications, a robust and holistic agropreneurship curriculum that goes beyond theory-based learning can be impactful in increasing agropreneurial intention amongst the youth. These issues open potential areas for future research and policy implications for efforts to align agriculture education and training. Beyond trade-based learning, education and government policies should also focus on providing knowledge, technical skills and building attributes that young farmers need for their agropreneurship career.

At the tertiary level, learning should be holistic and multidisciplinary in order for students to master practical and theoretical knowledge pertaining to, for example, food sciences, risk management, or data analytics that can help them be dynamic in navigating the growth and potential pitfalls they may face in their own agribusiness. It is recommended for universities to focus their research and development on agropreneurship training to further strengthen students' agropreneurial intentions. Additionally, in response to the ever-changing labour markets and the quest for sustainable competitive advantage in Malaysia, it is suggested that higher

educational institutions should integrate skills and abilities on agropreneurship in order to nurture university students' agropreneurial intentions.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Although the research managed to uncover the critical issues faced by youths with regards to agropreneurial intention, there are several limitations that need to be addressed. Firstly, this study requires added empirical evidence in order to establish stronger findings on the major issues encountered. Secondly, the sample has been limited to only include UPM students and this may result in a bias. Therefore, future studies should include views from government agencies, educators in the agricultural field, trainers, and also consumers to yield greater findings. Finally, this study only focuses on the agropreneurial intention of university students and neglects other youths involved in agriculture such as vocational students. Research on other youth clusters is needed to have a wider view of the issues faced by youths with regards to their agropreneurial intention.

For future work, a follow-up study of the same participants that are interested in agropreneurship in this study would give more insights on their ongoing journeys and their transitions from education towards agropreneurship. This would create a greater understanding of young people's agropreneurial intention and show the extent to which it meets their expectations. It will also allow the investigation of

accessibility and obstacles involved in their agropreneurship journey.

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APPENDIX

Appendix 1

Focus group protocol for UPM students: Discussion guide

1. Welcome

- Welcome the participants and thank them for their willingness to participate.
- Health and Safety – exits in case of fire.
- Give a brief explanation of the research and why the participants have been invited to attend.
- Explain the focus group process (structure of the group, no right or wrong answers, use of audio recorders, how we report the results - commitment to confidentiality with participant responses anonymised, also remind participants participation is voluntary and they can withdraw from the focus group at any time).
- Establish the ground rules for the focus groups (e.g. no speaking over one another).
- General introductions beginning with the moderator going clockwise around the table.

2. Introduction (this is a warm-up so there won't be much need to encourage expansion or probing of responses).

- (i) We'd like to begin the discussion by asking you about your expectations of future career in the field of agriculture?
- (ii) Why did you choose to take up a course in agriculture? What are your main motivators?
- (iii) Where do you envision yourself in 5 years to come?

3. Attitude towards agriculture and agribusiness

- (i) What do you think of agriculture/agribusiness/becoming an agropreneur? Do you think it is a good/secured career pathway?
- (ii) Do you think that are specific traits needed to be an agropreneur? For example risk taker, leadership qualities, innovativeness? Do you see yourself having entrepreneurial traits?

4. Knowledge of agriculture/agribusiness

- (i). Do you think necessary knowledge in agriculture is important when setting up agribusiness? Is formal education important? How about practical training? Remember to **summarise** responses from this section.

5. Government Policies that motivates them to become an agropreneur

- (i) Apart from personal interest, knowledge and education being motivators; are there any government policies that may have an effect on your intention to become an agropreneur? Are there any policies that further encouraged you to become an agropreneur? Or are there any policies that you suggest that can attract more youth to venture in to agriculture?

6. Other External Factors affecting their intention?

- (i) Parents' encouragement; other successful stories of agropreneurs; having a family business.

7. Perceived Challenges of becoming an Agropreneur

- (i). What your expected challenges of becoming an agropreneur? Financial challenges? Infrastructure? Technology?

8. Debrief, Close and Thanks

We are coming to the end of the discussion.

- First I would like to ask what you think about the discussion and its content. Provide participants with debrief letter (Appendix 3) and identify telephone numbers if anyone would like to discuss matters further.
- Does anyone have any further questions or comment?
- Thank participants for time and contribution

An Econometric Model for Nigeria's Rice Market

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ABSTRACT

A dynamic econometric model of Nigeria's rice market was designed to serve as a base for future policy analyses. Using time-series data spanning 38 years, the model contains four structural equations representing paddy area harvested, paddy yield, per capita demand, and producer price variables. Estimates for these equations were obtained using the autoregressive distributed lag (ARDL) cointegration approach. Results of the paddy production and yield sub-models showed that paddy area harvested, and paddy yield was price inelastic. Furthermore, the paddy area harvested responded favourably to technological advancement. For the demand sub-model, estimated own price and cross-price elasticities showed that rice has an inelastic demand response, with wheat being a substitute. A series of validation tests strengthened the reliability of the model for use as an empirical framework for forecasting and analysing the effects of changes in policies such as rice import tariff reforms on production, consumption, retail price, and imports.

Keywords: Cointegration, econometric, model, paddy, rice

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INTRODUCTION

National level modelling of staple food markets is considered a crucial step in the development process of a country's agri-food system, which is perceived as an indicator of a nation's prosperity and overall development. The development of these models was mostly motivated by the need for decision-makers to follow agricultural economic issues (Carpentier et al., 2015). However, recent events have

made modelling of food systems a policy priority for many countries. A case in point being the price spikes induced by the global 'food crisis' of the late 2000s, which revived the issue of world food security (Carpentier et al., 2015). Thus, economic models serve to guide policy interventions by examining existing systems and evaluating alternative scenarios for the selection of appropriate policy strategies.

In developing countries where resources are often limited, an important responsibility of the government is to direct these resources to priority areas. In reality, directing these resources is a delicate process that requires adequate information, usually in the form of formal quantitative policy analysis, a failure of which could jeopardise the effectiveness of a policy intervention in achieving its goal. This is compounded by the fact that the selection of an appropriate policy strategy is a complex resource allocation process that is affected by the dynamic interaction of a multitude of financial, social, economic, and political variables. Usually, policy interventions are politically motivated because each government regime develops its own budget for the economy. These interventions require huge financial investments requiring governments to consider some important factors including beneficiaries, available funds, interest rates, and inflation levels before deciding feasible options. Nevertheless, certain well-designed policy interventions can have favourable long-term impacts on members of the developing society. To ease the complexity in the policy-making process and to facilitate

choosing policy options optimally, planning efforts would be made easier if there was a valid common framework for evaluating the potential outcomes of a variety of policy proposals. This common framework, in the form of a market model, has been the practice in national-level agri-food sectors for many economies. Therefore, a well-designed market model serves as a reliable tool for evaluating policies either through forecasting current situations or by simulating the impacts of policy alternatives.

Rice is an important staple in Nigeria and the government has been at the helm of its policy affairs in its efforts to boost domestic production, with an ultimate goal of suppressing its import volumes. In 2016, the Nigerian government, through its Agriculture Promotion Policy, set targets of becoming self-sufficient in rice by 2018 and turning to a net exporter by 2020. Three policies regulate the country's rice market: import tariff, input subsidy, and a formal credit guarantee scheme fund. Although these policies were introduced in the 1970s, there is limited time-series study evidence on the impacts of these policies on rice market variables. This is especially true for most of the available studies on the impacts of the credit and the input subsidy policies which have commonly employed a 'with-and-without' evaluation approach. Nevertheless, studies on the impact of fertilizer subsidy program (Alabi & Adams, 2020; Michael et al., 2018; Wossen et al., 2017) and on the impact of the formal credit (Ammani, 2012; Obilor, 2013; Zakaree, 2014) suggests positive outcomes. On the contrary, available statistics (Production,

Supply & Distribution Online database) have suggested that perhaps these government's efforts have been quite sluggish in fostering the country's goal of boosting domestic production. Possible reasons could be due to some challenges faced by the policies. In particular, the fertilizer subsidy policy is challenged by politicisation and untimely delivery of inputs (Michael et al., 2018) while higher tariff rates have failed to decrease rice imports but rather encouraged tariff evasions (Dorosh & Malek, 2016) and smuggling (Johnson & Dorosh, 2017). Consequently, as shown in Figure 1, rice production has always remained below consumption, estimated at 4538 metric tonnes in 2018 while rice consumption demand reached 6800 metric tonnes in 2018, representing an average growth rate of 5% annually in the past 10 years. Yield, an important production variable

has always hovered around 2 metric tonnes per hectare compared to a potential of 7 to 9 metric tonnes per hectare (Global Rice Science Partnership, 2013). Worth noting is the fact that Nigeria's rice production system is dominated (80%) by small-holder farmers (PricewaterhouseCoopers, 2018). This smallholder system is characterised by a low level of technology adoption and a low mechanisation rate of 0.3 Hp/ha (PricewaterhouseCoopers, 2018). The supply-demand imbalance is likely to continue due to drivers like rising income levels and population growth. Overall, the domestic supply deficit means the country has to rely heavily on imports to compensate for the shortfall. From 2008 to 2018, import volumes averaged 2345 metric tonnes annually. The foregoing presents a rice economy that is underdeveloped but with great potential.

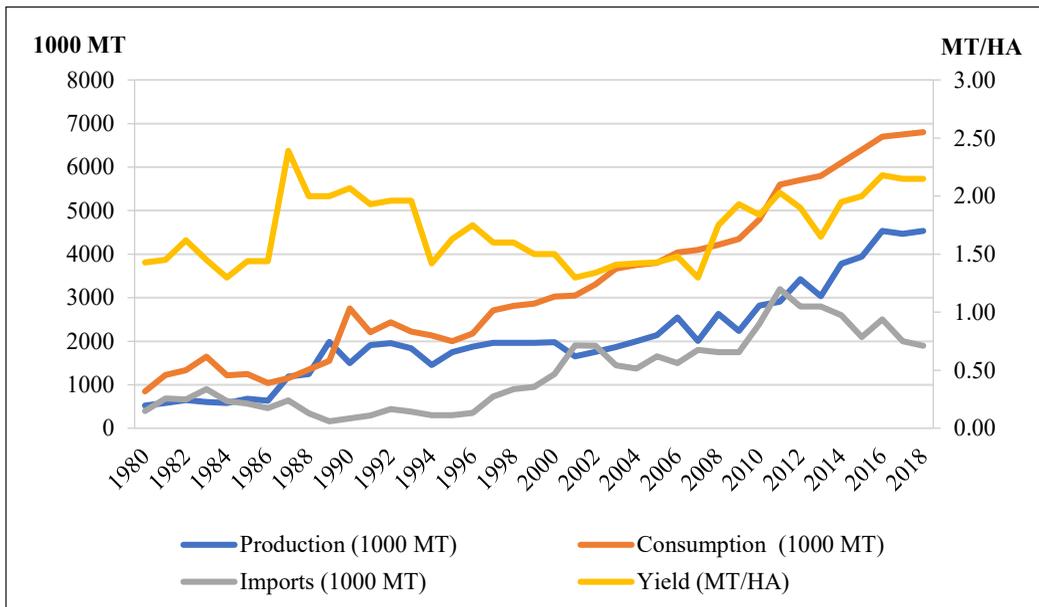


Figure 1. Paddy production, paddy yield, rice import, and rice consumption (Metric Tonnes) in Nigeria, 1980 to 2018

One approach to improving Nigeria's rice market is to review the country's rice policy environment which seems long overdue. As a first step, a well-designed rice market model is important for a number of reasons. First, identifying and understanding key variables, their inter-relationships, and their individual contributions to the functioning of the rice market are critical for preparing policies for improving the market. Secondly, understanding the functioning of each variable can help to identify opportunities that enhance their roles so that policy designs are target-specific. Thirdly, given the lack of a market model for Nigeria, a well-designed framework that approximately represents a market can serve to guide the modelling processes of other staples that have similar policies with rice like wheat.

The present study has the objective of developing a model of Nigeria's rice market that identifies its key determinants and examines their relationships that could serve as a framework for future policy evaluations. The remainder of this paper is organised into four parts. Section 2 explores the methodology and techniques applied to modelling of agri-food systems as employed in previous studies. Section 3 describes the modelling process. In section 4 is a presentation of the results accompanied by their discussions and section 5 concludes the paper.

LITERATURE REVIEW

Agricultural commodity market models find application in understanding structural

relationships, policy impact analysis, and forecasting future market prices and quantities (Shamsudin, 2008). Through this market modelling methodology, relationships between key market variables can be quantified by specifying a set of equations (Christ, 1994; Hallam, 1990; Labys & Pollak, 1984). One way of quantifying these relationships is through econometric modelling and therefore, has found extensive application in agriculture. A couple of advantages it offers is that the methodology is less driven by assumptions regarding model parameters and behavioural effects, rather, the effects are calculated based on the observed behaviour of market agents. Additionally, the estimated model can be tested statistically and be validated to ensure their adequacy which is an important feature for policy analyses. The econometric modelling approach as it applies to the agri-food sector can either be of a comprehensive form (Egwuma et al., 2016; Sembiring & Hutauruk, 2018; Yazdanshenas et al., 2011) which encompasses all of the demand, supply, price, and stock components of the market, or a single/multiple components of a market (Chandio et al., 2018; Paul et al., 2020; Yusuf et al., 2020). These variations in scope in addition to differences in included variables in a model, create a challenge for comparisons of studies in modelling agri-food systems. For example, in a study on rice markets, Kozicka et al. (2015) estimated their production variable as a single equation while Sembiring and Hutauruk, (2018) on the other hand, estimated area harvested and yield variables separately, so that their

product is an identity for the production variable. However, both studies shared a commonality in the sense that rice production and paddy area harvested were price elastic. This is expected given that producers will be encouraged by higher profits for their produce. When estimation techniques are considered, it is common to find contrasting elasticities in agri-food commodity studies. A case in point is a study on wheat demand in Iran by Yazdanshenas et al. (2015) who employed the autoregressive distributive lag technique (ARDL) and found that the demand for wheat was price elastic and wheat was an inferior good. Similar results were found for a rice study in India (Kozicka et al., 2015) using Ordinary Least Square regression. On the contrary, Essaten et al. (2018) used the seemingly unrelated regressions (SUR) technique on durum wheat demand in Morocco to reveal an inelastic price response to demand. At first, the contrasting results are quite unusual given that wheat and rice are staples in those countries. One explanation for this distorted own price and income elasticities despite wheat and rice being staples in those countries was that the rice retail price in Kozicka et al. (2015) was subsidised. Although each estimation technique has its strengths and weaknesses, the choice of technique ultimately depends on its applicability to a study's objective(s). In particular, the SUR technique has the ability to gain efficiency estimates by combining information on the different equations in a model (Moon & Perron, 2008). In the case of

the ARDL technique, it allows for examining the convergence of the relationship between the variables regardless of their static nature, that is whether of I(0) or I(1) (Nkoro & Uko, 2016).

Overall, the econometric estimation technique serves as a way of obtaining elasticities, which are of great value to policymakers and analysts, as they are used in subsequent researches to determine possible impacts of policy changes in the agri-food sector.

METHODS

Model Framework

Models are required to facilitate policy analysis and no single model is capable of serving all policy issues. Rather, the domain of model applicability is guided by the choice of theoretical framework, the extent of regional and sectoral desegregation, and the choice of datasets and estimation methods (Van Tongeren et al., 2001). Bearing this in mind, this study follows the classic commodity market model proposed by Labys (1973), which is based on the neoclassical production function, to investigate commodity supply, demand, and price adjustment. His model specified four general equations adjusted for a typical region i at time t . Mathematically, the model is expressed in its compact form as follows:

$$S_t = s(S_{t-1}, P_{t-1}, N_t, Z_t) \quad (1)$$

$$D_t = d(D_{t-1}, P_t, P_t^c, A_t, T_t) \quad (2)$$

$$P_t = p(P_{t-1}, W_t, \Delta I_t) \quad (3)$$

$$S_t = D_t \quad (4)$$

Where:-

S_t = Supply of a commodity

D_t = Demand for a commodity

P_t = Price of a commodity

I_t = Inventories or stocks

P_t^c = Price of other commodities

P_{t-i} = Price with lag i ($i = 1, 2, 3, \dots$)

N_t = Natural factors

Z_t = Policy variables influencing supply

A_t = Income or economic activity level

T_t = Technical factors

ΔI_t = Change in Inventory

W_t = Shift factors

Where equations [1] and [2] are the supply and demand equations respectively, while equation [3] is the price equation. It is assumed that in the system of equations, the prices adjust to clear the market. The market model is closed using an identity that equates quantity supply minus quantity demand. Although the basic market model framework consists of four equations, in practice a more complex and extended structure can be refined to reflect the features of the commodity and market of interest (Ghaffar, 1986; Hallam, 1990). Guided by Labys' (1973) simple and straightforward theoretical methodology, a modified basic structure explaining rice market equilibrium as an adjustment process among demand, supply, and price variables were designed within a partial equilibrium econometric framework. The model contained four

behavioural equations explaining paddy area harvested, paddy yield, rice consumption per capita, and producer price, and three identities that determined rice production, rice imports, and rice retail price. These sub-models are schematically contained in a market model depicted in Figure 2, showing a breakdown of its components.

Rice Supply. For any given year, the total supply of rice is a combination of the total quantity domestically produced and the total quantity imported. The paddy area harvested equation was specified based on the theory of production centred on the producer's supply response to price, which is assumed to depend on profit maximization subject to given production functions, prices, and weather conditions. Accordingly, the paddy area harvested was specified as a function of its lagged paddy area harvested, producer price of paddy, producer price of cassava (substitute crop), and government's guaranteed rice credit scheme (policy variable). Paddy area harvested was expected to be positively related to lagged paddy area harvested, producer price of paddy, and agricultural credit guarantee scheme but negatively related to producer price of cassava.

The yield of paddy is a function of growth-supporting factors which in this study were identified as anticipated producer price of paddy and a trend factor, which reflects productivity growth driven by technology improvements. The producer price of paddy was included based on the assumption that the guarantee of some

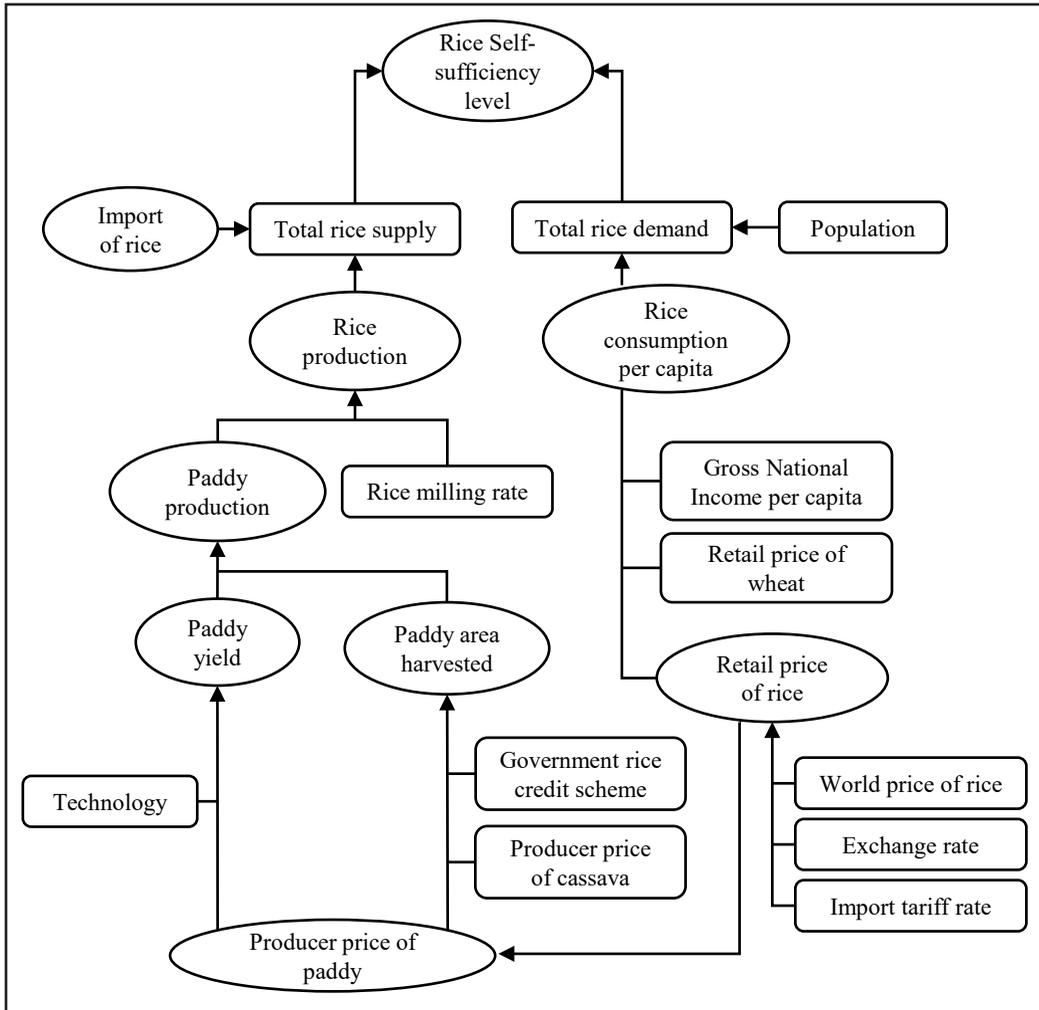


Figure 2. Flowchart of Nigeria's Rice Market Structure

Note. Variables in oval shape are endogenous while variables in the rectangles are exogenous

profit could cushion the effects of the high cost of inputs and ensure timely purchase of adequate amounts of inputs. All the coefficients were expected to carry positive signs.

The product of paddy area harvested, and paddy yield equations form an identity for total paddy produced, which was then converted to rice by a milling rate value.

The rice production process consisted of two structural equations and two identities expressed in the following explicit functions:-

$$\begin{aligned}
 LPYAH_t &= \alpha_0 + \alpha_1 LPYAH_{t-1} \\
 &+ \alpha_2 LPYPP_{t-i} - \alpha_3 LCVPP_{t-i} \\
 &+ \alpha_4 LCGSF_{t-i} + \mu_t
 \end{aligned}
 \tag{5}$$

$$LPYYD_t = \beta_0 + \beta_1 LPYYD_{t-1} + \beta_2 LPYPP_{t-i} + \beta_3 TECH_t + \mu_t \quad (6)$$

$$PYPN_t = PYYD_t * PYAH_t \quad (7)$$

$$REPN_t = PYPN_t * RCMR_t \quad (8)$$

Where:-

PYAH = Area harvested of paddy in hectares

PYYD = Yield of paddy in tonnes per hectare

PYPN = Production of paddy in tonnes

REPN = Production of rice in tonnes

PYPP = Producer price of paddy in Naira/tonne

CVPP = Producer price of cassava in Naira/tonne

CGSF = National rice credit guaranteed scheme fund in thousand Naira

Trend = Time Trend as a proxy for Technological Change

RCMR = Milling rate of rice in percentage

L = Natural logarithm

$\alpha_1 - \alpha_4$ = Parameters to be estimated

$\beta_1 - \beta_3$ = Parameters to be estimated

μ_t = Stochastic error term

t = Time Period

i = Time Lag

rice production identity. The identity was expressed as the difference between total demand and total domestic rice production, given by:-

$$REIM_t = NTRD_t - REPN_t \quad (9)$$

Where:-

REIM = Nigeria's rice import demand in tonnes

NTRD = Nigeria's total rice demand in tonnes

REPN = Production of rice in tonnes

t = Time Period

Rice Demand. The estimation of demand equations is based on microeconomic theory which suggests that the demand for a commodity is derived from the maximization of a utility function with respect to prices and income (Nicholson & Snyder, 2011). In this study, total rice demand was modelled in two steps because income and population are major variables affecting food consumption and therefore, could be highly correlated. In order to avoid any statistical problems in estimation, a per capita rice demand equation was first estimated, then an identity was expressed for total rice demand as a product of per capita rice demand and population. Rice consumption per capita was specified as a function of its retail price, retail price of wheat (as a potential competing food item), and income. Mathematically, it was expressed as follows:-

Import Demand. As a net importer of rice, domestic demand and supply are linked to the world market through trade. Import demand is an identity that is determined by the domestic demand equation and total

$$\begin{aligned}
 LREPC_t &= \lambda_0 + \lambda_1 LREPC_{t-1} \\
 &- \lambda_2 LRERP_{t-i} + \lambda_3 LWTRP_{t-i} \\
 &+ \lambda_4 LGNIPC_t + \mu_t
 \end{aligned}
 \tag{10}$$

$$NTRD_t = REPC_t * POP_t \tag{11}$$

where:

REPC = Per capita domestic demand for rice in Kg/Capita

RERP = Retail price of rice in Naira per tonne

WTRP = Retail price of wheat in Naira per tonne

GNIPC = Gross National Income per capita in Naira

NTRD = Nigeria total rice demand

POP = Population

L = Natural logarithm

$\lambda_0 - \lambda_4$ = Coefficients to be estimated

μ_t = Stochastic error term

t = Time Period

i = Time Lag

These relationships were represented by the following equations:-

$$\begin{aligned}
 REDP_t &= [REWP_t (1 + TARIFF)] \\
 &* EXRT_t
 \end{aligned}
 \tag{12}$$

$$\begin{aligned}
 LPYPP_t &= \delta_0 + \delta_1 LPYPP_{t-1} \\
 &+ \delta_2 LREDP_t + \mu_t
 \end{aligned}
 \tag{13}$$

Where:-

REWP = World price of rice in US\$

TARIFF = Rice import tariff in percentage

EXRT = Nigerian currency exchange rate

PYPP = Producer price of paddy in Naira per tonne

RCRP = Retail price of rice in Naira per tonne

L = Natural logarithm

$\delta_0 - \delta_2$ = Coefficients to be estimated

μ_t = Stochastic error term

t = Time Period

Price Linkages. Price relationships were specified to link the demand and supply components of the model. The sub-model was formulated such that the influence of Nigeria's tariff import policy is captured. The Nigerian government imposes a 70% tariff on rice imports as of 2018. Hence, the retail price was expressed to be determined by an identity featuring the world price of rice, Nigeria's currency exchange rate, and tariff rate for rice imports. An equation for producer price of paddy was specified as directly influenced by lagged producer price of paddy and retail price of rice.

Variable Classification and Sources of Data

Data requirements are determined partly by the level of desegregation in the rice market. Two types of variables were used in this study - endogenous which were determined or generated by the model and exogenous which were not solved for in the model, rather were determined outside it. Data for this study were obtained from multiple sources covering the period of 1980 to 2018. For a breakdown, data on paddy/rice production, consumption, and population were obtained from the International Rice

Research Institute online database, retail prices of rice and of wheat were sourced from FAO'S GIEWS online database, producer prices were sourced from FAO's FAOSTAT online database, Gross National Income per Capita data were obtained from Central Bank of Nigeria database, and Nigeria's currency exchange rate, as well as the world price of rice, were retrieved from UN Comtrade online database.

Model Estimation Technique

Applying the appropriate methodology is the most crucial part of time series analysis, and misspecification or the wrong technique can result in biased and unreliable estimates (Shrestha & Bhatta, 2018). A reliable estimation technique selection for time series analysis is based on stationarity results from a unit root test of the variables (Shrestha & Bhatta, 2018). The stationarity of a time series refers to a feature where its value tends to revert to its long-run average value and the properties of its data series are not affected by the change in time only (Shrestha & Bhatta, 2018). For example, the variance in paddy yield data cannot differ between years. The opposite of this feature is referred to as non-stationarity, meaning that its mean, variance, and co-variance all change over time, and are said to have a unit root. Conventionally, methods used to analyse stationary time series data are inapplicable to analyse non-stationary time series data.

The non-stationarity property of a time series data can be resolved through differencing but using differenced variables

for regressions poses the risk of losing relevant long-run properties or information of the equilibrium relationship between the variables under consideration. To overcome such problems, the concept of cointegration was developed to refer to a statistical concept within the regression theory framework that explains long-run equilibrium in economic theories. It integrates short-run dynamics with long-run equilibrium which forms the basis for obtaining realistic estimates of a model (Nkoro & Uko, 2016).

Techniques for establishing cointegration among econometric variables include the autoregressive distributed lag (ARDL) method, advanced by Pesaran et al. (1996) and Pesaran et al. (2001). A desirable feature of the technique is its versatility in analysing time series data regardless of whether all the variables are integrated of I(0) or I(1) or a mix of both, but not I(2). Also, the ARDL technique can test long-run relationships and estimate the long-run parameters. The following model defines the ARDL technique:-

$$y_t = \alpha + \beta_{xt} + \phi_{zt} + e_t \quad (14)$$

the error correction version of the ARDL model has the following structure:-

$$\begin{aligned} \Delta Y_t &= \alpha_0 + \sum_{i=1}^p \beta_i \Delta Y_{t-i} \\ &+ \sum_{j=0}^q \gamma_j \Delta X_{t-j} + \sum_{k=0}^r \delta_k \Delta Z_{t-k} \\ &+ \phi_1 Y_{t-1} + \phi_2 X_{t-1} + \phi_3 Z_{t-1} + \mu_t \end{aligned} \quad (15)$$

Equation (15), Δ symbolises the first difference operator, α_0 signifies the drift component, μ_t is the random error term with its classical attributes, and Y, X, and Z represent the variables in the structural equations. The first part of the equation containing β , γ , and δ represents the short-run dynamics of the model while the part with ϕ s represents the long-run relationship.

Applying the ARDL approach follows a sequence. In the first step, a long-run relationship is established by calculating the F-statistic and then performing a joint test of the significance of lagged variables. In mathematical notation, the null hypothesis is expressed as:

$$H_0: \phi_1 = \phi_2 = \phi_3 = 0 \quad (16)$$

The null hypothesis of the non-existence of a cointegration relationship is tested against the alternative, that is, the ϕ 's are jointly different from zero. For the F-test, the critical values provided by Narayan (2005) were applied due to the small sample size of this study (38). In a conclusion, the null hypothesis is rejected if the computed F-statistic exceeds the upper bound. Alternatively, if the computed F-statistic falls below the lower bound, we fail to reject the null hypothesis of no cointegration. The test is inconclusive if the computed F-statistic falls within the bound.

Model Validation

The ability of planners to base policy decisions on modelling outcomes depends on building some level of confidence in

the validity of that models. As a necessary requirement in modelling studies, the validation process involves critically examining the model's performance in reflecting the realities of the market in question. Therefore, a number of statistical tests were employed to check the reliability of the model to see if they fall within the acceptable threshold for model strength. They included the Mean Absolute Percentage Error (MAPE) – which measures the mean absolute percentage difference between the actual values and the forecast values (Chu, 2009), the Root Mean Squared Percentage Error (RMSPE) – which estimates the percentage value of the deviation between the forecast value and the mean actual value and the Theil's Inequality coefficient – which measures the fit of the model. For all the tests, the closer to zero the values are, the better. These statistical indicators are generated by:-

$$MAPE = \frac{1}{T} \sum_{t=1}^T \left| \left(\frac{P_t - A_t}{A_t} \right) \right| \quad (17)$$

$$RMSPE = \left[\frac{1}{T} \sum_{t=1}^T (P_t - A_t/A_t)^2 \right]^{\frac{1}{2}} \quad (18)$$

$$U^T = \frac{1/T \sum_{t=1}^T (P_t - A_t)^2}{1/T \sum_{t=1}^T (P_t)^2 + 1/T \sum_{t=1}^T (A_t)^2} \quad (19)$$

Where T is the number of periods in the simulation, P is the predicted value, and A is the actual value.

RESULT AND DISCUSSION

Unit Root and ARDL Cointegration Tests

In econometrics, the assumption of stationarity underlies statistical inference and thus, a key aspect of time series analysis is establishing the stochastic properties of all variables (Egwuma et al., 2016). Thus, unit root tests were conducted to establish the stationarity status. Two tests namely the augmented Dickey-Fuller (ADF) (Dickey & Fuller, 1981) and the Phillips Perron (PP) (Phillips & Perron, 1988) tests were conducted. Prior to the tests, the variables were converted to their logarithmic forms so that the estimated parameters can be interpreted as elasticities. Results presented in Table 1 shows that the variables were integrated of order one I(1). Identifying the stationarity status of the variables is crucial because it helps in determining the choice of estimation technique. For example, the ARDL technique crashes in the presence of an integrated stochastic trend of I(2) (Nkoro

& Uko, 2016). Therefore, it is important to confirm that the data satisfies the conditions for the ARDL technique so as to obtain reliable estimates that are amenable to subsequent forecasting and policy studies.

The long-run relationships of the variables are determined through the F-statistic of the ARDL bound test of cointegration, the results of which are in Table 2. Based on the results, the null hypothesis of no cointegration was rejected because the computed F-statistics exceeded the critical values reported by Narayan (2005).

Estimated Long-run Coefficients

Table 3 contains a summary of the ARDL long-run parameters of the estimated sub-models with their respective diagnostic statistics. In general, the estimated equations fit the data in a manner consistent with economic theory. The statistical properties of the model are good, and all equations have at least 92% of their historical

Table 1
Results of ADF and PP Unit Roots Tests

Variable	ADF		PP		Conclusion
	Level t-statistic	First difference t-statistic	Level t-statistic	First difference t-statistic	
ln PYAH	-1.792	-8.090***	-1.998	-8.071***	I(1)
ln PYPP	-2.657	-6.801***	-2.616	-6.772***	I(1)
ln CVPP	-0.438	-8.814***	-0.697	-9.428***	I(1)
ln RCGSF	-1.877	-4.033***	-1.593	-4.010***	I(1)
ln PYYD	-1.554	-8.142***	-1.669	-8.126***	I(1)
ln REPC	-1.080	-7.504***	-0.655	-7.709***	I(1)
ln RERP	-1.768	-6.559***	-1.767	-6.845***	I(1)
ln WTRP	0.170	-2.742***	-1.213	-8.859***	I(1)
ln GNIPC	0.453	-4.318***	0.113	-4.343***	I(1)

Note. *** denotes significant at 1% significance level

Table 2
Results of ARDL bound test of cointegration

Equation	K	F-statistic	Narayan (2005)	
			Critical values	
			I(0)	I(1)
PYAH	3	4.081*	2.933	4.020
PYYD	2	4.591*	3.373	4.377
REPC	3	11.023***	5.018	6.610
PYPP	1	6.497**	5.260	6.160

Note. ** and * denote significant at 5% and 10% levels, respectively. K is the number of exogenous variables in the equation.

Table 3
Estimated long-run coefficients of the ARDL approach

Regressor	Paddy harvested area	Paddy yield	Rice consumption per Capita demand	Producer price
Constant	9.520***(3.830)	3.272***(2.724)	-8.799***(-4.350)	-0.622(-0.807)
$PYAH_t$	0.260(1.555)			
$PYPP_t$	0.206***(4.170)	0.220**(2.569)		0.985***(38.915)
$CVPP_t$	-0.076(-1.433)			
$CGSF_t$	0.162**(2.252)			
$PYYD_t$		0.488***(3.557)		
$TECH_t$		0.292***(3.041)		
$REPC_t$			0.493***(5.646)	
$RERP_t$			-0.321***(-5.380)	0.168(1.588)
$WTRP_t$			0.193***(3.754)	
$GNIPC_t$			0.951**(2.693)	
REDP _t				
Adjusted R ²	0.951	0.951	0.920	0.987
BG-LM	0.888[0.422]	0.932[0.437]	0.244[0.786]	2.675[0.084]
JB	19.556[0.000]	1.592[0.451]	1.037[0.595]	2.413[0.299]
RESET	0.084[0.774]	0.008[0.929]	2.633[0.116]	3.447[0.072]
BP-G	1.051[0.406]	0.695[0.601]	0.884[0.542]	1.431[0.253]

Note. ***, ** and * denote significant at 1%, 5% and 10% levels, respectively. Figures in parenthesis () are t-statistics while figures in brackets [] are p-values. BG-LM is the Breusch-Godfrey Lagrange Multiplier test, JB is the Jarque-Bera test, RESET is Ramsey's test, and BP-G is the Breusch-Pagan-Godfrey test.

variation explained. As a prerequisite, the estimated equations were ensured to be in conformity with statistical properties via a series of diagnostic tests, specifically Ramsey's RESET test for specification

error, Breusch Godfrey LM test for serial correlation, Breusch-Pagan-Godfrey test for heteroskedasticity, and Jarque-Bera test for normality of residuals.

In the supply component of the model, the paddy area harvested in the next period is significantly influenced by the producer price of paddy and rice credit guarantee scheme fund. As reflected by paddy's own price elasticity, we observed that the paddy area harvested is highly responsive to its price. This is reflected in its own price elasticity value of 0.206 which was statistically significant at 1%, implying that a 1% increase in paddy producer price will induce a 0.206% rise in paddy area harvested, holding other factors constant. Similar rice studies in Nigeria found higher own-price elasticities of paddy. They reported 0.633 (Ayinde et al., 2014), 0.230 (Takeshima, 2016), and 0.340 (Okpe et al., 2018), respectively. As expected, the cross-price elasticity of paddy area harvested for cassava is negative, albeit statistically insignificant to influence paddy area harvested. This means that paddy and cassava substitute each other for land; that is, an increase in the producer price of cassava will cause producers to shift resources away from the paddy area harvested. The rice credit guarantee scheme policy variable also displayed a positive relationship with paddy area harvested with a coefficient of 0.162 and has a statistically significant effect on paddy area harvested at a 5% level. This relationship is crucial, especially for the country's smallholder holder system. As emphasised by Bahşi and Çetin (2020), the benefits of agricultural formal credit extend beyond the monetary value to a deeper consideration where the resources purchased through the credit fund facilitate

the enhancement of farmers' entrepreneurial performance. A similar result was reported by Omoregie et al. (2018), who investigated the effect of credit supply on rice output. As for paddy yield, the result showed that a 1% rise in the producer price of paddy results in a yield improvement of 0.220%. With a slight contrast, Boansi's (2014) study observed yield of paddy increased by 0.210% for a 1% increase in the producer price of paddy in the short run. Lagged yield has a positive and a statistically significant (1%) effect upon current yield by about 0.488% because higher volumes of yield may drive producers to invest more in yield-enhancing inputs in the following production season. This relationship was reinforced by the positive elasticity of technology growth which was statistically significant at 1%. It is common logic that technological growth in the form of high yield varieties when combined with appropriate inputs produce dramatic increases in paddy production

Results of the demand component showed that all the featured variables carried their expected signs, more so, significantly. The own price elasticity of rice was -0.321, meaning that the higher retail price of rice diminished its quantity demanded. In a similar study, Makama et al. (2017) found a higher own price elasticity value (-0.55) for rice in Nigeria. It was observed that wheat was a substitute for rice as revealed by a cross-price elasticity of 0.19. The relationship was expected since wheat is also a staple in the country. The relationship between per capita rice demand and income is described by the income elasticity of

demand (0.95). Specifically, a 1% increase in income will be reflected by a 0.95% increase in per capita demand while keeping all other factors constant. The income elasticity value is low and means that a rise in income is accompanied by less than a proportional increase in per capita demand for rice. This behaviour is characteristic of a necessary good.

In the producer price of paddy equation, the lagged producer price was positive and statistically significant at 1%. Its elasticity was 0.985, meaning that a 1% increase in the lagged producer price of paddy will cause a 0.985% increase in the current producer price of paddy, in the long run, holding other factors constant.

Short-run Dynamic Error Correction Representation for the Selected ARDL Models

Error-correction models may be thought of as capturing the true dynamics of a system whilst incorporating the equilibrium suggested by economic theory (Granger & Weiss, 2001). The ECM consists of two parts: the first part contains the estimated coefficients of short-run dynamics and the second part consists of the estimate of the error correction term that measures the speed of adjustment whereby short-run dynamics converge to the long-run equilibrium path in the model. For all the endogenous variables, results of the lagged error-correction terms (ECT) have error correction representations. A necessary and sufficient condition for cointegration by virtue of the Granger Representation Theorem (Engle & Granger,

1987; Granger, 1983), which states that the existence of a long-run relationship among a set of variables implies that there exists a valid error-correction representation and vice versa. The magnitude of the ECT reflects the speed of adjustment of any deviation towards the long-run equilibrium path (Egwuma et al., 2016). As shown in Table 4, the coefficients of most of the regressors in the equations have their expected signs. However, only a few of these coefficients were statistically significant. All endogenous variables in our model have a high speed of adjustments judging from the coefficients of their error correction terms. The error correction terms are all negative and statistically significant at 1%. This finding reinforces the long-run relationships of the variables. In each case, the speeds of adjustments are enough (99.7%, 113.0%, 97.2%, and 112.0%) to reach a long-run equilibrium level in response to the disequilibrium caused by short-run shocks of the previous period. For example, the size of the lagged ECT (-0.997) for the paddy area harvested equation indicates that approximately 100% of the previous year's variation between the actual and equilibrium value of the paddy area harvested is corrected for each year. Available studies (Chandio et al., 2018) on grains have found higher ECT values (-1.385). This ability to directly estimates the error correction rate and therefore, account for the rate (whether high or low) of the speed of adjustment in time series as well as the direction it is moving, is an especially attractive feature of the ECM.

Table 4
Short-run dynamic error correction results of the ARDL approach

Regressor	Paddy harvested area	Paddy yield	Rice consumption per Capita demand	Producer price
Constant	0.019(0.600)	0.007(0.195)	0.001(0.069)	0.001(0.014)
$\Delta PYAH_t$	0.538(1.643)			
$\Delta PYPP_t$	0.100(1.096)	-0.012(-0.120)		0.991*** (3.287)
$\Delta CVPP_t$	-0.082(1.037)			
$\Delta CGSF_t$	0.005(0.058)			
ΔPYD_t		0.577*(1.720)		
$\Delta TECH_t$		0.089(0.525)		
$\Delta REPC_t$			0.446*** (2.327)	
$\Delta RERP_t$			-0.245*** (-3.808)	0.255*** (2.114)
$\Delta WTRP_t$			0.091(1.651)	
$\Delta GNIPC_t$			0.384(0.919)	
$\Delta REDP_t$				
ECT _{t-1}	-0.997*** (-2.779)	-1.130*** (-2.874)	-0.972*** (0.002)	-1.120*** (-3.206)

Note. ***, ** and * denote significant at 1%, 5% and 10% levels, respectively. Figures in parenthesis (...) are t-statistics, Δ indicates the first difference of variables and ECT denotes the error correction term

Table 5
Summary of the model validation results

Statistic	Notation	Endogenous variable			
		PYAH	PYYD	RCCP	PYPP
Mean Absolute Percent Error	MAPE	0.533	1.271	2.113	2.541
Root Mean Squared Percent Error	RMSPE	0.763	24.53	2.501	3.030
Theil Inequality Coefficient	U ^T	0.004	0.008	0.014	0.014

Overall, the estimation results of Nigeria’s rice market model were statistically acceptable and have revealed important relationships associated with the variables in the market. A few of the coefficients were found to miss the threshold for acceptable statistical significance but were retained on basis of their econometric a priori signs.

Model Validation Results

Table 5 contains the results of a series of validation tests employed to assess the model’s quality. For all endogenous

variables, the values of the MAPE are less than 10%, indicating very good forecast accuracy. The U^Ts are less than 1%, suggesting the non-existence of systematic bias and satisfactory model performance. The yield variable has the highest forecast error (24.5%) which could be reflective of the erratic nature of the growth rates for some periods in the historical data. For example, 100% in 1982 was followed by a -50% in 1983 and then -50% in 1994 proceeded by a 100% in 1995. Based on these statistics, we can conclude that the

model offers a fairly accurate representation of the country's rice market and offers a reliable tool for future forecasting and policy analyses.

CONCLUSION

Rice has become the staple food in Nigeria and its position as the main staple is unlikely to change in the near future considering the growing demand. Thus, making it a government's policy priority in recent years, especially considering the volatile nature of the world rice market and the risk of over-reliance on imports. In this paper, a dynamic econometric model of Nigeria's rice market was designed to highlight the key features and describe their relationships in the form of a system of behavioural equations, representing paddy area harvested, paddy yield, rice consumption per capita, and paddy producer price. Using data from 1980 to 2018, the ARDL technique employed was able to produce plausible, and statistically valid results. Most importantly, the technique was able to reveal the existence of long-run relationships among the variables in the model. Based on the elasticities, the pattern and nature of rice consumption in Nigeria were defined. Indeed, the calculated own and cross prices elasticities of per capita consumption of rice suggested that in the long run, the demand for rice was inelastic, a normal staple, and a necessary food item and these relationships were statistically significant at 1% in all cases. Thus, conforming with the economic theory that food goods generally have inelastic demand. It was found that rice consumers

displayed a strong sensitivity to changes in its price, consumption of which will increase with rising consumers' incomes. This underlines the need for introducing a regulatory system such as a price ceiling for rice retail price or a price subsidy. Based on the results of the estimates, it turned out that paddy and cassava behave as substitutes, with a cross-price elasticity value of -0.08. Producer price of paddy was found to be a key determinant in the supply and price components of the model and these relationships were found to be statistically significant at 5% at least. This crucial finding coupled with the income elasticity nature (normal good) of rice demand means that the country's demand for rice will continue to increase in a growing economy and therefore makes a case for further research focused on evaluating alternative production supporting policies, like a deficiency payment program, which would boost rice production in line with the country's goal for increasing rice production. Otherwise, falling prices could cause a crowding-out effect of paddy producers that could jeopardise the country's rice self-sufficiency goal. Furthermore, as revealed by the results of the producer price estimation, it seems that the benefits from import tariffs are not significantly transmitted to domestic producers through the retail price. Therefore, policy reforms like lowering tariff rates may benefit consumers at the expense of producers, ultimately stifling production growth in the country.

The econometric approach in this study facilitates the understanding of the behavioural relationships and makes the

model flexible to future improvements. The importance of the model lies in the ability of the elasticities to provide an understanding of the relationships that exist in the rice market and to facilitate insights on probable consequences of policy considerations in the rice market so that policymakers and researchers can consider feasible options. Although the study experienced some cases of data gaps in some of the variables, these shortcomings do not undercut the reliability of the model as proven by the model validation tests.

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The Missing Narratives: Exploring the Experiences of Malaysian Journalists and Family Members and Friends of Victims during the MH370 Aviation Crisis

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ABSTRACT

The MH370 crisis which attracted global attention is considered one of the most perplexing disasters in aviation history by aviation experts. One of the highlights of the crisis was the alleged inability of Malaysian journalists to provide accurate information on the issue. Maximum news coverage, commentaries, expert views, and researches were carried out regarding the issue. However, most of them only focused on how Malaysian authorities handled the crisis. None ventured into Malaysian journalists' perspectives particularly on their concerns regarding their coverage of the crisis. Therefore, this study seeks to investigate the perspectives of journalists from the selected newspapers on their framing of the crisis, the alleged inconsistencies in their coverage, and the perceived lack of access to information. By giving journalists a voice to express their views on their performance, it is hoped that will deepen knowledge and understanding of the dynamics of press freedom, ownership, and control in the country. Through qualitative data analysis, the study found that MH370 news frames were greatly influenced by both internal and external factors, ranging from individuals to state levels. They include lack of experience in aviation news coverage on the part of the local Malaysian journalists; the internal gatekeeping process by the news editors of various newspapers which tend to undermine the work of journalists; and the seen and unseen restrictions experienced by journalists and media houses at the state level.

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INTRODUCTION

A Beijing-bound MH370 mysteriously disappeared from air traffic controllers' radar screens on March 8, 2014, without a trace. This incident triggered an unprecedented international search effort that involved more than 25 countries, including the United States of America, New Zealand, India, Vietnam, Singapore, and China (BBC News, 2014). At various points in time, hot discussions on what might have happened to MH370 emerged – possible scenarios include a mid-air explosion, a pilot suicide, or even a hijack by unknown perpetrators who tried to steal the airplane to an unknown location and flew 5,000 feet above the water to avoid military radar detection (Sorensen, 2014).

However, investigators have yet to make any formal announcement regarding the cause and the person responsible for the incident (Gavin, 2018). The fact that debris was found in different places around the world has raised more questions than answers. Beh (2018) mentioned in his report that most of the Chinese victims' families are not satisfied with the outcome of the investigation and have demanded the search and rescue be continued until there is a conclusive finding. A recent theory suggests that the plane was flown in a certain way to avoid detection before the pilot deliberately crashed it into the Southern Indian Ocean (Gavin, 2018). There is also a theory that a hacker (Randall, 2018) had somehow managed to hack into the flight software and hijacked the plane to a mysterious location.

Throughout the investigation and search for the missing flight many parties, especially the victims' families, have sharply criticized the airline and Malaysian government for their responses and actions (Daily Mail Online, 2015). A number of foreign newspapers blamed the Malaysian government for its failure to identify the sudden change of flight path from the radar data, mishandling of the crisis while providing false leads, unconfirmed facts, and missing details which have delayed and exacerbated the searching process (Secret China Online News, 2014). Nevertheless, some of the local newspapers reported that the greatest efforts have been provided and shown by the Malaysian authorities in investigating and tracking the flight (Utusan Online, 2015). Sankaran (2016) pointed out that international media produced more critical reports compared to the national media that produced more supportive reports.

Newspapers play a vital role in reporting crisis as it has the right in selecting and deciding what to be focused on and highlighted (Seon-Kyoung & Karla, 2009). The way journalists frame the headlines and news stories could directly shape readers' perceptions of the MH370 incident and it could have a strong impact on Malaysia's reputation. Hence, it is essential to understand the meaning of journalism and the roles of journalists during a time of crisis.

This research attempts to explore the Malaysian journalists' experience in covering crisis with specific reference to

the crisis involving Malaysian Airlines Flight MH370. It also seeks to investigate the internal and external factors that affected media framing in the coverage of the MH370 crisis. These will help us understand the extent to which the media has fulfilled its roles as an information provider, the kind of information that was disseminated, and whether it was enough for the people to react and respond to the crisis. Besides, the process of gathering and reporting the issue from the journalists' perspective would enhance the findings on what roles the media played during the crisis.

LITERATURE REVIEW

Framing Aviation Crisis

Crises threaten us on all sides. It may happen in a "specific, unexpected, and non-routine event or series of events that create high levels of uncertainty and threaten or are perceived to threaten high priority goals" (Seeger et al., 2003, pp. 204-205). The concept of crisis is often related to keywords such as "unrest", "conflict", "revolution" and "uncertainties" (Koselleck, 2006), "catastrophic (Filippini, 2017), and "threat" (Jacques, 2014).

With today's advanced aeronautical technology, transportation via airplane should be the safest among other transport modes (Li et al., 2015). However, catastrophic aviation incidents cannot be avoided. Despite the relative infrequency of these incidents, the aviation crisis has often caused strong public reactions and concerns, particularly social panic and risk-avoiding behavior that is complicated by

major social-political, and economic factors (Romantan, 2005). This could be observed through media frames which often contain certain ideological parameters.

In a study of aviation crisis, Entman (1991) mentioned that in the framing of Korean Airlines Flight 007 (KAL 007) that was shot down by the Soviet Union and Iran Air Flight 655 (IR655) that was shot down in its own country by the U.S. Navy's cruiser, reports on the KAL007 crisis emphasized on Soviet guilt and the act being morally indefensible while those on the IR655 crisis focused on the complexity of operating military-grade advanced technology. Even though both cases are rather similar, Entman indicated that U.S. media practitioners relied heavily on elite sources in covering both incidents, thus most frames were found to have supported the dominant frame as the elites were the "primary sponsor of news frames" (Entman, 1991, p.7). The contrasting frames embedded in these similar cases implied a reciprocal relationship between the media frame and the dominant frame, particularly government policies and media ownership.

Similarly, Yan and Kim (2015) found out that in the framing of the 2013 Asiana Airlines crash, United State newspapers attributed to pilot's responsibility. The scholars indicate that the United States and Korean newspapers use a negative slant toward each other while China media supported the United State frame but were slightly less negative compared to United State media. This reveals the link between crises with ongoing elite agendas which

color different international media frames. Besides that, it also proves that the ruling class has the power to intervene in the frame-building process.

In analyzing the news frame of MH370, Park et al. (2016) found that the English newspaper *The New Straits Times* focused more on the local conflict frame, while the Chinese newspaper *China Daily* focused more on the human interest frame. In their news reports, *The New Straits Times* tends to frame the crisis for the sake of the Malaysian people by advocating for the casualties and mentioning possible solutions for conflict. On the other hand, *China Daily* focused on the Chinese perspectives by emphasizing the stories of the Chinese casualties and their families. The scholars further mentioned that both newspapers supported their own country's policy by framing the incident from the perspective of their own country. However, the study did not include interviews with media practitioners about the way journalists frame a crisis. Therefore, this study aims to fill the gap by conducting an in-depth interview with journalists of the selected news media. This is to further explore the coverage of the MH370 crisis as well as the level of information access during the crisis.

Journalism and Crisis Reporting in Malaysia

Journalists have the responsibility to act as checks and balances to ensure that there is transparency and accountability on the government's part. This role is significant during times of crisis where

every single piece of information is invaluable and vital. However, Eric (2013) pointed out that Malaysian journalism is often underestimated, resulting in uncritical reporting and fewer concerns for investigative journalism.

In a study of investigative journalism in Malaysia, Norsiah et al. (2015) pointed out that investigative journalism in Malaysia is still in its infancy and that collective changes need to be made for improvement. The scholars opined that Malaysian journalists are "bound by ethics, rules, laws and regulations" (Norsiah et al., 2015, p. 638) that are claimed to protect national security. However, Turow (2014) defined this as circumstances that allow governments to censorships which limit the way of news reporting and writing.

In a study on the challenges faced by Malaysian journalists, Ismail et al. (2017) stated that journalism in the country is facing major external and internal challenges that could downplay their role as journalists. This includes the challenges of "lawsuit, information availability, issues availability, seeking the truth, weak enforcement and low impact". Additionally, they are also facing another eight newsroom challenges. This implies that Malaysian journalists may have an interest in investigative journalism, but state control and ownership restriction have undermined this interest, putting journalistic expression into silence.

Undeniably, the information system in the country is tied to the wider context which includes state practice. Many communication scholars have pointed out

that, under different contexts of power, the general public does not always get access to information due to “corporatization”, “commercialization”, “commodification” and “concentration”, where the news has become a product that is sold for profit (Wasko, 2014). Typical examples abound in Malaysia where journalists risk being arrested, detained, and even jailed on what the so-called powerful ruling class considers seditious and libellous publications. The detention of *Malaysiakini* journalists (Rodan, 2002) and the suspension of the licenses of *Sarawak Report* and *The Edge* for their coverage on the controversial government investment fund 1Malaysia Development (1MDB) (BBC News, 2016), and the closing down of *The Malaysian Insider* have been closely related to the unequal sharing of information in the country.

The MH370 incident has sparked more discussions on the roles of the Malaysian press and the degree of freedom it has in the coverage of crises, conflicts, and other issues that are of public concern. It is equally important to ascertain whether the press provides enough information for the people to react and respond whenever a crisis occurs. As stated by Hall (1990), access is not simple, it is an issue of how those in power form structures that define who regularly gets access and who should not reinforce the legitimacy of their interest and power. He further argued that the public generally does not have access to public debate. This assertion is particularly important during the MH370 crisis as people

struggled over access to information that they deem relevant or significant. To counter these concerns, it is unavoidable to relate them to the wider Malaysian context that could intervene in the framing process.

THEORETICAL FRAMEWORK

Framing

Framing is an effective way to comprehend and understand media roles during any event or crisis. Mishra (2011, p. 24) stated that the “mass media set the frames of references that readers or viewers use to interpret and discuss public events”. It organizes ideas that provide meanings in telling the audience what the problem of the crisis is or in short, it tells the essence of the issue. This is explained in detail by Entman (2004) that framing involves problem definition, causal interpretation, moral evaluation, and treatment recommendation which play a vital role in organizing ideas as well as shaping the news story while providing meaning to the news. Hence, the media frame can be very powerful and plays a critical role in shaping the public’s understanding of the MH370 crisis. Audiences’ attitudinal and behavioral reactions are influenced by the way news is being portrayed and framed (Temmerman, 2012).

Frame Building. Past studies have suggested that frame building is influenced by several factors. These include the impact of organizational restraints, the professional values of journalists, or their expectations about audiences’ choice of news form and content. Akhavan-Majid and Ramaprasad

(2000) allude to the roles of external factors such as the influence of ruling ideology in building news frames. The recent findings included the hierarchical influence mode of Shoemaker and Reese (2014). Basically, the scholars stated the five major factors in influencing news frames - the individual level, routine level, the organization level, social institution level, and social system level. On the other hand, Bruggemann (2014) theorizes factors at the micro level – the influence of individual (journalistic roles and working environment), meso level – the influence of organizational and professional (editorial policy and degree of freedom in writing news), and macro level – the influence of social institution and social system which may affect the news frames (state control and press freedom in the country context).

Frame Setting. Frame setting is a process that describes how news frames affect the audience. Entman (1993) mentioned that media frames could have an impact upon attitudes, opinions, or individual frames. News frames serve as schemata in telling people how to interpret certain events/issues. In times of crisis, frame setting is crucial as it provides salience to the issue and how the audience should react and respond to the crisis. Kim et al. (2012) that understanding the public is important to develop an effective crisis strategy.

In the case of MH370, it is vital to understand how the crisis is framed. The public's perception of a crisis is influenced by how it was portrayed or framed in the

media (frame setting). According to Coombs and Holladay (2002), crisis events can be framed in different ways. The media may report the incident as preventable (human-error accident), accidental (e.g. technical error), or unprecedented (e.g. natural disaster). The portrayal of a crisis provides cues to the way in which the public should perceive it and attribute crisis responsibility to the organizations or parties involved in the crisis. Coombs (2015) mentioned that the public attributes very little crisis responsibility to the victim cluster and low crisis responsibility to the accidental cluster. However, Schwarz (2012) pertinently pointed out that the public attributes a very strong crisis responsibility to the preventable cluster such as a crisis caused by human negligence. Therefore, frame setting would be investigated through interviewing journalists on the process of news gathering and writing in order to understand the news reporting of MH370.

METHODS

This study employed a qualitative method, using the in-depth interview as an instrument. According to Scheufele (2006) and Schostak (2006), the interview is a good method to discover the hidden meaning of issues related to the media. An interview could extend the conversation between people and it could provide in-depth information in answering the 'what' and 'how' of the issue.

In this study, eight journalists were interviewed (Table 1). The selection of journalists from both mainstream and alternative newspapers was based on

Table 1
Profile of journalists

	Gender	Medium	Years of experience as a Journalist
Journalist A	Male	<i>Malaysiakini</i>	8
Journalist B	Male	<i>Malaysiakini</i>	11
Journalist C	Male	<i>The Star</i>	13
Journalist D	Male	<i>Harian Metro</i>	5
Journalist E	Female	<i>Harian Metro</i>	10
Journalist F	Female	<i>The Star</i>	6
Journalist G	Female	<i>Malaysian Insider</i>	8
Journalist H	Female	<i>Malaysian Insider</i>	14

their circulation. *The Star*, *Harian Metro*, *Malaysiakini*, and *The Malaysian Insider* were chosen as they have the highest readership in 2014 when the crisis happened.

A pre-test of the interview questions was carried out, followed by the amendment of the interview questions to ensure validity. The snowball sampling technique was used, where the authors interviewed the first journalist, who then recommended other journalists to be interviewed. Before the interview, journalists were briefed and a consent form was signed in order to ensure that the interview process is accountable and that the identity of the journalists is kept confidential. The duration of the interview ranged from 30 minutes to 1 hour and 30 minutes. A recorder was used during the entire conversation. Later, the interview data were transcribed into text. The thematic analysis technique of Braun and Clarke (2006) was used in analyzing the data with the aid of NVivo 12 Pro software for data management, coding, sorting, and retrieval of data.

FINDINGS AND ANALYSIS: JOURNALISTS' PERCEPTIONS

In exploring journalists' experience in covering the MH370 crisis, the data were categorized based on the three main factors emphasized by Bruggemann (2014), which are: factors on the individual level, factors on the organizational and professional level, and factors on the state level.

Individual Level Factor

Personal Experiences and Knowledge.

Describing the press conference during the first week of the incident, all the interviewees are of the view that the situation was merely chaotic and disorganized, with most of the journalists uncertain about what to do. They also noted that the situation worsened when media companies started sending their journalists to the suspected crash site in Vietnam, even when they were unsure of the truth of the matter.

For the whole week, we didn't know what is happening, we still don't know who established (was involved) and what is happening,

*there is no control over this incident,
first week is very very chaotic.*

Journalist B

*They (foreign media journalist) just
focus on specialized reporting.*

Journalist D

One of the interviewees from mainstream newspapers mentioned that a lack of knowledge in the coverage of the aviation crisis posed double difficulties and challenges. The use of specific terms in describing the height and altitude of the plane makes it harder as local journalists who write the story seem not to understand the subject matter well.

*You don't know much about plane,
how it works, you don't know where
the way point (direction of the
plane), you don't know at what
altitude the plane fly, whether it
is 35000 feet, or going up. We
were lacking knowledge in that
particular area.*

Journalist D

The interviewee went further to state that foreign media journalists have areas of specialties, adding that they also have access to the right sources such as Boeing Company and the aviation industry, noting that on the contrary, he does not think that there are Malaysian journalists who specialize in aviation reporting.

*Maybe the foreign media have these
sources (the access to the Boeing
company) to tell what is happening.
I think from what I understand; they
are aerospace journalist. I don't
think we have aerospace journalist
in Malaysia. You know, here in
Malaysia, journalists do everything.*

Organizational and Professional Levels factor

Editorial Controls and Organization Practice. The majority of the interviewees said that they have the freedom to write MH370 news stories, including but not limited to the angles of the news stories. However, they admitted that the final decision to publish is in the hands of the editor.

*Our editor gave us full freedom,
we just write whatever we could,
because at the end of the day, they
decide what should be published.
We don't usually do stand-alone
story. What happens is, when my
colleague's story is similar to mine,
we put them together, and that is
how we work. But at the end of the
day, the editor decides how much
of the stories go in. But they told us
to write everything, and just told
us to write what we want to tell so
that we can take it from there. So, in
terms of writing restriction, I didn't
feel anything.*

Journalist F

In sharing their opinions regarding rumors and speculations as well as the sensationalization of the MH370 incident, some interviewees said it is beyond the control of the journalists who wrote the stories.

First of all, you have to understand the process, reporter writes the story, then we submit the story, sometimes someone might edit the story and the headline comes from the sub-editor, so it's not the journalist. So I (have to go through all the process). So you can blame the media, but not the journalist who did not come out with the headline. Sometimes the story you send might be changed, and it is done by the editor.

Journalist D

Nevertheless, one of the interviewees said that sometimes there is a need to sensationalize the news story in order to compete with other media. The journalist also noted that due to the restrictions on mainstream newspapers, critical viewpoints are censored and filtered by the editor before it gets published.

Of course, we need to sensationalize as we need to sell. I mean surely some people (some journalists) will blush (embarrass) by saying that the government is useless, that all wouldn't go through, or when the government is criticized for being incompetent and etc., they (the editor) will take that out.

Journalist D

State-Level Factors

Access to Source of Information. On access information, all the interviewees agreed that they refer to official sources

(Malaysian authorities) as their main source of information particularly through the press conference organized by the Malaysian authorities. This is because the authorities were the ones who were directly involved in the investigation of the incident.

We have a lot of press conferences, so most of the information we gathered are from the press conferences or authorities.

Quoted from Journalist E

However, it was not an easy task as all of them mentioned that the level of access to information was not sufficient. Some interviewees elaborated the situation in the press conferences, noting that many questions such as the shipment of mangosteen fruit despite it was being off-season were thrown to the Malaysian authorities but most were not answered. More often, replies were such that contains scanty information and leaves one in doubt as to what the facts are.

Basically, they didn't respond well to our questions, in the sense that, basically all the answers we got are, we are checking it, we are verifying it, we are investigating it, we will tell you when we get... and then they showed us the passengers, and the passengers' family, that's all. There was basically no clear-cut answer on what was happening in the first week.

Quoted from Journalist B

Some interviewees alleged that authorities attempted to cover up, making it difficult for them to gather information, leaving questions unanswered.

Malaysian government was trying to cover up. First is regarding the cargo, it is something unusual for you to send the mangosteens at that time as it was not a season for mangosteens, until now no one could answer it. No one is willing (to answer), everyone tried to cover up and we don't know why they were covering up.

Quoted from Journalist E

One of the interviewees from a mainstream newspaper mentioned that the biggest challenge was verifying and confirming information.

I think the most difficult part is getting confirmation because there was only certain slot where the press conference was held, let's say 9am in the morning. So if you miss the chance, which we will usually do, because there were so many people, where are we going to get the information? Nobody will talk to us because they were all afraid of gate order, for many authorities and police officials couldn't confirm things to us. We had to go through, say the press conference, or go through different people and a lot of time was wasted as they don't answer or we cannot reach them so

getting confirmation was the most difficult.

Quoted from Journalist F

There were lots of rumors and speculations through social media, but there was no valid and reliable information to counter and curb them.

There were a lot of reports but they were either the same or doesn't make sense or lacking in details. We know the plane is missing, but we just don't know what happened and everyone keeps speculating.

Quoted from Journalist B

In response to the lack of access to information, most of the interviewees are of the view that the Malaysian government was trying to cover up. Therefore, in the quest to get enough information, many of them resorted to unofficial sources. The situation led to more confusion and rumors. This was mentioned by both mainstream and alternative newspapers interviewees:

Information is so scarce, a lot of media went to unofficial sources, that may or may not be reliable and some started having random conspiracy theories, and that received some level of publicity and we have to deal with that also.

Quoted from Journalist A

That's why when you don't have much information, you will write anything. That's why the foreign

media like daily mail came out with ridiculous stories.

Quoted from Journalist D

On the news slant, interviewees from alternative newspapers stated that their critical position on issues regarding the MH370 is informed by the fact that they have more freedom to report the news. This freedom according to them stems from the fact that quite unlike the mainstream newspapers, alternative online newspapers in Malaysia do not require to apply for a permit from Malaysia's Ministry of Home Affairs to start an online news portal.

Sometimes the government doesn't feel right to review certain things because they were afraid of the backlash. Sometime when you are lucky, you will get insight stories, but those with the mainstream are not able to write certain things, it will make the government look bad, so when it comes to freedom of speech, in terms of writing, they are not free. News portal like kini (Malaysiakini), Malaysian Insight, we cannot say that we are totally free, but we were able to put it out as it is, without having to bow to anyone. We (alternative media) are not answerable to government, but the mainstream newspapers like NST, The Star or The Sun, to certain extent, they have to.

Quoted from Journalist H

On the contrary, interviewees from the mainstream newspapers were restricted

on what to write and the slant to adopt in writing the stories.

That's why most of the local journalists slowed down as we were given warning by the government. There were restrictions as we were stopped by Hishammuddin (Acting Transport Minister at the time) as he asked 'are you going to tarnish country's reputation?' Don't ask that kind of question, stop! so we cannot basically couldn't write much.

Quoted from Journalist C

Although journalists from the alternative newspapers provided a more critical news report, yet it does not mean that they had no limitations. Their restrictions came in the form of regulations as well as the country's practice. They were labeled antagonists or the hot style media that could threaten the powerful ruling, and are usually barred from entering the Prime Minister's Office and UMNO headquarter. On reasons for the barring of journalists from alternative newspapers from entering the Prime Minister's office, one of the interviewees stated that the Malaysian authorities are not usually comfortable with probing questions from this group of journalists:

DISCUSSIONS

The news frame in the coverage of the MH370 crisis was greatly influenced by both internal and external factors, including the influence of individuals, the influence of media organisations, and state practice. As

remarked by most of the interviewees, lack of experience and knowledge in covering the aviation crisis posed double challenges in the coverage of the MH370 crisis. This lack of training and specialization in aviation reporting and experience are the individual factors that led to uncritical analysis and lack of in-depth reporting on the MH370 crisis. This is cited in Rao (2018) that one of the factors that lead to the decline of media credibility is the lack of investigative and meaningful journalism.

Even though most of the journalists stated that they have the freedom to decide the news angle, however, they admitted that the final output is usually decided by the editor or editor-in-chief. This finding is in line with Hanggli (2012) who mentioned that the power of an organization is defined as having influence in the background or/and in the foreground. Thus, media frames are often interrupted by the frame builder which includes the news editor. It also corroborates Rita (2012) who further mentioned that “management has a legal responsibility to serve the economic interest of owners”, therefore as a part of the media company, journalists tend to self-censor as there are always unspoken rules which indirectly control or influence the way a story is framed and covered. Under pressure, journalists may attempt to frame a story in a way that is more favorable or beneficial to their organization, company, or superior.

Additionally, this is also mentioned in Yang and Md. Sidin (2015) study that gatekeeping processes could happen at the individual, routine and organizational as

well as at institutional levels. They further stated that ownership often influences the gatekeeping process of newspapers in their reporting of interethnic conflicts. The gatekeeping process of newspapers has often been closely connected to political factors, which has had negative impacts on practicing the freedom of news writing and reporting. Also, it was found out in the study that though some journalists in the country believed that the emergence of new media has offered some hope to re-balance the power between the powerful ruling and journalists, however, the Internet is increasingly subjected to government control. This is evident in this study that alternative media such as *Malaysiakini* and *Malaysian Insider* have often been clamped down by the government. The journalists from both news media have pointed out that they are often suppressed and have been labeled as “anti-government”. This undermined what they can achieve in their watchdog role. A typical example was when they were not allowed to attend the UMNO headquarters’ meeting or interview the Prime Minister.

Hence, this study observed that the political climate in Malaysia often serves as a stumbling block to the development of a free press in the country. Jan et al. (2017) pointed out that journalists are increasingly dependent on official sources in news writing due to the increasing deadline pressures. This study found that both mainstream and alternative newspaper journalists usually refer to official sources or official press conferences for information.

Powerful institutional actors such as the government and authorities featured more in the MH370 stories compared to other actors such as professionals or experts. This is in-line with the numerous researchers who have pointed out that news source is related to the power issue as sources lead the dance in the selected phrase. This is also proven in Hänggli and Kriesi (2010) study that political actors significantly influence media frames by taking the lead in frame building. Bruggemann (2014) pertinently pointed out that journalists practice frame sending by reproducing the powerful ruling agenda due to the power controls and restrictions imposed on the journalist. In other words, adopting similar sources in reporting the MH370 crisis implies that the news is written from a similar angle or perspective which could be biased as no equal news spaces were given to various sites. On the other hand, the powerful ruling has the greatest power to decide the content of news which is often beyond the journalist's control.

In addition, all the interviewees claimed that the main official sources have neither provided enough nor confirmed information to the journalists. The delayed, unconfirmed and unverified information resulted in lots of confusion. Consequently, a lot of rumors and speculations were spread through social media. Citizens, as well as journalists, developed conspiracy theories in analyzing the cause of the MH370 incident. This was shown in The Star's (2014) headline "Missing MAS flight: Don't share unverified info". Besides, anti-fake news was launched

recently to curb the dissemination of fake news (The Straits Times, 2018).

Furthermore, the Malaysian law which is seen as a top-down instrument by giving enormous power to the state to dominate and control the crisis situation (Balasubramaniam, 2012) has impacts on practicing democracy and human rights for accessing information during a crisis. For instance, the authority may invoke the presumption to legitimize their interest and power by asserting the ideas that people should obey the law to avoid the danger of chaos, in order to delegitimize the counter-hegemonic. The government has a history of classifying any document or information as top secret, confidential or restricted and an offense under the Official Secret Act 1972 (OSA) of exposing them is punishable by law (Faisal, 2015). One such example is the case of politician Rafizi Ramli who according to The Sun Daily (2016) was charged under the OSA for allegedly releasing classified information on the 1Malaysia Development Berhad (1MDB) scandal which was a global web of fraud and corruption that involved the former prime minister Najib Razak (BBC News, 2020).

This study is never just about the Malaysian media, but also media issue which is often raised at the global level. This is highlighted in Lee and Baek (2018) and Zelizer (2015) studies that journalists often neutralize and legitimize the rights of the powerful elites. Obviously, journalists are trapped in power relations and this leads to a similar pattern of reporting. This study, therefore, argues that Malaysian media

appears to have failed to play its role as a repository of information and surveillance to the society during the MH370 crisis simply because the centralization of power has stifled the mainstream media and blocked the fourth estate from serving as effective checks-and-balances on the powers that be.

In summary, the main challenge in the case of the MH370 crisis is the lack of access to information and the inconsistencies that characterize the available information.

The study of the MH370 disappearance is not without limitations. The interview focused only on the perspective of journalists. The victims' families & friends' perspectives towards access to information during the crisis may as well be explored by future studies. Nevertheless, this study furthers a scholarly understanding of how Malaysian journalists frame and report crisis and more significantly is that crisis frame is not solely dependent on the journalist who writes the stories, but it is always influenced by several internal and external factors.

It should be noted that the turbulent political environment, which includes the resignation of former Prime Minister Mahathir Mohamad, the current practices governed by Prime Minister Muhyiddin Yassin as well as multiple political instabilities, does not open up the prospect of further freedom of expression and freedom of the press in the country.

CONCLUSION

This study contributes new knowledge as most MH370 studies either focused on crisis communication and crisis management

(Junaidi et al., 2014; Kalthom et al., 2014; Lee & Han, 2014; Peiter, 2014) or content analyses of MH370 related news (Bier et al., 2017; Park et al., 2016). However, how journalists perceive the coverage of the crisis is rarely highlighted. In a nutshell, this study could help in understanding information subsidies during an international crisis and how it relates to the wider context of power.

In addition, the MH370 crisis seemed to have portrayed the country as one that lacks a crisis communication plan. The findings of this study show that there is no consistency in the information disseminated to the journalists. The interviews with journalists reveal that they face challenges in accessing information due to a lack of press freedom. Therefore, this research can act as a catalyst for the government of Malaysia to not only improve its crisis communication plan but also to give journalists more freedom in doing their job.

Furthermore, this study emphasizes the importance of having good coordination and communication during a crisis, particularly in handling press conferences and dealing with journalists. The findings of this study echoed the recommendations of the Malaysian ICAO and Nabil et al. (2019) of providing an effective Emergency Response Plan to tackle potential aviation crises. Improving the cooperation between several key parties is necessary in order to prevent the sharing and reporting of conflicting information. The parties include the Aircraft Communications Addressing and Reporting Systems (ACARS), International Civil Aviation Organization (ICAO), Malaysia

Airlines Berhad (MAS), Royal Malaysian Air Force (RMAF), and the Malaysian government. The information delivered to external parties and the public must be verified carefully before it is published or distributed to external parties or journalists. In addition, more detailed evaluation and risk management exercises which include crisis communication to familiarize those involved with the Emergency Response Plan when it comes to tackling an unexpected crisis are encouraged. Peiter (2014) pointed out that a contingency plan was only introduced in August 2014, four months after the MH370 tragedy occurred. In short, it is vital to have an effective ERP as many aviation crises are characterized by “the suddenness and fatal consequences of the triggering event” that require an airline’s immediate reaction and a high degree of contact with stakeholders (Henderson, 2003, p. 285). A well-established ERP is helpful to organizations such as MAS in managing crisis communication which includes dealing with journalists as well as in ensuring an effective process of the dissemination of crisis information.

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Effect of Support from Lecturers and Host Country Nationals on Cross-Cultural Adjustment among International Students: Evidence from a Malaysian University

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ABSTRACT

Pursuing higher education abroad is a golden opportunity for any student's personal development; however, international students' cross-cultural adjustment (CCA) can be onerous in a foreign country. The purpose of this study is to empirically examine the roles of perceived lecturer support and host country national (HCN) support in international students' CCA in three dimensions, i.e. general, academic, and interaction. Adopting the purposive sampling technique, survey data was collected from a sample of 124 first-year international students in a Malaysian university. The results of the partial least squares structural equation modelling analysis showed that both perceived lecturer support and HCN support are influential in international students' general, academic, and interaction adjustment. These findings suggest that higher education institutions should amplify the role of lecturers and HCNs to help international students adjust to the various cultural aspects in Malaysia. This study contributes to the literature by applying the anxiety and uncertainty management theory to validate the influence of support on CCA in the international student context.

Keywords: Cross-cultural adjustment, host country nationals, international students, lecturers, Malaysia, support

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INTRODUCTION

According to West (2018), the number of international students in higher education quadrupled to five million between 1990 and 2014 and is expected to reach eight million by 2025. Indeed, pursuing higher education abroad is an opportunity for students to acquire new skills and gain

unique learning experiences. In addition to learning how to live in different cultures and forming relationships with local communities (Elemo & Türküm, 2019), individuals studying abroad also develop cross-cultural competence and a global mindset. However, despite the growth of international students around the globe, the fact remains that these students face unpredictable adjustment challenges in their academic and socio-cultural activities (Bender et al., 2019; Elemo & Türküm, 2019). When international students fail to feel culturally adjusted in the host country, they are unable to adapt to new living conditions, learning environments, and interaction modes (Nguyen et al., 2018). The adjustment of international students is therefore far more daunting than that of domestic students (Bender et al., 2019).

As such, for international students to enjoy the social and economic aspects of the country they study in (Shu et al., 2020), it is crucial for higher education institutions (HEIs) to identify factors that affect these students' cross-cultural adjustment (CCA) so they can provide conducive learning experiences. CCA has been conceptualised as the extent to which individuals are able to deal with a foreign country's new environment and its locals' uncertain behaviours (Black & Gregersen, 1991). It is a three-dimensional construct consisting of general adjustment, work adjustment, and interaction adjustment. General adjustment involves factors influencing an individual's life overseas, such as food, housing, shopping, healthcare, and cost

of living. Work adjustment encompasses the individuals' adjustment to their work responsibilities and working conditions. Interaction adjustment refers to individuals' level of comfort when interacting with host country nationals (HCNs) in both work and non-work domains (Black & Gregersen, 1991).

Unfortunately, international students have been known to experience loneliness due to limited social support, as they are separated from family members and friends (Andrade, 2006; Baba & Hosoda, 2014; Chavajay, 2013). Social support is thus a valuable resource that enables students to function and to maintain psychological well-being, especially in stressful situations (Cohen & Wills, 1985). When international students face cultural adjustment problems, they tend to seek support from both local and non-local groups (Chavajay, 2013; Ng et al., 2017; Ni & Wang, 2011). For example, prior studies have revealed that an international student's university and family are sources of support that improve his or her CCA (Chai et al., 2020; Cho & Yu, 2015; Shu et al., 2020). However, these studies generally overlook other forms of social support that international students may benefit from in situations where specific types of support match their adjustment needs (Elemo & Türküm, 2019).

Moreover, while extant research on international students has investigated their psychological outcomes associated with perceived social support (see Andrade, 2006; Baba & Hosoda, 2014; Brunsting et al., 2018; Chavajay, 2013; Yusoff, 2012), to

the researchers' best knowledge, no known study has undertaken an examination of the effects of support from lecturers and host country nationals (HCNs) on the CCA of international students. In fact, scholars have proven that both lecturers (McClure, 2007; Yee et al., 2018) and HCNs (Robinson et al., 2019; Shu et al., 2020) are distinct sources of support that facilitate international students' academic success and social embeddedness. To address this research gap, the present study applied the anxiety and uncertainty management (AUM) theory (see Gudykunst, 1998), which is based on the underlying assumption that minimising an individual's level of anxiety and uncertainty is likely to eventuate effective CCA and intercultural communication (Gudykunst, 1998; Hammer et al., 1998). As international students come from different countries, they would experience adjustment issues that exacerbate anxiety and uncertainty in their new environment. This applies even to international students with geographical or cultural proximity to their home countries (Wen et al., 2018). The AUM theory elucidates that both perceived lecturer support and HCN support help international students decrease these feelings of anxiety and uncertainty as well as increase their awareness of cultural differences to facilitate CCA. Therefore, the potential to reduce anxiety and uncertainty through social support should be explored further within the international student population.

This study chose the setting of Malaysia, as it is a preferred destination in Asia for quality higher education (Stacey, 2019;

Yusoff, 2012). Malaysia is well-known for its diversity in terms of culture, ethnicity, and religion, which forces international students to leave their comfort zones (Mustafa, 2017). In 2019, Malaysia had 127,583 international students, with 30% of them enrolled in public HEIs and the remaining 70% enrolled in private HEIs (Stacey, 2019). To orientate international students to study life in Malaysia, HEIs have made collaborative efforts with local authorities to improve infrastructure, logistics, and amenities (Yeoh, 2017). Despite these initiatives, international students are confronted by Malaysians' tendency to stigmatise them based on appearance, given that the majority of foreign students hail from the Middle East, Africa, India, Sri Lanka, Pakistan, and Southeast Asian countries (Mahmud et al., 2010; Yeoh, 2017). Drawing from the AUM theory, when HCNs stereotype international students without considering their cultural and individual differences (Yusoff, 2012), the latter face anxiety and uncertainty that impede their effective CCA. This further implies that students from these regions do not receive sufficient support from the host community in adjusting to Malaysian culture. Hence, international students need to cope with such situations by seeking alternate social support mechanisms (Ni & Wang, 2011). In response to this, the current study aimed to determine whether support from lecturers and HCNs facilitates the three dimensions of CCA (i.e. general, academic, and interaction) among international students in Malaysia.

THEORY AND HYPOTHESES DEVELOPMENT

Perceived Lecturer Support and Cross-Cultural Adjustment

Lecturers are university teaching members who play a key role in students' learning process (Aymans et al., 2019). They are responsible for guiding students' learning, cultivating an effective learning environment, and influencing students' perceptions of success in their chosen courses (Aymans et al., 2019). In this study, perceived lecturer support is defined as concern, assistance, and friendship provided by lecturers to university students (Azila-Gbettor & Abiemo, 2020). While previous studies have reported that the main role of lecturers is to foster students' academic achievement and engagement (Farr-Wharton et al., 2018; McClure, 2007), lecturer support has been found to boost the well-being and adjustment of university students as well (Garcia et al., 2015). Lecturers can thus act as representatives of host universities who provide international students with support and enhance students' emotional and psychological outcomes (Cho & Yu, 2015). Nevertheless, the relationship between perceived lecturer support and CCA is not fully understood in the higher education literature. Hence, it is crucial to first document why this direct relationship exists.

Based on the AUM theory, CCA occurs when international students stay emotionally strong and psychologically satisfied upon successfully managing their anxiety and uncertainty in a different cross-cultural

setting (Ni & Wang, 2011). Towards this end, lecturer support in the form of the lecturer-student relationship can improve students' work habits, class engagement, and positive feelings towards the university (Azila-Gbettor & Abiemo, 2020; Farr-Wharton et al., 2018; Quin et al., 2018). Moreover, international students spend most of their time in their universities and would inevitably have regular interactions with lecturers, as supportive lecturers make time to listen to their students' problems (Su & Wood, 2012; Yee et al., 2018). Therefore, lecturers contribute to the CCA of international students by providing social support and verbal encouragement in the face of adversity. For instance, international students in Malaysia often obtain additional information from their lecturers about temporary accommodation and local customs (see Mahmud et al., 2010). Based on these arguments, the following hypotheses were developed:

H1a: Perceived lecturer support has a positive relationship with general adjustment.

H1b: Perceived lecturer support has a positive relationship with academic adjustment.

H1c: Perceived lecturer support has a positive relationship with interaction adjustment.

Host Country National Support and Cross-Cultural Adjustment

HCNs have been increasingly studied in the context of expatriates' CCA, particularly in terms of their provision of role information

and social support (Bader, 2017; Chan et al., 2019). Besides expatriates, HCNs also bestow emotional support to other types of visitors (e.g. migrant workers and international students) in dealing with stressful events (Bader, 2017). Despite the fact that the Malaysian government reinforces cultural diversity through internationalisation in HEIs (Mahmud et al., 2010), international students who are socially accepted by their HCN peers show a particularly higher level of cultural adjustment and satisfaction (Chuah & Singh, 2016). The latter's support is always sought after to facilitate specific practical and informational learning needs related to language and academics (Chuah & Singh, 2016).

International students, as such, would benefit from building informal networks with HCNs, as such networks go above and beyond social support from lecturers. Scholars (Baba & Hosoda, 2014; Ng et al., 2017; Robinson et al., 2019; Yusoff, 2012) explain that creating supportive networks and friendships with HCNs is particularly crucial for international students to compensate for the loss of home country social support and to acquire the cultural knowledge necessary to adjust to local customs. To illustrate, since Malaysia is influenced by the Asian culture and Islamic religion (Hofstede, 2001), HCNs typically exhibit the values of collectivism, respect, and limited expression; these are challenging differences for international students to adapt to (Mahmud et al., 2010). Consequently, these students may experience anxiety and

uncertainty in adjusting to local Malaysian customs. Reverting to the AUM theory (Gudykunst, 1998, 2005), when HCNs demonstrate positive attitudes towards foreigners, the latter feel comfortable and experience less insecurity (Hammer et al., 1998). Thus, international students who develop supportive networks within the local society would feel less anxious and uncertain in their new environment. Consistent with this, Baba and Hosoda (2014) found that international students who secure HCN support tend to have less acculturative stress and more effective CCA. Based on these arguments, the following hypotheses were formulated:

H2a: HCN support has a positive relationship with general adjustment.

H2b: HCN support has a positive relationship with academic adjustment.

H2c: HCN support has a positive relationship with interaction adjustment.

METHODS

Sampling and Data Collection

The sample of this study comprised first-year international students from both undergraduate and postgraduate programmes in a public university in East Malaysia. Apart from the three main Malaysian races (Malay, Chinese, and Indian), the East Malaysian states of Sabah and Sarawak are home to indigenous native races such as Iban, Bidayuh, Kadazandusun, and Bajau, indicating greater cultural diversity (Nagaraj et al., 2015). Some of these native groups share strong spiritual ties to nature, which are reflected in their traditions and rituals.

Their unique traditional social norms are thus likely to heighten foreigners' degree of anxiety and uncertainty.

Given the above, the first year is the most critical for international students in their chosen university, as it is when they encounter various adjustment difficulties that lead to feelings of homesickness and depression (see Cliniciu, 2013). For this reason, the present study excluded continuing students who extended their undergraduate education to postgraduate education in Malaysia, since they may already have developed social networks and adapted effectively.

According to the U-Curve of adjustment, when the 'honeymoon' period of coming to a new country fades, international students start to feel homesick, subsequently experiencing 'culture shock'. During this period, they undergo unpredictable psychological changes, also known as 'adjustment'. Once this critical phase is over, they begin to adapt to the new culture and learn how to behave appropriately, described as 'mastery' (Black & Mendenhall, 1991). Passing through these stages of the CCA process takes approximately six months (Black & Mendenhall, 1991). Hence, to capture the actual CCA of international students, the criterion for eligible students in this study was that they must have stayed in Malaysia for at least six months.

The list of international students was obtained from the Centre of Data and Information Management of the chosen university. This was the most reliable sampling frame available for data collection.

A total of 590 international students from 34 countries were registered in this university, mostly from China (60.8%). Many were also from Brunei (12%), Indonesia (5.3%), Bangladesh (3.9%), and Pakistan (2.7%). The remaining 15.3% were from the Middle East, Africa, and other Asian countries. The list showed that 241 out of the university's 590 international students were first-year entrants from the February 2019 and September 2019 intakes. Upon confirming the respondents' eligibility using purposive sampling, questionnaires were distributed to all 241 international students via drop-off and electronic methods. Data collection was carried out for six months from November 2019 to April 2020, at the end of which 136 questionnaires were completed and returned. As 12 of them had to be excluded due to invalid data, 124 complete questionnaires were ultimately used for data analysis, yielding a response rate of 51.5%.

Demographic Profile

Table 1 illustrates the demographic profile of the respondents. The majority of international students were from China (79.8%), followed by Brunei (8.2%), Japan (3.4%), and Thailand (3.4%). The remaining were from Gabon (1.6%), Indonesia (0.8%), Yemen (0.8%), Nigeria (0.8%), and Germany (0.8%). The number of female respondents (58.1%) outweighed their male counterparts (41.8%), and most respondents were below the age of 20 (69.4%). Almost all the respondents were pursuing their undergraduate studies (90.3%), with only a small percentage of

Table 1
Respondent profile

	Frequency	Percentage (%)
<i>Country of origin</i>		
China	99	79.8
Brunei	10	8.2
Japan	4	3.2
Thailand	4	3.2
Gabon	2	1.6
Indonesia	1	0.8
Yemen	1	0.8
Nigeria	1	0.8
Germany	1	0.8
No response	1	0.8
<i>Gender</i>		
Male	52	41.9
Female	72	58.1
<i>Age</i>		
Below 20	86	69.4
21 - 25	30	24.2
26 - 30	0	0
31 - 35	3	2.4
36 - 40	4	3.2
41 and above	1	0.8
<i>Level of educational programme</i>		
Bachelor	112	90.3
Master	3	2.4
Doctorate	9	7.3
<i>First experience studying overseas</i>		
Yes	102	82.3
No	22	17.7
<i>Host language fluency</i>		
Yes, fluently	10	8.1
Yes, partially	70	56.4
No	43	34.7
No response	1	0.8

them pursuing postgraduate studies at the Master (2.4%) and Doctorate (2.4%) levels. A mere 8.1% of respondents could speak the local language (Malay) well, as they were from Brunei where the main spoken language is also Malay. Nevertheless, more than half (56.4%) of the respondents indicated that they could partially converse in the host language.

Measurement Scales

Realising that the vast majority of international students were from China, the questionnaire for this study was constructed bilingually, i.e. in English and Chinese. Although international students undergo an English proficiency test before being admitted to a university, they still have difficulties in the language due to their limited vocabulary (Malaklolunthu & Selan, 2011). This problem is normally faced by Asian students in English-speaking countries or countries that use English as the medium of instruction, such as Malaysia (Malaklolunthu & Selan, 2011). In this case, translating the questionnaire is one of the strategies to increase the response rate for a diverse group of participants (Chai et al., 2020). After developing the questionnaire, a pilot study was conducted on 30 international students (15= English version; 15= Chinese version) to ensure that the respondents could understand its instructions and items. The respondents' feedback was subsequently taken into consideration to make minor modifications to the Chinese version. The final version was then verified by a Chinese language expert.

The measures for the constructs in the research model (e.g. perceived lecturer support, HCN support, and CCA) were adapted from previous studies following a thorough literature review. The 12-item scale for *perceived lecturer support* was derived from Quin et al. (2018) and modified to the context of university students. Students rated items like "My lecturers are fair in dealing with students" and "In this

university, lecturers treat students with respect” on a five-point Likert scale from (1) strongly disagree to (5) strongly agree.

The measure for *HCN support* was adopted from Malek et al. (2015). To make the items relevant to international students, the item “My friends/classmates in Malaysia help me take care of my family when I am busy or away” was removed from the scale. The remaining 15 items were rated on a five-point Likert scale from (1) strongly disagree to (5) strongly agree. Sample items included “My friends/classmates in Malaysia give me information about local activities” and “My friends/classmates in Malaysia are concerned about my well-being.”

CCA is a three-dimensional construct initially developed by Black and Gregersen (1991) and updated by Nguyen et al. (2018) to suit international students. The latter’s scale for *CCA* was adopted, which encompassed seven items on general adjustment, two items on academic adjustment, and four items on interaction adjustment. A sample item for each dimension was “living condition in general”, “academic performance standard and expectations”, and “socialising with locals outside of university”, respectively. All 13 items on the scale were measured on a five-point Likert scale from (1) strongly unadjusted to (5) strongly adjusted.

Control variables were measured as open-ended questions soliciting gender, age, level of education programme, first experience studying overseas, and host language fluency. These demographic variables are recommended as control variables (Yusoff, 2012) as they have been

found to influence the *CCA* of international students (Shu et al., 2020).

Data Analysis Technique

Partial least squares structural equation modelling (PLS-SEM) was employed to analyse the data. Given its prominence in the higher education literature (Ghasemy et al., 2020), PLS-SEM is deemed as a suitable analytical tool to explore the emerging phenomenon of international students in higher education research (Ghasemy et al., 2020). First, PLS-SEM is used to predict the relationships between the key constructs in a model (Hair et al., 2017), which is in line with the research objective of explaining the relationships between support and *CCA* among international students. Second, PLS-SEM was able to handle the small sample size ($n=124$) of this research, as it is still exceeded ten times the number of indicators for the most predicted construct (Barclay et al., 1995). All the control variables were also included in the analysis.

RESULTS

Measurement Model

The measurement model assesses the internal consistency of the constructs. Internal consistency was determined using composite reliability (CR) and Cronbach’s alpha, where the minimum threshold value for both is .70 (Hair et al., 2017). Table 2 shows that both the CR and Cronbach’s alpha values of the items in this study exceeded 0.70. Next, the convergent validity of the constructs was assessed using average

Table 2
Internal consistency and convergent validity

Item	Outer loading	CR	AVE	Cronbach's alpha
<i>Perceived lecturer support</i>				
PL1	.899	.965	.697	.960
PL2	.857			
PL3	.706			
PL4	.800			
PL5	.853			
PL6	.901			
PL7	.825			
PL8	.867			
PL9	.860			
PL10	.821			
PL11	.737			
PL12	.871			
<i>HCN support</i>				
HCN1	.768	.971	.690	.968
HCN2	.832			
HCN3	.778			
HCN4	.833			
HCN5	.816			
HCN6	.791			
HCN7	.790			
HCN8	.866			
HCN9	.793			
HCN10	.845			
HCN11	.904			
HCN12	.855			
HCN13	.879			
HCN14	.866			
HCN15	.831			
<i>General adjustment</i>				
GA1	.855	.931	.658	.913
GA2	.795			
GA3	.851			
GA4	.859			
GA5	.732			
GA6	.809			
GA7	.763			
<i>Academic adjustment</i>				
AA1	.944	.933	.875	.860
AA2	.928			
<i>Interaction adjustment</i>				
IA1	.877	.955	.843	.938
IA2	.936			
IA3	.920			
IA4	.939			

variance extracted values ($AVE \geq 0.5$). The results indicated that all the constructs achieved a high level of reliability and convergent validity.

The HTMT ratio is a novel method to assess discriminant validity. It is suggested that the maximum value should be HTMT_{.85} (Kline, 2011) or HTMT_{.90} (Gold et al., 2001). Table 3 displays that all the construct values were lower than the thresholds of HTMT_{.85} or HTMT_{.90}. The results thus ascertained the discriminant validity of the constructs in this study.

Structural Model

Before assessing the structural model, variance inflation factor (VIF) values were

first used to detect multicollinearity among the constructs, particularly between the independent variables (perceived lecturer support and HCN support) and dependent variables (general adjustment, academic adjustment, and interaction adjustment). The VIF values were lower than 5.0 (1.650 and 1.704), which proved that the data did not suffer from multicollinearity issues (Hair et al., 2017).

Employing the bootstrap re-sampling technique (5,000 re-samples), the path coefficients of the hypothesised relationships were evaluated. Table 4 shows that perceived lecturer support had positive relationships with general adjustment ($\beta=.313, t=3.246, p=.001$), academic adjustment ($\beta=.185,$

Table 3
HTMT criterion

	1	2	3	4
1. Perceived lecturer support				
2. HCN support	0.645			
3. General adjustment	0.525	0.548		
4. Academic adjustment	0.510	0.626	0.657	
5. Interaction adjustment	0.540	0.668	0.723	0.807

Table 4
Results of path relationships

Hypothesis	Beta	Standard error	t-value	p-value	Decision
H1a: Perceived lecturer support → General adjustment	.313	0.097	3.246	.001	Supported
H1b: Perceived lecturer support → Academic adjustment	.185	0.100	1.856	.032	Supported
H1c: Perceived lecturer support → Interaction adjustment	.216	0.091	2.387	.009	Supported
H2a: HCN support → General adjustment	.369	0.085	4.332	.000	Supported
H2b: HCN support → Academic adjustment	.466	0.087	5.343	.000	Supported
H2c: HCN support → Interaction adjustment	.521	0.085	6.126	.000	Supported

$t=1.856$, $p=.032$), and interaction adjustment ($\beta=.216$, $t=2.387$, $p=.009$). These findings supported H1a, H1b, and H1c. Similarly, HCN support had positive relationships with general adjustment ($\beta=.369$, $t=4.332$, $p=.000$), academic adjustment ($\beta=.466$, $t=5.343$, $p=.000$), and interaction adjustment ($\beta=.521$, $t=6.126$, $p=.000$), thereby confirming H2a, H2b, and H2c.

To assess effect size (f^2), Cohen's (1988) guideline was adopted. The analysis results indicated that perceived lecturer support had a small effect on general adjustment (.097), academic adjustment (.034), and interaction adjustment (.054). Meanwhile, HCN support produced a small effect on general adjustment (.130) and a medium effect on academic adjustment (.209) and interaction adjustment (.303). Overall, both sources of support explained 38.5%, 39.1%, and 47.4% of the variance in general adjustment ($R^2=.385$), academic adjustment ($R^2=.391$), and interaction adjustment ($R^2=.474$), respectively. Of all the control variables, host language fluency ($\beta=-.130$, $t=1.796$, $p=.037$) and age ($\beta=-.299$, $t=2.232$, $p=.013$) were found to positively impact general adjustment and academic adjustment, respectively.

The final step of the structural model assessment was to examine the predictive relevance of the model using the blindfolding method. Hair et al. (2017) suggested that a Q^2 value greater than zero implies that exogenous variables have predictive relevance for endogenous variables. The Q^2 values for general adjustment (.203),

academic adjustment (.284), and interaction adjustment (.360) were more than zero, indicating that the model had sufficient predictive relevance.

DISCUSSION

This research set out to examine the impact of perceived lecturer support and HCN support on CCA among international students. The results suggest that both sources of support are positively related to the different facets of CCA (general, academic, and interaction). Consistent with the AUM theory (Gudykunst, 1998, 2005), when international students receive support from their lecturers and HCN peers, they are better able to manage the anxiety and uncertainty stemming from studying in a multicultural country like Malaysia.

The findings on perceived lecturer support indicated that when international students believe their lecturers are supportive, they have a smoother time adjusting to the living and learning environments in the host country. This finding is in line with Mahmud et al. (2010), who highlighted that international students in Malaysia can get useful support and information from their lecturers in matters such as temporary housing and cultural knowledge. In addition, upon university admission, all students are assigned an academic mentor or supervisor from their faculty to advise them on general and academic matters. This academic mentor is responsible for monitoring international students' well-being and academic performance. Thus, with respect to academic adjustment, lecturers provide

equal learning opportunities for international students in Malaysia so they are at par with their local peers (Mahmud et al., 2010). This is further evidenced by the fact that most lectures and tutorials maintain English as the medium of instruction to engage students from different cultural backgrounds. Indeed, since the majority of lecturers in Malaysia speak several languages (Malay, English, and/or Chinese), international students find it easier to communicate with them as there are no significant language barriers. Overall, this finding is noteworthy because it is the first that documents the positive influence of perceived lecturer support on international students' CCA from the perspective of a multicultural country.

The results also revealed that international students who are supported by HCNs feel more adjusted to the cultural dimensions of the host country, which is consistent with other studies on CCA (Baba & Hosoda, 2014; Bader, 2017). One possible explanation for this finding is the collectivistic nature of the respondents, given that 95.2% of them were Asians (China, Brunei, and Japan). Hofstede (2001) categorised Asian countries as typically collectivist societies that are attached to a strong sense of group membership. In fact, individuals belonging to a collectivist society heavily rely on their in-group members to strengthen their support system. As Malaysia is high in collectivism (Chan et al., 2019; Malek et al., 2015), HCNs are likely to consider Asian international students as in-group members; consequently, they would have a greater willingness to provide

adjustment-related support to these foreign students. For instance, HCNs may support international students in understanding the host university as well as the implicit rules of the local society. HCN peers can also equip international students with information about shopping (e.g. groceries), utilities (e.g. internet), and services (e.g. healthcare), which fosters the general adjustment of these students. Moreover, as communication with HCNs is more informal than with lecturers, international students can discuss their problems with HCN peers in both academic and personal domains. This enables HCNs to grant direct and personal feedback about the behaviours of international students, thus strengthening the latter's academic adjustment and interaction adjustment.

Theoretical and Practical Implications

This study applied the AUM theory (Gudykunst, 1998, 2005) to explain the rationale behind the influence of social support from lecturers and HCNs on the three dimensions of CCA (general, academic, and interaction) among international students. At this juncture, this research is among the few that have contributed to the existing knowledge on CCA in the higher education setting (Baba & Hosoda, 2014; Nguyen et al., 2018; Shu et al., 2020) by emphasising the importance of social support (i.e. lecturers and HCNs) for international students to minimise CCA problems. Based on the AUM theory, when international students are unfamiliar with the local culture, they encounter a fear of the unknown that deters them from adjusting to their

new environment. Nevertheless, they can overcome various cross-cultural challenges by seeking support from their lecturers and HCN peers to reduce their feelings of anxiety and uncertainty. If international students improve their relationships with these individuals, they would be able to effectively adapt to their country of academic pursuit (Ni & Wang, 2011).

The results of this study carry two practical implications for HEIs in Malaysia. First, motivated by the positive effect of perceived lecturer support on CCA, HEIs should integrate international students into the local community by engaging them in various interactive activities in the university. For example, HEIs should introduce mentor-mentee programmes that reinforce international students' relationships with their lecturers. These programmes allow lecturers to personally advise and guide new international students who have minimal cultural knowledge about the host country. Besides, lecturers should monitor international students' academic progress and provide honest feedback to improve their academic performance (see Azila-Gbettor & Abiemo, 2020).

Second, since HCN support is influential in international students' CCA and potential success (Robinson et al., 2019), the Student Affairs Department of an HEI plays a key role in encouraging domestic students to help their international counterparts acclimatise to the local culture. For instance, the Department can consider pairing international students with domestic students

who are willing to aid their adjustment in living, academic, and interaction domains. This 'buddy' system would bridge the gap between domestic and international students and would be especially useful for first-year international students who feel anxious and uncertain during their initial period of studying in Malaysia (see Chan et al., 2019; Clinciu, 2013).

Limitations and Recommendations for Future Studies

Despite its implications, the present study experienced three limitations. First and foremost, the findings of this study cannot be generalised because its sample of international students was derived from a single university in East Malaysia, where the majority of them were from China. Consequently, the findings are skewed towards this group of students and cannot ascertain to what extent this sample represents the international student population in Malaysia. To address this, future research should conduct similar studies with larger samples involving other HEIs and international students from different countries. Second, although significant relationships were found between the independent and dependent variables, a questionnaire-based quantitative approach does not adequately depict the CCA process among international students. Future researchers should carry out a follow-up qualitative study to deepen the understanding of social support mechanisms and CCA in the higher education context. Third, this

study only focused on two types of support (i.e. lecturers and HCNs) as antecedents of CCA without considering the latter's potential effects on aspects such as academic performance and engagement. Hence, a longitudinal study should be undertaken to incorporate the possible outcomes of CCA, which are likely to determine academic success among international students in their subsequent years of study.

CONCLUSION

Although pursuing higher education abroad is a fulfilling experience for many individuals, it is not without its challenges. Delving into this emerging and important research area, this study extended the AUM theory (Gudykunst, 1998, 2005) to posit that lecturers and HCNs are valuable sources of support who alleviate international students' anxiety and uncertainty due to poor cultural adjustment. The results proved that perceived lecturer support and HCN support positively affect international students' CCA. The practical implications of this study can be used as a guideline by HEIs, academics, and higher education policymakers in Asian countries like Malaysia to enhance international students' learning experiences.

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Market Timing and Stock Selection Strategies in *Shariah*-Compliant Stock Portfolio

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ABSTRACT

This study focuses on market timing and stock selection strategies that could be implemented by individual investors of *Shariah*-compliant equity using the top ten constituents of the FTSE Bursa Malaysia *Hijrah Shariah* Index. Investors are assumed to enter and exit the stock market following the buy-and-sell signal from Moving Average Crossover. Meanwhile, for stock selection, this study aims to construct the optimal portfolio using the Sharpe Ratio Maximisation model and Naïve (1/N) portfolio. The level of market timing and selectivity skills of individual investors following the suggested investment strategies will be measured by using the Treynor-Mazuy model. The empirical results showed that the best Moving Average Crossover gave plausible trading frequencies and provided the most return to investors was the (1, 100, 0.01) strategy. Albeit, the stock allocation for the constructed portfolio was less diversified compared to the Naïve (1/N) portfolio, the composition of portfolio weights of the constructed portfolio was able to offer a more than average risk to reward ratio. Furthermore, in the out-of-sample framework, both portfolios outperformed the market benchmark. Unlike previous studies, this study backed tests the strategy and found that it was beneficial for individual investors of *Shariah*-compliant equities to enhance market timing and selectivity skills in stock investment.

Keywords: Individual investors, market timing, Moving Average Crossover, *Shariah*-compliant equities, Sharpe Ratio Maximisation, stock selection

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INTRODUCTION

The *Islamic* Financial Institutions (IFI) have seen rapid growth and gained worldwide prominence over the last decades. This positive development was driven by

the increase in demand not only from institutional investors but also from individual investors. Therefore, from the individual investors' point of view, it is necessary to equip themselves with the knowledge to steer their investment through the ebbs and flows of the stock market movements. Furthermore, in *Islam*, risk management practices are deemed very important to protect ones' wealth which is in line with one of the facets of *Maqasid Shariah*. With the availability of almost 80% of all stocks traded in the Malaysian market to be *Shariah*-compliant, it will be beneficial for investors as this would broaden the investable stocks universe to grasp the diversification benefit. The main question is how could an individual investor decide on when he should enter and exit the market and what are stocks to buy.

This research concentrated on market timing and stock selection of the *Shariah*-compliant equities in Malaysia. Fama (1972), divided forecasters into two different components, which were micro forecasting and macro forecasting which refer to selectivity skills and market timing, respectively. Market timing is an active strategy by predicting the future market direction to outperform buy-and-hold or passive strategy. One of the common methods that were implemented by investors in market timing is Moving Average (MA) Crossover. Meanwhile, stock selection is another fundamental element in investing to select the right stocks in a portfolio. The Mean-Variance Optimisation (MVO) model is one of the stock selection strategies

which was developed by Markowitz (1952), for portfolio analysis in Modern Portfolio Theory (MPT). Furthermore, market timing and stock selection are the main methods that focus on technical analysis when analysing and making investment decisions in the stock market based on historical price.

Based on a previous study that focussed on market timing and stock selection, Malaysian mutual fund managers had a strong positive relationship between these abilities in investment (Alam et al., 2016; Nassir et al., 1997). At the same time, implementing these strategies could improve the confidence level of investors and enhanced their sense of market movement, especially for mutual funds to outperform in the long run. The performance of *Shariah* market and the conventional market is similar but the sensitivity of performance is different in different economic conditions (Shaikh et al., 2019). The conditions for pursuing market timing and selectivity skills strategies could be detected with economic and financial variables in Malaysia. In contrast to these active strategies, the Naïve (1/N) portfolio allocation is a common strategy for passive investors. By following this strategy, the investor simply invests the same amount of capital on each stock that was selected. Some studies stated that Naïve (1/N) diversification could hardly outperform in portfolio investment strategy due to lack of accuracy consistency in modelling, although it was less risky in portfolio (Pflug et al., 2012). This was supported by Bessler et al. (2017), that active strategy outperformed

better than passive strategy (naïve portfolio) where diversifying in investing stock might reduce the default risk.

The purpose of this research is to determine the buy-and-sell signals using the MA Crossover for market timing strategy. Meanwhile, for stock selection, this study aims to construct an optimal portfolio using the Sharpe Ratio Maximisation (SRM) model and Naïve (1/N) portfolio. Then, a comparison for the out-of-sample performance of both portfolios will be analysed. Finally, the level of market timing and selectivity skill will be measured.

LITERATURE REVIEW

In order to focus on market timing and stock selection strategies in *Shariah*-compliant investment, two main fundamental investment questions need to be answered by investors. Investors need to be aware of when they should enter and exit the market and what stock compositions are in their portfolios. Hence, investors need the knowledge and expertise of investment strategies to achieve a higher return (profit) on one hand and controlling the risk level on the other. Investment managers in Malaysia have been found to be lacking in market timing and selectivity skills (Fikriyah et al., 2007; Nassir et al., 1997). Selectivity skills and market timing are the most dominant variables in comparison with other Malaysian economic indicators that are related to the performance of mutual funds (Fikriyah et al., 2007).

In essence, the MA method of market timing is not only an investment strategy

for the conventional market but also for *Shariah* market. Mansor and Bhatti (2011), stated that the Kuala Lumpur *Shariah* Index (KLSI) 0.107 performed better than the Kuala Lumpur Composite Index (KLCI) with 0.053 in Sharpe ratio. Moreover, fund managers have a positive market timing strategy and significantly at a 5% significance level. Generally, the market timing strategy is an active strategy by generating buy-and-sell signals on the stock market (Zakamulin, 2014). According to Faber (2007), the MA method could forecast the stock market movements and contributed significantly higher profit than buy-and-hold strategy. From previous findings, investors were provided with relevant information on investment timing and this benefitted the individual investors who were seeking diversification on their investment in a modern financial economy, especially in the Malaysian *Shariah* stock market. Therefore, more research in market timing ability is required to create more advanced technical methods especially using the MA. El-Khodary (2009), investigated the Egyptian Stock Exchange (EGX) market for predictive capabilities of the MA Crossover in three sub-periods from January 1998 until December 2008. The results showed that the MA Crossover could predict the EGX index and returns from the strategy which was higher compared to the passive strategy. This was supported by Wong et al. (2010), where the MA was useful to help investors by predicting future prices in technical trading. However, some researchers found that investors lacked market timing ability

or did not give significant profits instead of consistent excess return and lower risk by using the MA Crossover (Anghel, 2013).

The classical MVO Markowitz (1952) played an important role in MPT and it was widely deliberated and tested in recent literature. In MPT, the investors are able to construct an optimal MVO if there is information of parameter, future assets return and covariance provided. Siew et al. (2016) constructed an optimal portfolio using the Markowitz model that consisted of weekly data from January 2010 to December 2013. The results showed that constructed portfolio was able to achieve a higher return within 0.22% compared to the FTSE Bursa Malaysia Index (FBMKLCI) 0.19%. Besides, another group of researchers looked at 20 component stocks of the FBMKLCI by defining a few constraints; the portfolio variance, target rate of return, and weight allocations in order to get an optimal portfolio return (Hoe and Siew, 2016). The results were also consistent whereby minimising the level of risk was able to construct using optimal mean-variance to get a high rate of return. Studies on optimal portfolio construction using the Markowitz model were carried out by Ivanova and Dospatliev (2017) and Kulali (2016) in Bulgaria and Germany, respectively.

The investors have various alternatives to grow up their assets either to invest in conventional or *Islamic* money market. These two types of market capitalization clearly differ from each other as a fund from *Shariah* view will only be invested in permitted *Shariah* treasury stock similar

likes *Sukuk*. On contrary, the point of view for conventional manage the underlying finance or capital money absolutely in all sources of marketable securities of financial instrument (Alam et al., 2016). A study found that FTSE Global *Islamic* Index persistently outperformed than FTSE All-World Index during bull markets but underperformed in bear markets from the period of 1996 until 2003 (Kreander et al., 2005). Hassan and Autoniou (2005) also stated that Dow Jones *Islamic* Indices (DJII) underperformed for overall and decline period, but it outperformed during growing period from 1995 to 2003 in Dow Jones Industrial Average (DJI). However, many various studies found that there is no significant difference in the Kuala Lumpur *Shariah* Index (KLSI) and Kuala Lumpur Composite Index (KLCI) (Ahmad & Ibrahim, 2002; Albaity & Ahmad, 2008, 2011). In conclusion, there is no clear evidence that *Shariah* stocks underperform conventional stocks. The possibility for *Shariah* investors to obtain the highest potential return while at the same time being socially and ethically conscious about their investment is still open to debate. Thus, further study is required about Naïve (1/N) portfolio in order to compare with *Shariah* stock market.

The empirical evidence on various strategies stated above shed light on the applicability of the strategy for individual investors to actively manage their portfolios. From the perspective of stock allocation in a portfolio, the application of active strategy to find portfolio weight is frequently

compared with naïve allocation strategy. Up to this date, rare to find any article that uses the naive portfolio as a comparison with the constructed portfolio. Naive allocation strategy is also known as passive strategy, whereby investors simply invest equally in several different stocks to make a profit in return and to minimise the risk (variance) of the portfolio sufficiently. Some researchers investigated the difference and effectiveness of the Naïve (1/N) portfolio with other alternatives. (DeMiguel et al., 2009) compared the out-of-sample performance of MVO and Naïve 1/N portfolio of 14 asset allocation models in the US stock market. The sample was analysed, taken from around 25 years for 25 stocks and 50 assets in the portfolio within 50 years. As a result, none of them (14 models) consistently performed better in Sharpe's ratio than Naïve (1/N) portfolio. Pflug et al. (2012), also found that the 1/N portfolio outperformed the MVO. In contrast, the outperformance of the MVO portfolio over the 1/N portfolio was discovered in Behr et al. (2013), which used monthly data from July 1963 until December 2008 in six datasets of the US stock market. The result showed that the MVO portfolio performed better in Sharpe's ratio (32.5%) which was higher compared to the 1/N portfolio.

Several studies had examined the market-timing abilities and selectivity skills of investors. Das and Rao (2015), found that there was positive significance in selectivity skills and market timing ability. Monthly data among fund managers in the US from July 2002 until June 2012 were

analysed by using Henriksson and Merton (1981) and Treynor and Mazuy (1966) models. At the same time, Lee and Rahman (1990), showed that there was evidence for market timing and selectivity skill abilities for unit trust level in the US. Low (2012) and Paramita et al. (2018), found that fund managers in Malaysia and Indonesia had market timing ability but not superior in selectivity skills. Chang and Lewellen (1984), also stated that mutual funds in the US were superior in market timing ability only which contributed a positive effect in return. However, Oliveira et al. (2019), found that European fund managers had poor superior in market timing abilities and stock selection. Meanwhile, Ashraf (2013), found that the Saudi Arabian *Islamic* Mutual Funds (IMF) was only superior in stock selection but not in market timing from 2007 until 2010. The study was analysed by using the Treynor and Mazuy (1966) model and Capital Asset Pricing Model (CAPM) regression.

In a nutshell, the exploration of market timing and stock selection strategies is still very much needed, especially for *Shariah*-compliant investors. Hence, using the MA Crossover, assisted individual investors to determine the buy-and-sell signals on the stock market. The usage of MVO was also justified in order to allocate an optimal portfolio. Comparison between active strategy and passive strategy will also be carried out in this study. Lastly, market timing and selectivity skills of individual investors will be measured in order to help individual investors in the investment strategy of the stock market.

RESEARCH METHODOLOGY

Data

For the purpose of the study, the MA Crossover and SRM models were applied using daily data of *Shariah*-compliant equities listed in FTSE Bursa Malaysia *Hijrah Shariah* Index (FBMHS) from January 2010 until December 2018 collected from Bloomberg Database. In total, there were 30 constituents of FBMHS. Companies were selected from the top ten constituents of FBMHS and were below RM10 to be considered affordable for individual investors. Besides, the daily 3-month KLIBOR (Kuala Lumpur Interbank Offered Bank) was used to act as the risk-free rate proxy, r_f .

Table 1
Top 10 selected constituents FBMHS index

No.	Sector	Selected Companies
1.	Mobile Telecommunications	3
2.	Oil Equipment Services & Distributions	1
3.	Food Producers	1
4.	Transportation & Logistic Services	1
5.	Basic Materials	1
6.	Healthcare Equipment & Supplies	2
7.	Industrial Conglomerates	1
Total		10

Moving Average Crossover

The Moving Average (MA) Crossover is a straightforward method that is commonly used in the technical trading rule. This method generates buy-and-sell signals in equations (2) and (3) within short and

long-term MA. In this study, 1% band was considered in order to eliminate the insignificant signals [-1%, 1%] in MA (M'ng and Zainudin, 2016).

$$MAC_{N,j} = \frac{1}{N}(x_j + x_{j-1} + \dots + x_{j-N+1}) \tag{1}$$

Buy (long) signal formula

$$MA_{1,j} > MA_{2,j} \tag{2}$$

Sell (short) signal formula

$$MA_{1,j} < MA_{2,j} \tag{3}$$

where $j = 1, 2, \dots, n$, MA_1 = short moving average, MA_2 = long moving average

Sharpe Ratio Maximisation Model

The rate of return determines whether the investors gain or lose money from an investment (Baresa et al., 2018). Daily stocks return will be calculated by using the arithmetic rate of return r_{it} on investment in stock i between time t and $t - 1$ and P_{it} represents the price of stock at time t as shown in equation (4). The result of the rate of return will be calculated as a percentage.

$$r_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}} \tag{4}$$

After the daily return was calculated, we will optimise the weights of the constructed portfolio by maximum return to minimise the risk. The formula of portfolio return is as follows:

$$\mu_p = \sum \omega_i r_i \tag{5}$$

where ω_i is the weight of the stock in the constructed portfolio. The total portfolio is equal to 1. Meanwhile, the risk of the constructed portfolio will be measured using the following formula:

$$\sigma_p^2 = \sum \omega_i^2 \sigma_i^2 + \sum \sum \omega_i \omega_j \sigma_i \sigma_j \rho_{ij} \tag{6}$$

where ρ_{ij} represents the correlation between returns on stocks i and j . Finally, by considering Markowitz (1952), we constructed the portfolio by maximising the Sharpe ratio whereby the highest level of expected return per unit of risk (standard deviation of Sharpe ratio) is as equation (7). In addition, SRM is the tangency point of MVO.

Objective Function =

$$\text{Maximise } \left[S_p = \frac{E(r_p) - r_f}{\sigma_p} \right] \tag{7}$$

Performance Measurement of Portfolios Capital Asset Pricing Model. Theorem of CAPM: the expected excess rate of return of asset i , $E(r_p) - r_f$ is proportional by the coefficient of β_p to the expected excess rate of return of the Market Portfolio, $E(r_m) - r_f$. The coefficient of β_p will measure the linear dependence of the asset's return and return of the market in proportion to the asset to the market volatility ratio.

$$E(r_p) = r_f + \beta_p(E(r_m) - r_f) \tag{8}$$

Sharpe Ratio. Sharpe ratio was used to measure the trade-off between reward and volatility. The risk premium or excess return was calculated as the difference between total portfolio return, $E(r_p)$ and the risk-free rate, r_f divided with the portfolio's standard deviation of return, σ_p . It could be expressed in the following equation:

$$S_p = \frac{E(r_p) - r_f}{\sigma_p} \tag{9}$$

Treynor Ratio. Treynor ratio is similar to Sharpe ratio, which measures the average excess return $(E(r_p) - r_f)$ per unit of systematic risk β_p . The Treynor ratio is considered as per the following equation:

$$T_p = \frac{E(r_p) - r_f}{\beta_p} \tag{10}$$

Jensen's Alpha. Jensen (1969) defined Jensen's alpha where α_p measures the unsystematic or diversifiable risk of a portfolio. It gave the return portfolio that is over and above that was predicted by CAPM, given the portfolio's beta and the market return. Hence, the equation for Jensen's alpha was considered as per equation 11.

$$\alpha_p = E(r_p) - [r_f + \beta_p(E(r_m) - r_f)] \tag{11}$$

Holding Period Return (HPR). HPR is the total return earned from holding an investment for a given period of time. Analysts typically used the HPR withholding

periods of one year or less. In this research, the holding period was based on the market timing where buy, B and sell, S occur within six months.

$$HPR (\%) = \frac{S-B}{B} \quad (12)$$

Robustness Test

For this purpose, this study was extended by testing back for other constructed portfolios based on FTSE Bursa Malaysia EMAS *Shariah* Index (FBMS) with the same constituents listed (Table 1) to determine the consistency of analysis. FBMS Index is an alternative for FBMHS Index. The main difference is FBMHS Index is being screened using *Yasaar Shariah* screening methodology apart from *Shariah* Advisory Council (SAC) screening. We used the same procedure of Equation (1) until (7) to determine buy-and-sell signals using the MA Crossovers and construct an optimal portfolio by using the SRM model. The consistency and robust results were achieved once there was a resemblance of the out-of-sample performance of the constructed portfolios.

Market Timing and Selectivity Skills

Based on Treynor and Mazuy (1966) model, the market timing and stock selection performance of each stock were estimated as t:

$$R_{pt} = \gamma_p + \theta_1 R_{mt} + \theta_2 R_{mt}^2 + \varepsilon_{pt} \quad (13)$$

Where

R_{pt} : the excess return on portfolio p in daily t

R_{mt} : the excess return on the FBMHS in daily t

γ_p : the estimated selectivity of portfolio p

θ_1 : the beta risk of market

θ_2 : the estimated market timing of portfolio p

ε_{pt} : the residual excess return on portfolio p in daily t

RESULTS AND FINDINGS

Moving Average Crossover

From Table 2, the MA rule was described in the form of (N_l, N_s, B) where N_s = length of short term, N_l = length of long term and B = bands (this study used band = 1%). The number of days in the table above showed the number of positions that individual investors could take with respect to each rule either a long or short position. Most of the previous literature, used MA (1,200) as the one-day short term while 200 days as a long term, where it took almost a year to detect abnormal return (Brock et al., 1992). In this study, MA in short terms which were 1, 5, and 20 days while 100, 150, and 200 days were for the long term of MA, will be investigated. For additional conditions in others to eliminate the “uncertainty” signals, a band within 1% was included.

From the selection of the MA rules which were (1,100,0.01), (1,150,0.01), (1,200,0.01), (5,100,0.01), (5,150,0.01), (5,200,0.01), (20,100,0.01), (20,150,0.01), (20,200,0.01), the study found that as the

Table 2
Number of days and trading frequency of FBMHS

Moving average rule	Number of days		Trading frequency		
	N_I	N_S	Buy	Sell	Total
(1, 100, 0.01)	1107	517	16	16	32
(1, 150, 0.01)	1181	445	12	12	24
(1, 200, 0.01)	1161	462	10	10	20
(5, 100, 0.01)	1098	511	12	12	24
(5, 150, 0.01)	1151	449	9	9	18
(5, 200, 0.01)	1163	452	7	7	14
(20, 100, 0.01)	1051	487	12	12	24
(20, 150, 0.01)	1148	418	8	8	16
(20, 200, 0.01)	1148	421	6	6	12

moving average rule increase, the number of trading frequency will become smaller. Based on Table 2, it is suggested that the individual investor invests for at most 32 times in nine years which is approximately $4(32/9)$ times annually, and for at least 12 times in nine years or once a year in FBMHS. Thus, it is suitable to use this trading strategy for individual investors where they need to trade in the stock market for 1 to 4 times annually. Shortly, individual investors would be better off by choosing the lower short-term and lower long-term MA rule which was (1,100,0.01). From this viewpoint, the MA Crossover is the best strategy in the market timing to predict the future price as presented in El-Khodary (2009), Faber (2007) and Kannan et al. (2010). Moreover, this technical trading gives the ability to produce abnormal returns, especially individual investors to seek profit instead of risk in *Shariah*-compliant equities.

Following the MA Crossover method, the extracted buy-and-sell signals in the

sample and out-of-sample data will be determined based on the signal data in Table 3. The in-sample data will be six months' data preceding the signal date while the out-of-sample data will be the day after an extracted signal until the next signal date. Basically, the duration of out-of-sample will be held semi-annually or less than that to ensure that investors not to hold on the same portfolio too long doing portfolio revision if the MA does not give any sell signal within the six months period. Hence, this MA Crossover could give profitability for *Shariah* individual investors to optimise their portfolios in selectivity skills.

Portfolio Optimisation

Based on the Markowitz model, the results on the portfolio allocation (Table 3) were obtained in the appendix. Overall, it could be seen that during each sub-period there will be at most six stocks being invested. However, during a certain sub-period, only one stock was included in the portfolios. This could be seen during the in-sample

date of 6 May-9 Nov 2011 and 27 May-30 Nov 2011 for DSOM stock. During that time, DSOM gave higher returns and Sharpe ratio compared to other stocks. It might be affected by the news that DSOM had announced a stock split in order to attract more investors to invest. SRM model is commonly known in the financial literature (Kourtis, 2016; Schmid & Zabolotsky, 2008). This model gives the opportunities, especially for individual investors to monitor their portfolio by getting higher returns instead of lower risk (Ivanova & Dospatliev, 2017; Vo et al., 2019). Moreover, the SRM model contributed to the efficient frontier in the Markowitz optimisation problem and also gave a strong opinion to minimise the risk of the portfolio (Bodnar & Zabolotsky, 2017). Although constructed portfolio was less diversified compared to Naïve (1/N) allocation, the composition of portfolio weights of the constructed portfolio was able to achieve high annual returns per unit of risk that was suitable for individual investors (Hoe & Siew, 2016). Hence, it was nominated to give the best portfolio from the analysis that gives the highest return and lowest risk of the portfolio.

Portfolio Performance and Comparison Measures

From Table 4, the results show that both constructed portfolio and Naïve (1/N) portfolio gave a higher Sharpe ratio compared to FBMHS Index with 1.2509 and 1.0550, respectively. The constructed portfolio was more profitable than the Naïve (1/N) portfolio where constructed

portfolio gave a higher return (22.63%) than Naïve (1/N) portfolio (11.72%). This proved that by executing the buy-and-sell signal from the MA rule of (1, 100, 0.01) and selecting stocks using the SRM model, individual investors had the opportunity to get higher returns. FBMHS Index gave the lowest return (4.35%) and lowest Sharpe ratio (0.1042) compared to both portfolios. This was expected as the market benchmark normally consisted of a basket of stock that was well diversified and had very low risk. This was also reflected by the low return offered. Investors believed that high return comes with high risk where risk is the exposure of occurring losses associated with the expected return in investment. Thus, a higher average excess return with lower risk gives a higher Sharpe ratio.

Nevertheless, a significant difference is shown in Table 4 where the constructed portfolio presents a higher risk-adjusted return (39.48%) against the Naïve (1/N) portfolio (19.60%). A high Treynor ratio means high excess return per unit of systematic risk beta. Thus, it showed that the investors were still able to gain an excess return from the investments even in the presence of market risk. The value for Alpha of the constructed portfolio is 0.07%, which was slightly higher than Naïve (1/N) portfolio (0.03%). A higher Jensen's Alpha gave advantages to individual investors. Then, Holding Period Return (HPR) measures the total return generated during the investment period. This study compared the return between these two portfolios, based on the out-of-sample period in Table 3

Table 4

Measurement the Out-of-Sample Performance for Constructed Portfolio and Naïve (1/N) Portfolio

Portfolio	Return, μ (%)	Risk, σ (%)	Beta CAPM, β	Sharpe ratio, S	Treynor ratio, T (%)	Jensen's alpha, α (%)	Annualised HPR (%)
FBMHS Index	4.35	9.48*	1.0000	0.1042	0.99	-	-
Constructed	22.63*	15.40*	0.4878	1.2509	39.48	0.07	19.49
Naïve (1/N)	11.72	7.93*	0.4266	1.0550	19.60	0.03	10.03

Notes. * Denotes rejection of hypothesis at 5% significance level in *F-test* (risk) and *T-test* (mean)

by using equation (12). The results show that the constructed portfolio had an annualised HPR of 19.49% higher than the Naïve (1/N) portfolio.

Comparing the results for both portfolios, we could simplify that both portfolios outperformed the market index in terms of return, Sharpe ratio, and Treynor ratio. For risk, the Naïve (1/N) portfolio was less risky compared to the constructed portfolio. In addition, beta portfolios were less than the beta of the FBMHS Index, which was less risky as it was less responsive towards the market movement. Overall, the constructed portfolio gave a better performance than Naïve (1/N) portfolio. This encouraging result by the related study, which was by constructing MVO, performed better than the passive strategy (Bessler et al., 2017; Kulali, 2016). Thus, it would provide a clearer understanding for individual investors to use market timing strategy and SRM model in the *Shariah* stock market.

Robustness Test

As shown in Table 5, the result indicated almost the same values with respect to performance measurement. In particular, for both constructed portfolios' risk and return within 22.63% and 15.40% for FBMHS were not very different from FBMS's return and risk within 22.36% and 14.81%, respectively. This directs from the performance of FBMHS which was higher than the FBMS; there was consistency as the values were still lower than the constructed portfolio that gave the constructed portfolio an outperformance. Similarly, in the findings presented by Lean and Parsva (2012), both indices showed the same result in terms of risk respectively. Moreover, we also used the F-Test and T-Test for the difference in risk and return of indices and both constructed portfolios. The empirical results were consistent with fail to reject the null hypothesis within a 5% significance

Table 5

Comparison of Out-of-Sample for constructed portfolio for FBMHS and FBMS indices

Portfolio	Average Return, μ (%)	Average σ (%)	Beta CAPM, β	Sharpe ratio, S	Treynor ratio, T (%)	Jensen's alpha, α (%)
Constructed	22.63	15.40	0.4878	1.2509	39.48	0.07
Portfolio	22.36	14.81	0.4583	1.2822	41.44	0.07

Notes. ● Denotes to out-of-sample performance constructed portfolio for FBMS Index

level where both indices and constructed portfolios had similar values in risk and return, respectively. Therefore, robustness checks were necessary to determine the consistency of our results under different specifications.

Market Timing and Stock Selection

Ordinary Least Square (OLS) regression was used in this study in order to estimate equation (13) based on Treynor and Mazuy (1966) model. Referring to Table 6, the result of constructed portfolio showed that individual investors in Malaysia had selectivity skills and market timing from 2010 until 2018 with a positive coefficient (0.0006) and (2.3084). Both coefficients gave significance at a 5% significance level. This indicated that individual investors in Malaysia had potential in both market timing and stock selection abilities using the constructed portfolio during the bullish and bearish market conditions. Meanwhile, Naïve (1/N) Portfolio showed a significantly negative (-4.4013) in market timing while selectivity skills showed significantly positive in coefficient (0.0005) at a 5% significance level. Hence, this indicated that investors had only the selectivity skill ability but not in market timing. Besides, both portfolios had positive value beta

with 0.4532 and 0.9657, respectively. This designated that investors were able to choose the best time to buy and sell the stocks during bullish market conditions, where the stock price movements tended to increase. Therefore, it could generate a positive return for both portfolios. The value R^2 of Naïve (1/N) portfolio was higher (0.6356) compared to the constructed portfolio, which was lower (0.0856). Thus, positive and significant market timing and selectivity skills were chosen as the best model as a constructed portfolio for individual investors. This was supported by Paramita et al. (2018) and Das and Rao (2015), where positive and significant would contribute to investors in achieving superior in market timing and stock selection.

CONCLUSION

Through the variability of *Shariah*-compliant portfolio return, this study obtained the best buy-and-sell signal using MA Crossover which satisfied the first objective. For the next objective, this study focussed on the optimal portfolio to be obtained. The optimal portfolio would be the most efficient portfolio that aimed to construct an optimal portfolio using the SRM model and Naïve (1/N) portfolio by using the top ten constituents of FBMHS. Furthermore, the performance of the constructed portfolio

Table 6
Treynor and Mazuy Model (1966)

Estimate	Selectivity skills, γ	Beta of FBMHS, θ_1	Market timing, θ_2	R^2
Constructed	0.0006*	0.4532*	2.3084*	0.0856
Naïve (1/N)	0.0005*	0.9657*	-4.0413*	0.6356

Notes. * Denotes rejection of hypothesis at 5% significance level

and Naïve (1/N) portfolio was measured by using CAPM, Sharpe ratio, Treynor ratio, and Jensen's alpha. All the measurements showed better performance of a constructed portfolio compared to Naïve (1/N) portfolio. Lastly, this study could be summarized that individual investors can decide on timing their portfolios and also selecting stocks by following the outlined strategy for investment decision making especially in *Shariah*-compliant portfolio as compared to the naïve (1/N) strategy that has lack of market timing ability only. Therefore, *Shariah*-compliant individual investors should take this opportunity to actively manage their portfolios in order to ensure that their portfolios will be revised according to the market movement. The entry and exit signals provided by the MA Crossover strategy combined with a simple SRM model could be implemented to improve portfolio performance. Moreover, it is very important for individual investors to follow *Maqasid Shariah* to manage their portfolios' risk and also invest during the market doing well. For further research, it is suggested to include transaction costs in the analysis to make the results more precise (Zhang et al., 2019; Elias et al., 2015). Since the rebalancing portfolio is only occurring twice a year, the less frequent will give lower transaction costs in the portfolio.

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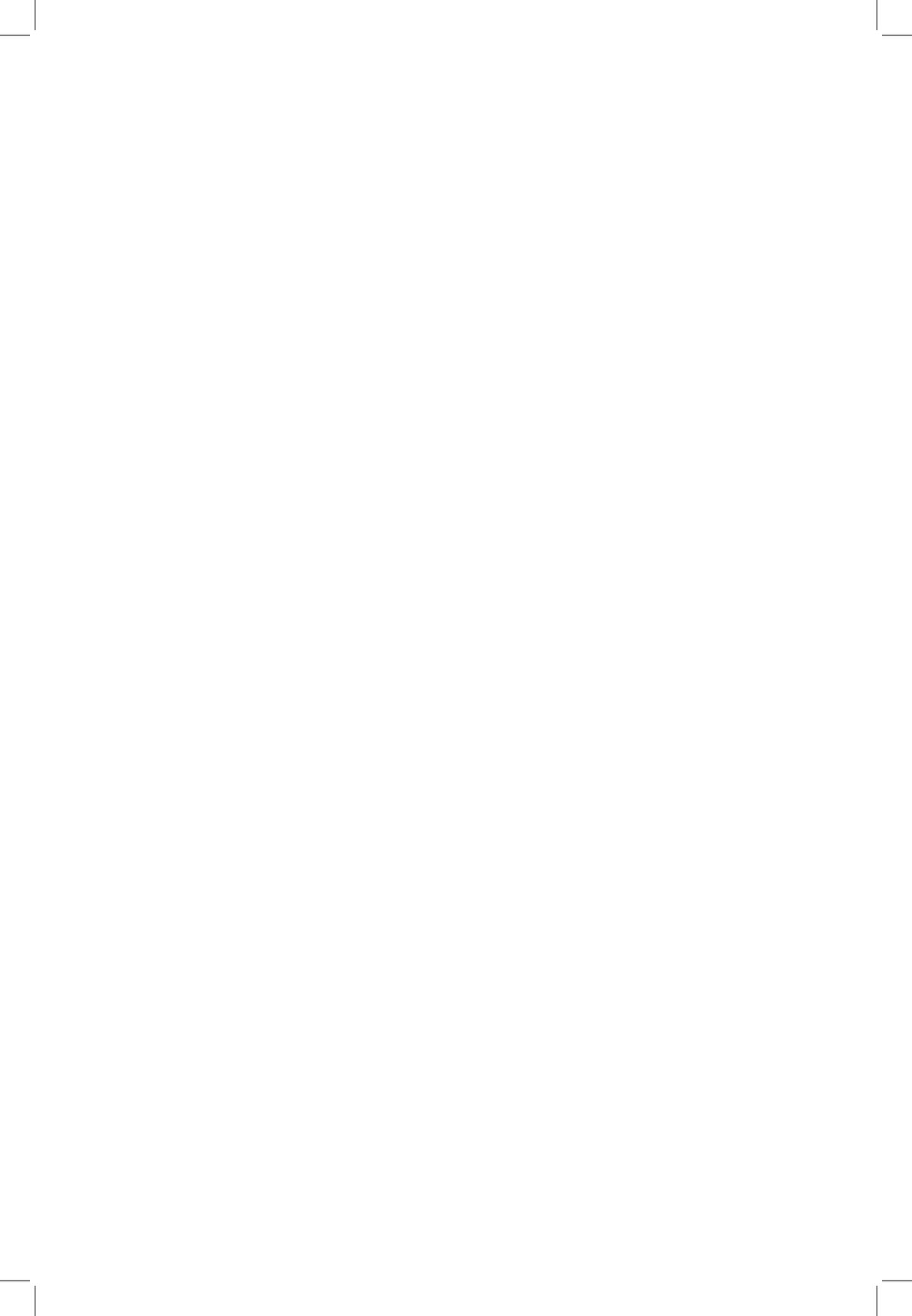
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APPENDIX

Table 3
Expected outcome on the Weight of Constructed Portfolio and Naïve (1/N) Portfolio

No	Out-of-Sample Date	Stock(Max Sharpe, %)										
		AXIA	DSOM	DIAL	MXSC	IOIB	MISC	PMET	HTHB	SIME	TPGC	
1.	04 July 2010 – 03 Jan 2011	35.66	0.47	0.06	-	-	-	-	8.50	-	55.31	
2.	04 Jan 2011 – 05 May 2011	16.26	1.39	42.96	-	-	20.14	-	-	19.25	-	
3.	27 May 2011 – 04 Aug 2011	-	49.41	50.59	-	-	-	-	-	-	-	
4.	09 Nov 2011- 20 Nov 2011	-	100.00	-	-	-	-	-	-	-	-	
5.	30 Nov 2011 – 17 May 2012	-	100.00	-	-	-	-	-	-	-	-	
6.	31 May 2012 – 18 Nov 2012	1.51	15.76	0.07	56.05	-	-	26.62	-	-	-	
7.	18 Dec 2012 – 20 Jan 2013	16.08	39.99	0.06	-	-	-	41.34	-	-	2.52	
8.	02 Apr 2013 – 22 Aug 2013	-	-	0.07	-	-	39.14	29.88	20.76	-	10.15	
9.	19 Sept 2013 – 27 Jan 2014	-	39.61	0.06	-	8.90	-	5.34	44.47	-	1.61	
10.	12 Feb 2014 – 08 Aug 2014	-	48.08	13.13	-	-	38.79	-	-	-	-	
11.	29 Oct 2014 – 04 Dec 2014	13.77	36.81	-	-	-	-	46.58	2.84	-	-	
12.	21 Jan 2015 – 21 May 2015	-	37.17	-	2.10	-	41.25	3.56	15.04	-	0.87	
13.	06 Oct 2015 – 20 Jan 2016	-	-	0.07	-	-	3.91	-	7.17	-	88.86	
14.	08 Aug 2016 – 09 Nov 2016	-	-	0.06	-	-	-	93.91	-	-	6.02	
15.	06 Feb 2017 – 13 July 2017	-	-	-	7.34	-	-	56.16	13.11	15.07	8.32	
16.	27 Oct 2017 – 26 Apr 2018	-	-	21.99	-	0.75	-	40.19	29.96	-	7.11	
17.	27 Apr 2018 – 17 May 2018	-	-	45.65	-	4.64	-	-	29.51	6.70	13.50	
18.	23 Aug 2018 – 08 Oct 2018	-	-	52.94	-	-	-	-	45.13	-	1.93	
19.	Naïve (1/N) portfolio	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	

Notes. Both portfolios' weight allocation was set equal to 1 (100%).



Affiliate Marketing in SMEs: The Moderating Effect of Developmental Culture

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ABSTRACT

The primary objective of affiliate marketing is to promote products or services via online distribution channels through third parties. However, its application has remained scarce despite being acknowledged as an efficient means of encouragement for SMEs to compete globally. This research adopts various technology adoption models to identify determining factors of intention to use affiliate marketing among SMEs. Developmental culture is included in the research model to assess its moderating effect. An online survey questionnaire has successfully obtained 180 usable responses for data analysis. The findings show that perceived usefulness, observability, and social influence are significant determinants of intention to use affiliate marketing. Developmental culture is found to moderate the results. Low developmental culture enhances the relationship between perceived usefulness and the intention to use affiliate marketing whereas high developmental culture strengthens the relationship between compatibility and the intention to use affiliate marketing. Implications of this study are discussed.

Keywords: Affiliate marketing, developmental culture, SMEs, technology adoption models

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INTRODUCTION

The expansive use of the internet today has resulted in numerous changes in the business world, whereby the application can connect people via telecommunication device usage and allows its users to access the latest information in real-time (Maksimovic, 2018). Following its amplified utilization, affiliate marketing has thus emerged as one of the fast-growing online marketing

tools. Despite it being underlined as a standard tool employed by organizations to conduct internet business globally, affiliate marketing has been associated with limited participation among SMEs in Malaysia (Beranek, 2018).

In this country, SMEs account for 98.5% of all sectors established (Department of Statistics Malaysia, 2018), wherein their expansion in the manufacturing sector has accumulated and thus reflected in the outstanding progress for the nation over the past 50 years. All-encompassing from its impact on the overall gross domestic product (GDP) to its contribution for job creation purposes, SMEs have created a clear path for economic prosperity. However, affiliate marketing in Malaysia has remained scarce despite being acknowledged as an efficient means of encouragement for SMEs to compete globally, thereby yielding improved sales and reducing their administrative costs (Newton & Ojo, 2018). Past studies have addressed the adoption factors of online marketing platforms, such as search engine optimization (Zhang & Cabage, 2017), email marketing (Karjaluoto & Taiminen, 2015), and social media marketing (AlSharji et al., 2018). However, a discourse on affiliate marketing practices prevalent in a developing country like Malaysia has yet to be seen in the literature.

Previously, Haq (2012) has explored the element of consumer attitude toward affiliate programs or affiliate marketing, while Gregori et al. (2014) have explored the key variables affecting consumer trust in tourism-related affiliate websites. Similarly,

Suchada et al. (2018) have described their emphasis on factors included within the system of affiliate marketing and purchase intention. However, it must be noted that all three aforementioned studies are limited to India (Haq, 2012), the United Kingdom (Gregori et al., 2014), and Thailand (Suchada et al., 2018), respectively. Besides, these works have only investigated the perspective of a customer toward affiliate marketing, whereas the viewpoint of an organization is dismissed. Therefore, the need to identify and investigate factors that can influence the intention for SMEs in Malaysia to implement affiliate marketing cannot be denied.

Theoretical Foundations

TAM is a popular framework that suggests that the adoption of new technology is significantly driven by two determinants, which are perceived ease of use and perceived usefulness (Davis, 1989). Perceived usefulness is defined as the potential of the latest technology to help users perform and complete tasks more efficiently and effectively. In contrast, perceived ease of use refers to the function of the new technology, whereby the users can use it to carry out tasks. Several studies (Nagy 2018; Okafor et al., 2016; Ramachandran et al., 2019) related to TAM have revealed results that perceived usefulness is crucial compared to perceived ease of use in the context of online marketing, which has influenced the adoption of perceived usefulness in this study. Nevertheless, perceived ease of use does not affect the distribution of interactive

online media technology for Malaysian SMEs (Okafor et al., 2016). This is the main reason why perceived ease of use was not included in the current research model.

DOI is referred to as the readiness of a person in adopting new technologies (Rogers, 2003). In addition to TAM, DOI also has an essential role in investigating the acceptance and adoption of technology, which consists of relative advantage, compatibility, observability, complexity, and trialability. Results from past studies on these attributes have confirmed compatibility, relative advantages, and observability are critical factors to use in adopting new technology (Lou et al., 2017; Zolkepli & Kamarulzaman, 2015). Complexity and trialability instead were not suitable in technology adoption due to the reason that both are explaining the extent of testing that the technology can handle before full acceptance (Rogers, 2003). They do not affect the attitude or intention to adopt the technology (Lou, et al., 2017). Hence, this study selects only compatibility, relative advantages, and observability to be tested in the research model.

Apart from DOI, UTAUT is an alternative theory to explain user intention in adopting technology and subsequent usage behavior (Venkatesh et al., 2003). The four determinants in this model are effort expectancy, performance expectancy, social influence, and facilitating condition. Abbas et al. (2018) have analyzed the adoption of mobile banking in Pakistan using the UTAUT model, and argue that among the four determinants, social influence is the

most critical of all. However, performance expectancy is synonymous with perceived usefulness and is, therefore, not adopted in this study. Effort expectancy is the use of technology that can be considered as easy or difficult, which is similar to the perceived ease of use (TAM) and complexity (DOI). On the other hand, facilitating conditions are referred to as a situation when a person knows the organization will encourage the adoption of new technology but is found to be insignificant for adoption due to the effect of being captured by effort expectancy (Venkatesh et al., 2003). Hence, only social influence is selected from the UTAUT theory as it refers to the extent an individual feels essential for others to believe he or she needs to use a new system (Venkatesh et al., 2003).

Researchers believe that the role of moderating variables is crucial in designing a model for adopting technology (Tian et al., 2018; Venkatesh et al., 2003). Research conducted by Tian et al. (2018) shows that different types of organizational culture have different impacts on technological innovation. The competing values framework (CVF) developed by Quinn and Kimberly in 1984 embraced four different cultures, namely group culture, hierarchical culture, developmental culture, and rational culture. Conceptually, developmental culture is defined as an adhocracy culture based on change, risk-taking, and innovation (Quinn & Spreitzer, 1991). An empirical study by J.-C. Lee et al. (2017) found that firms with high developmental cultures positively led to the enhanced

implementation of new technology. This positive relationship is robust compared to the other dimensions of organizational culture (group, hierarchical, and rational) in the competing values framework (CVF). Following this revelation, this study thus opts for the introduction of developmental culture as a moderating variable in the designed research model.

Affiliate Marketing

In general, affiliate marketing is one of the online marketing platforms offered today, whereby a company will sign an agreement with a third party (i.e. individual or organization) to feature a link on the affiliate site (Dwivedi et al., 2017). The primary objective of affiliate marketing is to promote and sell products or services via other distribution channels, following which the purchase information is transmitted to the clients for the completion of the sale transaction. It is associated with the creation of transactions from online customers, which will result in commission generation in return (Fox & Wareham, 2010). Theoretically, the core activities of affiliate marketing can be summarized as follows: First, an affiliate tries to direct potential customers to a client's website via the use of ad links. Second, these potential customers will perform an action necessary for the completion of the sale transaction. Finally, the client company rewards every action requested in order to conclude the sales, which are then traced back to the affiliates. This platform saves organizations time and effort in reaching their target

customers and shares some of their revenues with the affiliates (Suryanarayana et al., 2019).

Fox and Wareham (2010) have proposed for SMEs involved in the e-commerce market to consider its implementation in their bid to increase sales. This is attributable to its well-known status as a highly cost-effective type of online advertising channel versus other comparable platforms, which is due to its capacity for reducing the administrative costs associated with sales advertising. Recently, most research on affiliate marketing focused on in-house affiliate marketing (Beranek, 2019), sports betting (Houghton et al., 2020), the role of affiliate marketing on social media (Haikal et al., 2020), and different operating systems (Singhal & Anand, 2021). However, factors that influence the intention to use affiliate marketing are still found to be lacking within the literature of online marketing and related research. Therefore, studies on affiliate marketing should be carried out extensively to contribute to the growing body of literature.

Perceived Usefulness

Perceived usefulness refers to the potential offered by technology for enhanced quality or performance of a working individual in an organizational context (Davis, 1989). In general, this component has long since been considered the most prominent driver for technology acceptance. For example, an innovative study by Ramachandran et al. (2019) on social media adoption among the SME service sector in Malaysia claimed

that perceived usefulness was the most significant factor in behavioral intention. Meanwhile, S. Lee (2018) has investigated the varying ways a customer's continuous usage of a mobile app can be enhanced, which is underpinned by the technology adoption model. The study outcomes have specifically confirmed the positive influence of perceived usefulness toward mobile app utilization accordingly.

Parallel to the above works, Belete and Tsegaye (2018) have underlined the positive correlation between perceived usefulness and the adoption of a new internet banking system. In this context, evidence shows that whenever a new technology is perceived as useful by its users, their tendency for adopting the new system will increase. Besides, the work conducted by Haq (2012) has implemented a survey involving 300 respondents (i.e. consumers) from the cities of Hyderabad, Delhi, Bangalore, and Mumbai in India. As a result, confirmation was obtained regarding the significant effect of perceived usefulness on the respondents' intention to participate in online-based affiliate marketing programs. Hence, the aforementioned studies lead to the following hypothesis proposed:

H1. There is a significant relationship between perceived usefulness and the intention to use affiliate marketing.

Relative Advantage

Relative advantage is defined as the level at which the current technology is perceived as lower compared to the adoption of new technologies (Rogers, 2003). Meanwhile,

Mairura (2016) has noted that it is often viewed conceptually as the economic profitability, social prestige, or other benefits attained by an organization, whereas Jalali et al. (2019) have more recently postulated that it can affect the continuous implementation of technology. Furthermore, Shaltoni (2017) has positioned its significant correlation with internet marketing adoption in the context of Jordanian industrial organizations, wherein the findings indicate these industrial players' continued tendency for it to increase their customer value, reputation, and ability to reach new markets.

Moreover, Sun et al. (2018) have argued that SMEs are likely to adopt new technology if it comes along with greater benefits and good solutions for various business problems. In the context of Malaysia specifically, Zain et al. (2020) have provided evidence on the positive and significant relationship between relative advantage and the adoption of e-commerce by SME managers. This is supported by Zolkepli and Kamarulzaman (2015) via their research findings. They have underlined the notable influence of relative advantage toward the adoption of social media among Internet users, thus revealing the highly supported use of social media if benefits or relative advantage to do so are perceived. Additionally, affiliate marketing yields a greater relative advantage to business organizations and helps toward reaching a huge volume of customers, rendering it more likely for SMEs to be e-marketing-oriented. Hence, it is hypothesized that:

H2. There is a significant relationship between relative advantage and the intention to use affiliate marketing.

Compatibility

Compatibility is commonly understood as the degree to which an innovation parallels and is consistent with prior practices, socio-cultural values, past experiences, and current needs. When the new technology is perceived to be in line with occupational values and expectations, a company will find itself more open to innovation. Regardless, Mbiadjo and Djeumene (2015) have posed arguments wherein the success of mobile marketing adoption is reliant upon its capacity to fulfill the user needs and exhibit the system and cultural compatibility. On top of this, the study by Samat et al. (2017) has described the contributory effect of compatibility to the adoption of social media marketing in Malaysia. Another empirical study by Zain et al. (2020) has found that compatibility had a positive and significant impact on the adoption of e-commerce by SME managers.

Meanwhile, the role of compatibility has been studied by Sandu et al. (2017) in predicting the adoption of Cloud-based services among SMEs, which results in a comprehensive explanation using the findings obtained. In contrast, the lack of technology compatibility has been associated with the possibility of its hindered adoption. Therefore, the new experience attained by users opting for the use of technology should be in line with their past experience and meet their current needs in order for the

technology adoption to successfully take place. Based on the literature review above, it is hypothesized that:

H3. There is a significant relationship between compatibility and the intention to use affiliate marketing.

Observability

A study by Rogers (2003) eloquently defines observability as the extent to which the results of an innovation are visible to others, thereby referring to a stage wherein people can observe the positive results of technology usage accordingly. In simple words, a greater level of observability leads to an amplified acceptance and adoption of technology. This results in many scholarly attempts, such as the study by Chauhan et al. (2018) that has explored the factors influencing customer intention to utilize mobile applications in India. Here, the authors have noted that observability, in particular, increases the interest expressed by the residents to use mobile applications, whereas less observable applications are found to show slower progress in their adoption.

Meanwhile, the focus placed on Malaysia by Poorangi et al. (2013) has resulted in the significance of observability toward the adoption of e-commerce among SMEs. In this regard, technology plays a severely important role in the development of any company, especially those involved in the e-commerce market. Besides, a study on the implementation of green fertilizer technology within the Malaysian agriculture sector by Adnan et al. (2019)

provided clear evidence on the significant relationship between observability and farmer's behavioral intention. Therefore, observability can be explained when it comes to the adoption of affiliate marketing in a manner wherein the management team in charge is able to perceive the benefits possibly induced by the technology to their business. Therefore, it is hypothesized that:

H4. There is a significant relationship between observability and the intention to use affiliate marketing.

Social Influence

The element of social influence refers to a level in which an individual perceives the importance of others to believe that they should use a system (Venkatesh et al., 2003). In the context of the current topic, a previous study conducted by Rahaman et al. (2018) has discovered a positive and direct relationship linking it with technology adoption. Besides, those involved in research works in this field have further agreed that social influence is an essential factor in the process of accepting new technologies (Cheung et al., 2011). For instance, a study conducted by Abdat (2020) has found that social influence significantly impacts the adoption of social media apps among Indonesian small and medium-sized enterprises. Nonetheless, an empirical study on the adoption of e-commerce in the SME sector by Punjab by Batra and Arora (2020) also revealed that social influence was a significant determinant.

Similarly, an investigation by Abbas et al. (2018) regarding the role of social

influence has underlined its importance as the most significant factor among other comparable elements by implementing the UTAUT theory. Nevertheless, Venkatesh et al. (2003) are of the opinion that social influence can alter the beliefs held by one and further directs them into responding to social pressure in the process of deciding whether or not to adopt new technology. Additionally, it has been assessed across various fields of technology, rendering the perception of social influence being an important link in establishing the intention to use new technology (Suchada et al., 2018). Thus, the following hypothesis is suggested:

H5. There is a significant relationship between social influence and the intention to use affiliate marketing.

Developmental Culture

In general, developmental culture is among the cultural dimensions included in the Competing Values Framework (CVF), which was developed by Quinn and Kimberly in 1984. Theoretically, this element can be described as an adhocracy culture fundamentally underpinned by change, risk-taking, and innovativeness (Quinn & Spreitzer, 1991). Subsequently, it is also characterized by a new idea of change, adaptability, innovation, growth, and resource acquisition accordingly (Cameron & Quinn, 2011).

In line with the above notion, Merchant (2007) has explored the influence of cultural values on information technology (IT) acceptance, thus resulting in their claim

underlining cultural dimension as the key variant for consideration in IT adoption due to its capability to support individual decisions and actions. Meanwhile, the study by J.-C. Lee et al. (2017) has highlighted the obvious need for an investigation into the role of developmental culture as a moderator in technology adoption. Here, they have argued that without developmental culture, SMEs will not find themselves to be in an environment that can lead them toward the adoption of new technologies. In relation to this finding, the scholarly work of Huang et al. (2013) has offered evidence of organizational culture and its role in moderating the relationship between power, trust, and the adoption of electronic supply chain management system (e-SCMS). Therefore, based on the above discussion, it is hypothesized that:

H6a. Developmental culture moderates the relationship between perceived

usefulness and the intention to use affiliate marketing.

H6b. Developmental culture moderates the relationship between relative advantage and the intention to use affiliate marketing.

H6c. Developmental culture moderates the relationship between compatibility and the intention to use affiliate marketing.

H6d. Developmental culture moderates the relationship between observability and the intention to use affiliate marketing.

H6e. Developmental culture moderates the relationship between social influence and the intention to use affiliate marketing.

Figure 1 outlines the research model that guides this study.

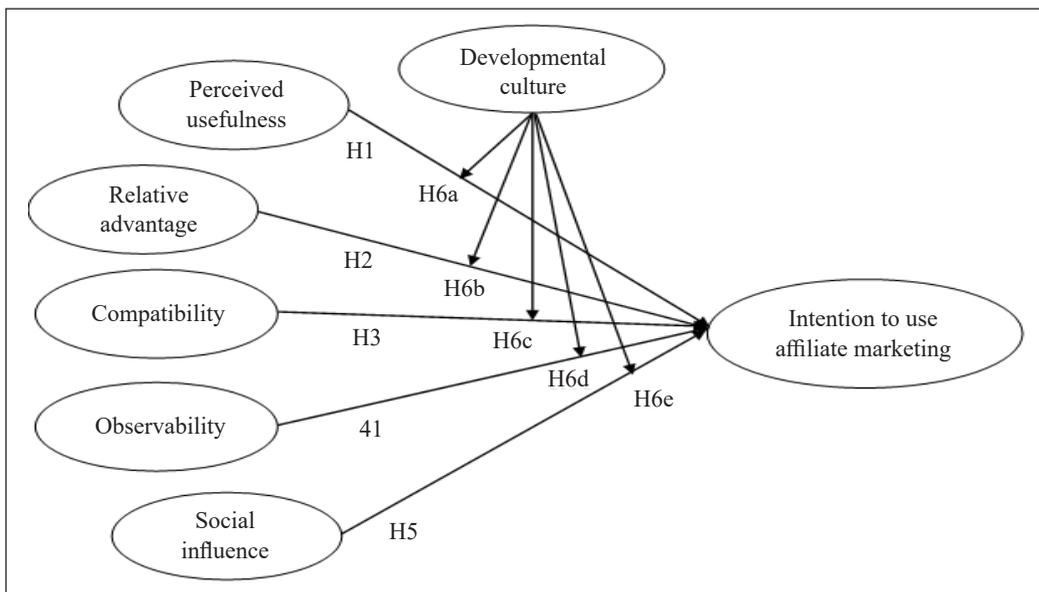


Figure 1. Research model

METHODS

Population and Sampling Method

This research opted for SME manufacturers in Malaysia as the target population, with a focus on the top-four states of Selangor, Johor, WP Kuala Lumpur, and Perak. Based on the statistics provided by the Department of Statistics Malaysia, a total of 49,101 SME manufacturing establishments are recorded in Malaysia (SME Corporation Malaysia, 2018). However, the emphasis in this study resulted in engagement with 27,693 establishments only out of the total number, which was contributed by the states of Selangor (10,017), Johor (8,053), WP Kuala Lumpur (5,254), and Perak (4,369) accordingly. The selection of these states as the research sites was due to them having the highest number of SMEs involved in the e-commerce market (SME Corporation Malaysia, 2018).

Next, this study employed the stratified random sampling technique due to the nature of the population itself, which consisted of strata (i.e., four states). The process dictates the stratification of population, which is followed by selecting the research respondents via random sampling until the desired sample size is reached (Saunders et al., 2009). To determine the number of samples, Cohen's (1992) statistical power analysis sampling table was implemented with reference to the following criteria: significance level of 5%, the statistical power of 80%, and R^2 value of at least 0.25. The sampling criteria are henceforth

referred to as the maximum number of arrows pointing at a construct. As a result, this study required 75 responses as the minimum amount of samples; however, 180 usable responses were collected for the purpose of data analysis.

Measures

Measures implemented for the study constructs were adopted from previous studies, which were subjected to minor modifications in line with the study scope. The questionnaire was developed and designed in the English language, wherein further details of its measures are included in Appendix 1. For construct measurement purposes, a 5-point Likert scale (i.e., strongly disagree, disagree, neutral, agree, and strongly agree) was utilized accordingly.

Data Collection Procedure

The current research was conducted to its completion by using a cross-sectional quantitative approach, whereby an online survey questionnaire was implemented to collect data from the respondents engaged. Copies of the survey questionnaire were sent to the respondents via their email address in which their particulars were obtained from the directory of the Federation of Malaysian Manufacturers (FMM). As a result, a total of 201 completed questionnaires were successfully gathered but only 180 responses were deemed usable for further analysis. PLS-SEM was used for data analysis.

RESULTS

Demographic Profiles

The demographic profiles of study respondents are depicted in Table 1. Overall, the respondents who participated in this study were of varying positions, namely 46 managing directors/owners, 81 marketing/sales managers, 11 IT managers, 8 operation managers, and 34 individuals of other managerial positions. A majority of them had more than 10 years of work experience (38.9%), which was followed by those with 5 to 10 years of experience (36.1%), and those with less than 5 years of experience (25%). Most of the participating companies had been operating for more than 20

years (48.9%), followed by 15 to 20 years (31.1%), whereas the remaining 13.9% had been established for 10 to 15 years and a small percentage within 5 to 10 years (6.1%). Furthermore, a big percentage of the companies consisted of small enterprises (55.6%) having 5 to 75 full-time employees (76.1%) and sales turnover of RM300,000 to RM15 million (55.6%). In contrast, medium enterprises constituted 44.4% of the companies and recorded sales turnover between RM15 million to RM50 million. All of the participating SMEs were located in four major states of Malaysia, namely Selangor (40.6%), Johor (27.2%), WP Kuala Lumpur (17.8%), and Perak (14.4%).

Table 1
Demographic profiles

Description	Category	Frequency (n = 180)	Percentage (%)
Position	Managing Director/Owner	46	25.6
	Marketing/Sales manager	81	45
	Operation manager	8	4.4
	IT Manager	11	6.1
	Others	34	18.9
Work experience	Less than 5 years	45	25
	5 to 10 years	65	36.1
	More than 10 years	70	38.9
Years of company establishment	5 to 10 years	11	6.1
	10 to 15 years	25	13.9
	15 to 20 years	56	31.1
	More than 20 years	88	48.9
Full-time employees	5 to 75	137	76.1
	75 to 200	43	23.9
Sales turnover	RM300,000 to RM15 million	100	55.6
	RM15 million to RM50 million	80	44.4
Location of the company	Johor	49	27.2
	WP Kuala Lumpur	32	17.8
	Perak	26	14.4
	Selangor	73	40.6

Measurement Model Assessment

A measurement model was established in this study to assess the outer loadings, internal consistency, convergent validity, and discriminant validity of the study constructs. Table 2 indicates that all outer loadings of the constructs exceed the value of .70 as suggested by Chin et al. (2003).

Accordingly, all reliability coefficients were found greater than the threshold value of .7, thus rendering the constructs deemed sufficiently reliable. Next, the convergent validity was assessed by using the average variance extracted (AVE) values, wherein all AVE values obtained were higher than .50 and indicated that the convergent validity of

Table 2
Results of the measurement model

Constructs	Indicators	Loadings	Cronbach's Alpha	Composite Reliability	AVE
INT	INT1	0.803	.893	.921	.701
	INT2	0.862			
	INT3	0.840			
	INT4	0.869			
	INT5	0.808			
PU	PU1	0.796	.890	.916	.646
	PU2	0.756			
	PU3	0.780			
	PU4	0.762			
	PU5	0.856			
	PU6	0.866			
RA	RA1	0.902	.760	.893	.807
	RA2	0.894			
COM	COM1	0.871	.943	.955	.778
	COM2	0.893			
	COM3	0.832			
	COM4	0.884			
	COM5	0.916			
	COM6	0.894			
OBS	OBS1	0.821	.873	.907	.662
	OBS2	0.760			
	OBS3	0.842			
	OBS4	0.851			
	OBS5	0.791			
SI	SI1	0.956	.909	.957	.917
	SI2	0.959			
DC	DC1	0.807	.872	.906	.660
	DC2	0.754			
	DC3	0.890			
	DC4	0.833			
	DC5	0.770			

Table 3
Heterotrait-Monotrait ratio (HTMT) analysis

	COM	DC	INT	OBS	PU	RA	SI
COM							
DC	0.505						
INT	0.720	0.427					
OBS	0.837	0.572	0.756				
PU	0.831	0.429	0.837	0.832			
RA	0.759	0.492	0.661	0.840	0.793		
SI	0.842	0.502	0.763	0.849	0.829	0.724	

Table 4
Structural model assessment and hypothesis testing

H	Path	Std. Beta	Std. Error	t-value	p-value	f ²	Decision
H1	PU → INT	.460	0.077	5.946***	.000	.178	Supported
H2	RA → INT	-.010	0.077	0.128	.898	.000	NS
H3	COM → INT	.041	0.092	0.447	.655	.001	NS
H4	OBS → INT	.166	0.092	1.804*	.071	.021	Supported
H5	SI → INT	.194	0.080	2.412**	.016	.029	Supported

Note. ***p<.01, **p<.05, *p<.10, R² = .615, Q² = .392.

Abbreviations: Hypothesis-H, Not Supported-NS.

the constructs was well-established (Hair et al., 2017).

To assess the discriminant validity of the constructs, the Heterotrait-Monotrait ratio of correlations (HTMT) was used. According to Table 3, all the HTMT values displayed were below 0.90, thus discriminant validity between any pair of the study constructs was established (Hair et al., 2017).

Structural Model Assessment

A structural model assessment was carried out using all 180 cases obtained. According to Table 4, the results reveal that only three out of five hypotheses are supported and yield significant relationships. In particular, perceived usefulness (PU) was found to generate a significant and positive

relationship with the intention to use affiliate marketing PU → INT ($\beta = .460, p = .000$). Similarly, the path of OBS → INT ($\beta = .166, p = .071$) indicated that observability was also significant and positively associated with the intention to use affiliate marketing. Finally, the path of SI → INT ($\beta = .194, p = .016$) confirmed the significant relationship between social influence and the intention to use affiliate marketing. Thus, H1, H4, and H5 were supported. In contrast, compatibility ($\beta = .041, p = .655$) and relative advantage ($\beta = -.010, p = .898$) were revealed to not significantly relate to the intention to use affiliate marketing. Hence, the H2 and H3 of this study were not accepted. In brief, it could be summarized that all predictor constructs were able to explain 61.5%

($R^2=.615$) of the total variance of the target construct, which was considered moderate in this particular case. Further investigation of the effect size revealed that the f^2 values of perceived usefulness (.178) have a medium significant effect on the intention to use affiliate marketing whereas observability (.021) and social influence (.029) have small significant effects on the intention to use affiliate marketing. Meanwhile, the predictive relevance of the model was greater than zero ($Q^2=.392$), indicating that it yielded predictive ability.

Moderation Analysis

The current study adopted a two-stage approach (Chin et al., 2003) geared for testing the effects of the moderating construct. The analysis was initiated by multiplying the items of developmental culture (DC) with those of the predictor constructs so as to create the interaction items for the prediction of the intention to use affiliate marketing (INT). Table 5 displays the results of moderation analysis obtained, wherein the paths of DC*PU→INT ($\beta=-.207, p=.009$) and DC*COM→INT ($\beta=.292, p=.002$) indicate that developmental culture

moderates the relationship between (PU and INT) and (COM and INT). Figures 2 and 3 show the moderation graphs of the results. The interaction term (DC*PU) and INT in Figure 2 reported a negative path coefficient ($\beta=-.207$), which suggests that the lower the developmental culture, the stronger the relationship between perceived usefulness and intention to use affiliate marketing. On the other hand, the interaction term (DC*COM) and INT in Figure 3 reported a positive path coefficient ($\beta=.292$), which indicates that the higher the developmental culture, the stronger the relationship between compatibility and intention to use affiliate marketing. As such, H6a and H6c are supported.

DISCUSSIONS

Results Discussion

According to the statistical results obtained, perceived usefulness ($\beta=.460, p=.000$) was found to be significantly and positively associated with the intention to use affiliate marketing, which was in line with the information offered by Haq (2012) and Nagy (2018). Here, it can be understood

Table 5
Results of the moderation analysis

H	Path	Std. Beta	Std. Error	t-value	p-value	Decision
H6a	DC*PU→INT	-.207	0.079	2.608**	.009	Supported
H6b	DC*RA→INT	-.098	0.061	1.612	.108	NS
H6c	DC*COM→INT	.292	0.094	3.088**	.002	Supported
H6d	DC*OBS→INT	-.086	0.100	0.861	.389	NS
H6e	DC*SI→INT	.070	0.095	0.737	.461	NS

Note. *** $p<.01$, ** $p<.05$, * $p<.10$, $R^2 = .644$.

Abbreviations: Hypothesis-H, Not Supported-NS

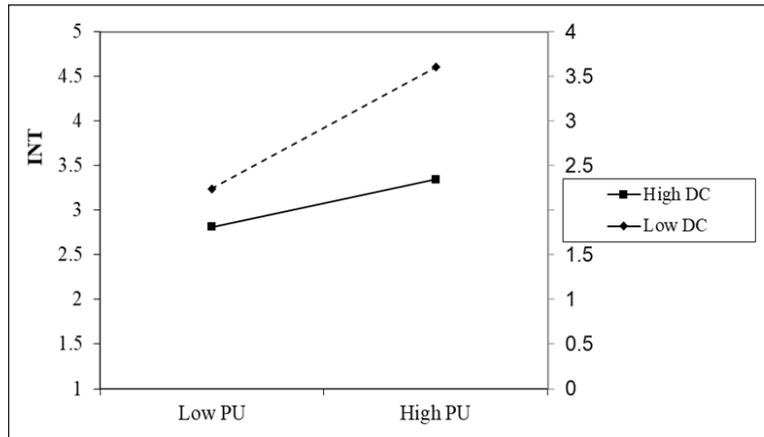


Figure 2. Developmental culture moderates the relationship between perceived usefulness and the intention to use affiliate marketing

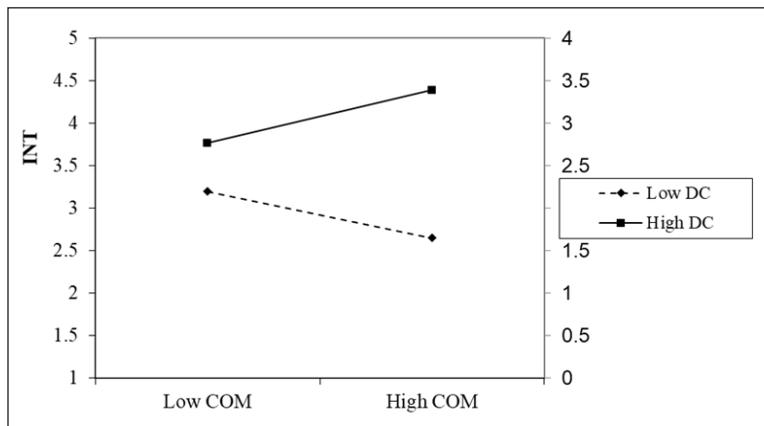


Figure 3. Developmental culture moderates the relationship between compatibility and the intention to use affiliate marketing

that the presence of useful technological attributes is especially critical in ensuring SMEs are able to source greater benefits, such as cost-saving, time efficiency, low effort, and high return. Moreover, Thaker (2018) has provided further evidence in the context of Malaysian SMEs, noting that the adoption of new technology is strongly influenced by perceived usefulness as it minimizes the required effort and improves work performance.

Next, the outcomes obtained showed the significance of social influence ($\beta=.194, p=.016$) as a predictor of the intention to use affiliate marketing among SMEs in Malaysia. A past study by Abbas et al. (2018) had presented a strong argument in support of this finding: people working in such organizations perceive the importance for their companies to employ affiliate marketing in the same manner in which their customers, business partners, and other

same-sector counterparts are using it. From a different point of view, Suchada et al. (2018) have offered detailed explanations regarding the relevance of word-of-mouth and electronic word-of-mouth in inducing an individual's intention to use new technology. This is attributable to the aspect of technology adoption among potential users that is largely determined by social influence.

Further, the analysis carried out also revealed that the element of observability ($\beta=.166$, $p=.071$) was significantly correlated with the intention to use affiliate marketing. This notion is approached in the sense wherein the higher the level of understanding one has regarding the technology effectiveness, the higher the likelihood that they will adopt the technology (AlSharji et al., 2018; Chauhan et al., 2018; Rogers, 2003). In line with this, Ramayah et al. (2016) have further emphasized that if SMEs are able to see the benefits of technology, which include an increase in productivity, sales growth, higher customer satisfaction, and retention, then they are more likely to implement the technology.

On the contrary, compatibility ($\beta=.041$, $p=.655$) was found to be not significantly linked to the intention to use affiliate marketing, which contrasted the opinions positioned by studies such as Samat et al. (2017) and Sandu et al. (2017). Therefore, this finding may be plausibly explained by the manner in which the respondents may perceive the tool to be inconsistent with their work values, past experience, and current needs.

Moreover, this study revealed that relative advantage ($\beta=-.010$, $p=.898$) was not a significant predictor of affiliate marketing. In line with this, Rogers (2003) has argued that new technology may not suitably fit certain individual needs and consequently fail to result in perceived relative advantage beyond the current technologies. Such a situation often happens when people or potential users are unsure of any relative advantage offered by the new technology, thus rendering them hesitant and against utilizing it.

Finally, hypothesis testing results obtained in this study showed that developmental culture moderated two of the paths included in the research model (i.e., DC*PU→INT and DC*COM→INT). Therefore, this is indicative of the stronger impact aided by perceived usefulness and compatibility toward the intention to use affiliate marketing among SMEs under the influence of the moderator element. These findings are in support of the previous argument by J.-C. Lee et al. (2017), which positions developmental culture and its role in increasing the rate of technology adoption. Additionally, the outcomes parallel the explanation offered by Quinn and Kimberly (1984), whereby the culture is construed as highly flexible, external-oriented, and capable of driving technology development. As noted by Rai (2011), developmental culture focuses on external opportunities and the cultural characteristics of creativity and flexibility, which can enable firms to identify and acquire external knowledge effectively. This study also shows that when

an individual company is characterized by developmental culture, the impact of perceived usefulness and compatibility on the intention to use affiliate marketing will be more reliable.

Theoretical Implications

The theoretical implications of this study can be noticed based on the introduction of developmental culture as a moderator between the predictors and the target construct. By using the orthogonalizing approach, this study asserts that developmental culture act as a full moderator in the model to moderate two relationships in the research model. The first relationship involves perceived usefulness and intention to use affiliate marketing while the second relationship addresses the compatibility and intention to use affiliate marketing. Based on these results, this study has contributed to future studies in utilizing developmental culture as a potential moderator to examine the extent of changes in findings at interval times. Moreover, the questionnaire of this research is developed based on the theories used, with the validation of the research instruments in this study generally acceptable and can be used extensively.

Managerial Implications

The findings of this study underlined perceived usefulness as the most essential factor necessary for managerial actions, thus calling for SME owners, managers, and affiliates to focus on it in supporting

their intention to use affiliate marketing. For example, affiliate marketing-related services must deliver valuable propositions rendering sale transactions more effective and generating extra benefits to their users. Therefore, this can be attained by ensuring different online marketing features are personalized and in accordance with the past experiences and preferences of users themselves, whereas any extraneous procedures must be isolated to speed up the processes and provide efficient end results. In this particular regard, the government can provide extra information, special programs, and professional training to the owners, managers, and affiliates in ensuring they gain maximum benefits of affiliate marketing.

CONCLUSION

Throughout the past years, studies have been conducted to investigate factors influencing the adoption of online marketing. However, within the context of affiliate marketing, there is a lack of studies that have investigated the factors influencing the intention to use affiliate marketing, particularly in the context of manufacturing SMEs. This study has, therefore, contributed to the extant research of intention to use affiliate marketing by using various theories of technology acceptance model (Davis, 1989), diffusion of innovation (Rogers, 1983), the unified theory of acceptance and use of technology (Venkatesh et al., 2003), as well as the competing values framework (Quinn & Kimberly, 1984).

Limitations and Future Research

First, the scope of this study is limited to four major states in Malaysia, thus possibly suggesting that the issue of generalizability may arise as SMEs located in other states are excluded. Therefore, any future efforts are suggested to expand the study scope and cover other major cities in the country in an all-encompassing manner. Second, the predictor constructs used in this study are not comprehensive, potentially necessitating future studies to add more relevant determinants into the research model for improved model predictability. Third, the effects of the determining factors associated with change over time are not addressed in this study, thus possibly requiring future researchers to conduct longitudinal studies in the bid to address the effects of change over time on the target construct. Finally, the use of a mixed-method approach combining both qualitative and quantitative methods can further aid future researchers in developing a more comprehensive research model.

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APPENDIX

Supplementary Table

Measures for the study constructs

Constructs		Measurement Items	Source
Intention to use affiliate marketing (INT)	INT1	An affiliate content publisher will be the prospective sellers of our company's products and services in the future.	Mazurek and Kucia (2011) and Ramayah et al. (2016)
	INT2	We plan to hire an affiliate content publisher to convince clients to buy our products and services.	
	INT3	We feel an affiliate content publisher is influential when it comes to convincing clients to buy our products and services.	
	INT4	If we had a choice, we would outsource the selling of our products to an affiliate content publisher.	
	INT5	We feel hiring an affiliate content publisher is a wise idea.	
Perceived Usefulness (PU)	PU1	Our company uses affiliate marketing to reach a wider base of internet users and shoppers.	Alam et al. (2008) and Nagy (2018)
	PU2	Our company uses affiliate marketing to reduce the cost needed to sell our products and services.	
	PU3	Our company uses affiliate marketing to improve the quality of our marketing strategy.	
	PU4	Our company uses affiliate marketing to support every critical aspect of our marketing model.	
	PU5	Our company uses affiliate marketing to increase our marketing performance.	
	PU6	Overall, our company uses affiliate marketing to assist in the sale of our products and services.	
Relative Advantage (RA)	RA1	Affiliate marketing helps our company to reduce its direct and indirect costs of the business.	Ghobakhloo et al. (2012) and Shaltoni et al. (2018)
	RA2	Affiliate marketing helps our company to improve its processes.	
Compatibility (COM)	COM1	Affiliate marketing fits well with the way our company works.	Jaafar et al. (2015) and Thiesse et al. (2011)
	COM2	Affiliate marketing is in line with the personality of our company.	
	COM3	Affiliate marketing is compatible with the company's current IT infrastructure.	

Supplementary Table (*continue*)

Constructs		Measurement Items	Source
	COM4	Affiliate marketing is appropriate for the IT infrastructure of our company.	
	COM5	Affiliate marketing is consistent with our business strategy.	
	COM6	Affiliate marketing fits with the work style of the company.	
Observability (OBS)	OBS1	Our company does not have difficulty telling others about the results of using affiliate marketing.	Alam et al. (2008) and Lou et al. (2017)
	OBS2	Affiliate marketing improves the quality of our work for the same amount of effort.	
	OBS3	Our company could communicate with others about the consequences of using affiliate marketing.	
	OBS4	The results of using affiliate marketing are apparent to our company.	
	OBS5	Affiliate marketing reduces the time to handle our advertising and promotion tasks.	
Social Influence (SI)	SI1	Our business partners strongly support affiliate marketing in our company.	Rahi et al. (2018) and Venkatesh et al. (2012)
	SI2	In general, our company supports affiliate marketing.	
Developmental Culture (DC)	DC1	Our company is a very dynamic and entrepreneurial place to work.	Lee et al. (2017)
	DC2	The leadership of our company is willing to exemplify innovation and risk-taking.	
	DC3	Our company emphasizes acquiring new resources and creating new challenges.	
	DC4	Our company is willing to try new technologies to get valuable opportunities.	
	DC5	Our company defines success based on having the newest technologies.	



Understanding Digital Public Relations Practices among Exemplar School Principals in Malaysian Schools

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ABSTRACT

In recent years, Digital Leadership (DL) has been recognised as an important practice for school principals. DL focuses on Information and Communication Technology (ICT) in support of school principals' leadership practice. This qualitative study was undertaken with the aim of understanding DL among principals from four High Performing Schools (HPS) in Malaysia, particularly from the perspective of public relations. Semi-structured interviews were employed involving four exemplar school principals as the main respondents and 12 school staff as the secondary respondents of the study. The findings indicate that social media has become the contemporary public relations conduit among exemplar Malaysian school principals. The findings also suggest that third parties, such as students, parents, and alumni, enhance school principals' public relations practices via their social media accounts. The aforesaid findings have meaningful implications for other school principals in similar school settings and contexts to better integrate social media in their public relations practice, especially by leveraging third-party social media accounts.

Keywords: Digital leadership, leadership, public relations, social media

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INTRODUCTION

School principals play a crucial role in setting the collective vision of Information and Communication Technology (ICT) integration in schools and promoting technology integration. With the current development of innovation and new technologies in education, there is evidence that a technology-related leadership style

fosters ICT use in schools (Brown et al., 2016). Effective leadership, therefore, must now include leadership in technology (Brown et al., 2016). Inevitably, ICT should be reflected in the study of contemporary leadership practice in schools. In line with this, Digital Leadership (DL) is a relatively new leadership practice that connects leaders with technology (Sheninger, 2014).

In this digital age, the news is no longer restricted to traditional media such as newspapers, magazines, television, and radio. The current media represents digital platforms that equal traditional media by containing the same information. In the school context, school principals, teachers, students, parents, and alumni are direct sources of news about school progress. Effective relationships with parents, alumni, and the community are crucial for school success (Wiyono et al., 2019). There is no doubt that schools can use communication technology to create and develop relationships with these parties (Wiyono et al., 2019). As such, websites, Facebook, Instagram, and Twitter are public relations conduits for school principals to develop, engage, and strengthen their school's positive image among stakeholders and the community. This is true given that social media "allows public relations practitioners additional opportunities to establish and cultivate relationships and engage their public" (Kelleher & Sweetser, 2012, p. 1). Understandably, schools need to be in close relations with their stakeholders; thus, practicing good public relations is important to gain their support for school

progress (Çoruk, 2018). As such, school leaders must be able to leverage ICT and technology to support their leadership practice, particularly their public relations practice (Sheninger, 2014).

However, little is known on the use of websites, Facebook, Instagram, and Twitter as conduits for public relations practice among exemplar school principals in Malaysian schools, despite the fact that these social media apps are widely used among both principals and school stakeholders. The overarching question that remains is "What can be learnt from exemplar school principals about the use of websites and social media in public relations in the context of schools in Malaysia?"

LITERATURE REVIEW

Digital leadership (DL) is relatively new in the field of educational leadership. Sheninger (2014) introduced the Seven Pillars of Digital Leadership in Education, which are: i) Communication; ii) Public relations; iii) Branding; iv) Professional growth and development; v) Student engagement and learning; vi) Learning environment and spaces; and vii) Opportunity. This framework aims to initiate sustainable change to transform school culture through technology. As society becomes more reliant on technology, it is almost mandatory for school principals to leverage the power of digital technologies in support of school progress. That is, as schools change, leadership must change as well. Sheninger (2014) therefore proposed the aforesaid pillars to create school cultures that are

transparent, relevant, meaningful, engaging, and inspiring.

Public relations as a marketing tool has been a common practice for businesses (Curtis et al., 2010). With technological advancement and the Internet's proliferation in recent years, social media tools have become beneficial methods of communication for public relations practitioners, even in the nonprofit sector (Curtis et al., 2010). Demands and expectations are different between private and public entities, and so are the functions of their public relations (Johansson & Larsson, 2015). Although the literature shows a lack of attention to nonprofits' social media strategy (Effing & Spil, 2016), the fast dissemination of social media applications has encouraged nonprofit organisations such as Greenpeace, Salvation Army, and YMCA to communicate with and engage the public to fulfill their social mission (Nah & Saxton, 2013).

Organisations use social media to communicate and interactively collaborate (Go & You, 2016). The most significant consequence of modern communication technology is that information is easily available to anyone at any place and any time (Outvorst et al., 2017). Information on schools can now be shared easily by any individual, organisation, or association. Since information is freely available (Outvorst et al., 2017), students, teachers, school principals, parents, alumni, and the Education Ministry are free to share, promote, and critique any programmes or events conducted by schools. By doing so,

interest and participation in school events may increase among stakeholders (Outvorst et al., 2017).

Social media is about getting people connected and building relations (Outvorst et al., 2017). With respect to this, Sheninger (2014) opined that the time has come for school principals to initiate school public relations in order to better engage with their stakeholders. According to him, school principals must embrace social media as their public relations conduit to engage with stakeholders. Furthermore, a few studies have found that individuals perceive social media as a credible source of information (Banning & Sweetser, 2007; Johnson & Kaye, 2004). Hence, school principals should consider social media as their public relations conduit in this digital age to garner support from stakeholders.

Leveraging technology is very much what DL is about, whereby school principals following this practice would be able to promote education by sharing positive information associated with their schools (Sheninger, 2014). According to Smith (2010), the public has unparalleled reach and access to social media information. As such, when school principals leverage the power of social media, they would be able to control and showcase the type of information that benefits their schools. Strong relationships between schools and their stakeholders are important to support student success (Moore et al., 2016).

Sheninger (2014) believed that school principals should leverage social media such as Facebook and Twitter in support of their

public relations practice. It has also made jobs easier by expediting the circulation of information to reach broader audiences (Eyrich et al., 2008). As such, adopting social media as a conduit for public relations practice is a clever approach because it enables schools to capitalise on their virtual presence to enhance public relations via school success stories.

Curtis et al. (2010) supported the call for social media because it is essential for public relations practitioners to recognise the resourcefulness of these tools and take advantage of every available opportunity to effectively reach their audience. School principals should take advantage of this prospect and leverage social media to reach and engage teachers, students, parents, alumni, the education ministry, and the community at large. Peruta and Shields (2016), therefore, stressed that learning institutions must develop a social media strategy to provide relevant information to potential students while at the same time striking a balance between the needs of incoming students and the expectations of parents, alumni, prospective donors, potential fans, and community members. It is indeed not uncommon for schools to update and maintain their social media channels with the aim of building an identity to connect with students and alumni (Peruta & Shield, 2018). Furthermore, social media allows organisations to create dialogues with audiences to foster strong and lasting relationships (Briones et al., 2011). The interactive digital platform of Facebook, for instance, allows audiences to give feedback

to organisational messages in three different levels of engagement: Like, Share, and Comment (Cho et al., 2014). As such, school principals should be wielding social media as a public relations platform to promote school success.

Recent developments have shown that public relations and communication in public schools are becoming an integral part of public school management in the 21st century (Lopez, 2017). Social media use is an expectation; it is no longer optional (Cox & McLeod, 2014). Houten (2014) and Lopez (2017) did not only call for school principals to start focusing on public relations practice but also agreed that social media is important to enhance public relations strategies. Facebook and Twitter are utilised in schools to promote a greater understanding of topics related to school progress (Carpenter et al., 2014). Social media tools allow for greater interactions between school principals and their stakeholders, wherein such tools provide stronger connections with local stakeholders, fellow educators, and the world (Cox & McLeod, 2014).

In essence, it would be remiss of school principals not to take advantage of the abundance of social media to establish and further enhance public relations with students, parents, alumni, ministries, and the public at large. As school principals begin to integrate social media tools into their public relations practice, they will be seen as being more transparent in giving stakeholders a clearer picture of what is happening in their respective schools. In line with this idea, DL oversees interactions between technology

and institutions to enable the optimal use of modern technology in public relations practice.

OBJECTIVE OF THE STUDY

Given the aforesaid significance of DL, this study was conducted to understand public relations practices concerning DL among exemplar school principals from High Performing Schools (HPS) in Malaysia. The objective of the study was to discover and describe the public relations practices among these school principals. The study offers an in-depth understanding of school principals and their use of ICT as a conduit in their leadership practices, namely for public relations. In particular, the focus of this paper was on how school principals practice public relations with stakeholders through websites, Facebook, Instagram, and Twitter.

METHODS

This study employed a qualitative case study approach. A case study design was appropriate for this research given that the aim of the study was to develop an in-depth description and analysis of a particular event, programme, or activity (Creswell, 2018), in this case, the DL of exemplar school principals.

Participants

Purposeful sampling was utilised for this qualitative study to select participants with the most knowledge on the research topic (Patton, 2002). This sampling technique

gave importance to the participants' availability and willingness to be involved in the study. This study thus applied the aforesaid sampling method to gain an in-depth understanding from participants who were willing to share their experiences.

In Selangor, there are a total of 17 HPSs, namely nine secondary schools and eight primary schools. This study targeted secondary schools because it explored the use of ICT and social media as a communication medium between school principals and students. Hence, some level of communication skill and maturity was required from the students.

Of the nine secondary HPSs in Selangor, only four were selected for this study. One school (BB) was rejected because its website and Facebook account were inaccessible at the time of the study. The KU school principal neither replied to emails nor returned any calls from the researchers. Therefore, it was understood that the KU school principal was not interested to participate in the study. Next, the PP school principal was selected as the pilot study respondent because she was available at the time. Since she took part in assessing the interview protocol, she was not selected to participate in the main case study. Two more school principals (JE and RG) were considered for the study after the first meeting. The JE school principal pointed out that she had not been ICT savvy and had used ICT only when necessary. The RG school principal agreed to be interviewed; unfortunately, he did not have time for a follow-up interview after the first one.

Though the primary unit of analysis in this study was the school principals, i.e., the main respondents, 12 more individuals were selected as secondary respondents (assistant school principals, teachers, and staff). The secondary respondents were critical for the study as they provided further descriptions and clarifications with regard to how school principals practice public relations. Prior to the interview process, this study sought and received the approval of the Ethics Committee for Research involving human subjects from Universiti Putra Malaysia.

Profile of Schools

The four HPSs chosen for this study comprised three Full Boarding Schools and one Non- Boarding School. Table 1 shows the schools' profiles. It is important to point out that although there is variation in the schools' years of establishment, they were quite similar in terms of years of being an HPS.

Profile of Participants

Table 2 shows the participants' demographic backgrounds. The four school principals had

Table 1
Schools' profile

#	School	School type	Years of establishment	HPS status
1	KS		65	10
2	SM	Full Boarding school	31	9
3	SG		18	8
4	SA	Non-Boarding school	49	10

Table 2
Participants' profile

#	School	Participant	Job Position	Gender	Age
1		A	School Principal	Female	59
2	SA	B	Assistant School Principal	Female	54
3		C	Teacher	Female	42
4		D	School Staff	Male	38
5		E	School Principal	Male	55
6	SM	F	Assistant School Principal	Female	53
7		G	Teacher	Female	30
8		H	School Staff	Male	58
9		J	School Principal	Male	50
10	KS	K	Assistant School Principal	Female	52
11		L	Teacher	Female	47
12		M	School Staff	Male	29
13		N	School Principal	Female	50
14	SG	P	Assistant School Principal	Female	56
15		Q	Teacher	Female	31
16		R	School Staff	Male	38

more than 20 years of working experience either in schools or in other education departments. All four teachers had used ICT in the classroom via Frog VLE. The Frog VLE Project is a cloud-based virtual learning environment that was introduced in schools by the Ministry of Education in 2011. During the study period, all the HPSs in this study used Frog VLE to support teaching and learning. Subjects that were taught in the Frog VLE classrooms were Arabic Language, English Language, and Basic Computer Science. The four remaining participants were a Lab Assistant, a Chief Clerk, and two ICT Technicians. The secondary participants were selected by the school principals from their respective schools.

Data Collection

Data was collected through face-to-face interviews to elicit in-depth information on the principals' daily DL practices. In addition to the semi-structured interviews, a virtual document examination was undertaken involving the use of social media by the schools.

Data Analysis

The first author transcribed the data from the interview sessions using the Write and Listen software. To make the data more manageable, the data was reduced by applying codes and categories. MAXQDA version 18.1 was used to organise and assign codes to the large data. Once the initial set of codes was generated, each transcript was analysed using the codes. New codes were

added whenever new concepts emerged. The codes/categories were later collapsed into themes manually by the first author. Member check was employed in this study, wherein participants' feedback and consent of the coding was solicited to ensure it represented their meaning. In addition, interview sessions were audio-taped with participants' permission to minimise errors and mistakes during the transcribing process.

Data analysis was guided by participants' leadership practices based on the 'Seven Pillars of Digital Leadership in Education' model (Sheninger, 2014) with respect to public relations. Apart from Sheninger's (2014) model, the researchers also looked into new, emergent ideas from the participants' context, comments, and perspectives on using ICT in their leadership practices.

Apart from the interview transcripts, virtual document examination was performed on the schools' websites, Facebook, Twitter, and Instagram, as well as the Facebook pages of the school principals, the parent-teacher association (PIBG), alumni, and students, when available. These virtual documents gave insights into the use of ICT by the schools and their principals.

FINDINGS

Sheninger's (2014) framework was used to underpin this study in describing and understanding DL among exemplar school principals in Malaysia. All four school principals revealed that they leveraged technology such as social media via Facebook, websites, Twitter, and Instagram

to showcase their schools' success. Showcasing schools' success is meant to disseminate information to people outside the school, such as parents, alumni, the education ministry, and the public, including potential new students.

Social Media as a Conduit in Public Relations Practice

Generally, the virtual document examination found that the contents of the schools' Facebook pages and websites were inclusive of basic information about the school, such as its address, telephone number, school mission and vision, and school history. Besides that, there were pictures and videos of school programmes, activities, and achievements as well.

Apart from the school, PIBG and alumni ran their own Facebook pages and websites too. Notably, these platforms contained relatively less information about the school but more information, pictures, and videos about their programmes, activities, sponsorships, and charitable work within and outside the school. Information about the association's membership, committees, address, contact number, and email address were provided on their Facebook and websites too. These results corroborate the findings of Waters et al. (2009) that Facebook includes information on the involvement of an organisation, such as its calendar of events (donation and volunteer works). In addition to the school, PIBG, and alumni social media, some school principals had their own personal Facebook as well.

This study further found that apart from using Facebook and websites to promote school success stories, schools employ Twitter and Instagram as well. However, not every school appeared to be as actively engaged in Twitter and Instagram as in Facebook and websites. As for the contents of their Twitter and Instagram pages, they had more pictures and videos of school programmes, activities, and achievements instead of descriptions about the school.

These results suggest that school principals use social media for public relations to disseminate information and engage with various people from within and outside the school. The main purpose of having a Facebook or website for the school is to disseminate information, as Participant P remarked: "*The purpose (school Facebook and website) is to inform the outsiders about the (school) programme, about (school) activities, about the (school) success and plans that the school will initiate for public knowledge.*" Further, according to participant N, social media plays a major role as an effective tool in informing people about the success of the school, as shown in the following interview excerpt:

That's what we use (to promote school success) in our website, through the website that we have, blogs, Facebook, and so on. Apart from sending information to parents through their children, social media plays a major role in informing people about the success of the school, what the school is doing. It is a great platform...Indeed it

(Facebook and website) is very effective. It is very effective.

N (School Principal, SG School Interview)

Information about school programmes, activities, and success is not just aimed at parents but also at potential new students. Participant B described how Facebook is able to effectively influence students' perception and decision about the school in this interview excerpt:

In addition, we also want to reach out to students who may not have been here. For example, a primary school student, when they go through (the school Facebook or website), they may decide to come to this school. Usually, when we had an interview with the new intakes, Form one students, we ask them how they get to know about this school. They told us that they read about us in the school website and Facebook. From there (based on the information they found in the school Facebook or website), they develop the interest to enter this school. So, for me, this is (Facebook and website) very effective. Not only to the school community, parents but also other individuals.

B (Assistant School Principal, SA School Interview)

The study revealed that one of the benefits of social media is that information about the school could be disseminated

quickly and to a larger audience, especially via Facebook. Facebook has a unique feature called 'sharing', which enables information to be shared among one's circle of 'friends'. This feature has a snowball effect as the number of people reading information on the school will increase exponentially in a very short time. Participants C and M elucidated the 'sharing' snowball effect in the following interview excerpts:

Take Facebook for an example, we can promote any school events via Facebook. So parents can have a look at the school Facebook, the PIBG, the students, other teachers, they all can share [the school Facebook post in their own Facebook]. In this way, information about the school event can be shared with many others (via Facebook) and it can be done very fast.

C (School Teacher, SA School Interview)

So if we have Facebook, when we like or share [certain post] with our friends on Facebook, their friend will also get the post. Although initially, they are not our Facebook friend, they has the access to KS's activities too. So more people will know about KS school.

M (School Staff, KS School Interview)

Additionally, Facebook provides a platform for users to leave 'comments' and 'likes' on posts. Schools can gain feedback

through ‘comments’ and gratification through ‘likes’. Indirectly, these ‘comments’ and ‘likes’ on Facebook posts further establish and strengthen relationships between schools and stakeholders. The closeness in relationship is healthy and encouraging because when parents, alumni, and schools engage with one another, they promote the advancement of the students, teachers, and schools alike. These results are consistent with that of Smith (2010), who found that social media is suitable for social connection and news promotion.

In this regard, respondents P and M deliberated on what is meant by engaging and promoting relationships via post sharing, comments, and gratification on Facebook in these excerpts:

I think it (Facebook) is really effective. Right now, in the present time, it is [effective]. Indeed, people seldom calls nowadays. They will look at Facebook, right? To find out what the group (Facebook group) is up to. That's more fun actually and we can directly ask [in the Facebook] if we are not satisfied. Or even put down a comment. We can give comments in the Facebook. It is easier to congratulate someone [on their success]. Because, sometimes we just do not have the time [to congratulate them personally].

P (Assistant School Principal, SG School Interview)

It (Facebook) is effective because, while the (school) activity is being

carried out, parents can post comment, words of encouragement or things to do to improve our programme... we are closer, meaning the relationship is closer [among parents, students and teachers]. It is direct because through Facebook, all correspondence are direct between them.

M (School Staff, KS School Interview)

Taken together, these results show that social media is beneficial to school principals because it is effective in disseminating information and success stories about the school quickly and to a larger audience.

Facebook: Primary Conduit for Public Relations Practice

Although all schools were found to possess an official Facebook account, SA School had three Facebook accounts carrying the school's name. Similarly, in KS School, the school principal preferred using Facebook, given that KS's official Facebook contained 876 pictures and numerous videos on its activities and programmes while its website was temporarily closed down at the time of the study. According to the KS School principal, he prefers Facebook to websites because Facebook is the latest trend, as depicted in the following interview excerpt:

Every programme (will be posted in Facebook). Now the most active is Facebook, compared to the website. Because website has been around for quite some time so people have

less interest in website. We are more on to Facebook...If we do not upload in Facebook, people do not know [about us]. Parents do not know [what are we doing]. Finally, they will complain [that we are not doing anything]. So, in order to avoid them from complaining, look at our Facebook. If you do not upload (to the Facebook), people cannot see you.

J (School Principal, KS School Interview)

The aforementioned interview excerpt highlights the school principal's strategy in establishing a positive image of the school by posting information on school programmes, activities, and success stories on Facebook. It is important for the school principal to foster a positive image of the school; to this end, social media is utilised to enhance school public relations. The school principal is able to promote school progress by sharing relevant information about their schools and at the same time, they are able to control the content shared.

Besides KS School that preferred Facebook to websites, SM School had more recent postings in their Facebook account than their website page. The virtual document examination showed that their school website was last updated in 2015 but their Facebook had recent postings dated June 2019. The findings suggest that some schools are more active in updating their school success stories on Facebook.

In addition to the school Facebook, the study found that a majority of the school principals possess their own personal Facebook accounts. Their personal Facebook contained news about their respective schools, pictures, and videos of school programmes and activities, as well as updates on school achievements. Although some of the school principals' Facebook contained personal postings, most of the content was about school success. KS, SG, and SA Schools principals each had personal Facebook accounts. In this instance, by having a personal Facebook, school principals are connecting directly with the community by adopting social media as a conduit in their public relations practice.

The SM school principal was the only one in this study who did not have a personal Facebook account. He explained that he preferred to promote his school success stories via the school PIBG and alumni Facebook pages. As shown in the following excerpt, he stated that success stories about the school carry more weight when told through a third party:

As for this school, I'm a little bit different than others. I do not want to tell much on my school success but I let others do it for me...We feed school information to PIBG and alumni. We leverage PIBG and alumni groups to promote us through their Facebook and website.

E (School Principal, SM School Interview)

The virtual document examination further revealed that the SM School's PIBG Facebook contained 1,864 pictures and countless videos on school activities and programmes, while the SM alumni Facebook had 843 pictures and a lot of videos. On the other hand, SM School's official Facebook had far fewer artifacts — only 133 pictures and four videos. These findings confirm that school principal E preferred to showcase his school success stories indirectly via the PIBG and alumni Facebook pages.

Interestingly, SM School was not the only one with PIBG and alumni Facebook pages as an additional channel to showcase school success stories. This study found that KS and SG Schools also had PIBG and alumni Facebook accounts as well. However, this study discovered that the trend of having a PIBG and alumni Facebook was only present at boarding schools — KS, SM, and SG.

The need to have a PIBG Facebook is more apparent in full boarding schools since the students are away from home during the school term. For this reason, parents are concerned about their children's well-being. In boarding schools such as KS, SM, and SA, parents rely heavily on schools' Facebook and websites to obtain information about their children's activities at school. Participants L and Q shared similar views on the advantage of having school Facebook pages and websites as a medium to provide parents with vital and up-to-date information, as in the following interview excerpts:

Yes, (Facebook and website are efficient) because anyone who wants to know about us can just google it and it's there. And the info is quite up-to-date. And, we also post pictures and what's going on in our school. And for parents it might be very useful because they can actually see what is going on, because they are, well based on residency school, they are not near us. Yeah, they sort of they know about their kid.

L (School Teacher, KS School Interview)

(Facebook and website) Effective. Because Full Residence School students rarely return home and parents rarely meet their children. Through the school website, parents can get information on their children's where about and activities. There are pictures of their children (posted in the website). Parents get to see their children.

Q (School Teacher, SG School Interview)

Even though SA School did not have a PIBG or alumni Facebook, the school's PIBG and alumni were found to actively participate in the school's programmes and activities, albeit not prominently visible via Facebook. Participants A and C acknowledged that their school PIBG and alumni were indeed involved in school programmes in the following interview excerpts:

Take for instance, the school alumni. They will always contact us when they need to propose a certain programme which they intend to do for the school. I have a meeting with the Alumni Chairman this afternoon. We are going to discuss 'A Night with The Stars' Programme'.

A (School Principal, SA School Interview)

Our PIBG and alumni are active. This coming programme, PELEDAK, PIBG will attend, alumni will attend too. PIBG always join our Entrepreneurship Days. They are very supportive [of our programmes].

C (School Teacher, SA School Interview)

Aside from the PIBG and alumni Facebook, it is worth mentioning that both SM and SG Schools had an additional Facebook page, as shown in Table 3. The study discovered that SM school had a Facebook account run by a students' association that contained information on

their activities, which centred on upholding students' morality and integrity as prescribed by Islamic teaching. SG School, meanwhile, had a Facebook page run by parents, which specifically focused on the Taekwondo tournaments and activities held in the school. Both Facebook pages were active with recent postings.

As shown in the aforementioned findings, school principals' public relations is evident via the sharing of schools' success stories on their Facebook. It is interesting to note that schools have many Facebook platforms and use all of them to their advantage. Besides the schools' official Facebook and school principals' personal Facebook, the schools also had third-party Facebook pages by the PIBG, alumni, and individual students, parents, and alumni members. Thus, third-party-owned Facebook pages play a big role in promoting schools. Together, they provide extra platforms to promote school success as well as establish and strengthen relationships by engaging with each other and with the public at large.

Websites, Twitter, and Instagram: Secondary Conduit for Public Relations Practice

The study finds that besides Facebook, schools also have websites. As mentioned earlier, only KS School's website was closed down temporarily during the study period, while the other three schools, namely SM, SG, and SA, had active school websites. Among them, SG School had the most updated and comprehensive website.

Table 3
Facebook matrix

Facebook	KS	SM	SG	SA	Total
School	√	√	√	√	4
PIBG	√	√	√	√	4
Alumni	√	√	√	√	4
School principal	√	X	√	√	3
Others	X	√	√	X	2
Total					17

Similar to Facebook, apart from the schools' official websites, they had PIBG and alumni websites as well. However, not all schools had the advantage of such third-party websites. For example, KS School had both PIBG and alumni websites while SM School had only an alumni website.

For those with PIBG and alumni websites, the study discovered that some contained recent postings while some were not updated. The KS alumni website, for instance, was recently updated while the KS PIBG website was last updated in 2007. SM's alumni website was also not updated since 2012. Compared to Facebook, this study found that websites were generally less updated. Two schools had neither a PIBG nor an alumni website (SG and SA Schools). Regardless of their active participation in the school's activities and programmes, some PIBG or alumni were just not visible online via websites.

Table 5
Twitter matrix

Twitter	KS	SM	SG	SA	Total
School	√	√	X	√	3
PIBG	X	X	X	X	0
Alumni	X	√	√	X	2
Others	√	X	√	X	2
Total					7

Table 4
Website matrix

Website	KS	SM	SG	SA	Total
School	X	√	√	√	3
PIBG	√	X	X	X	1
Alumni	√	√	X	X	2
Others	√	X	X	X	1
Total					7

Again, similar to Facebook, aside from the PIBG and alumni websites, some schools had additional websites, as shown in Table 4. This study discovered that KS School had two extra websites. The first website was run by the KS students' association and contains information on their activities aimed to uphold students' morality and integrity as prescribed by Islamic teachings. The second website seemed to be run by the alumni. Both websites were active at the time of the study.

It is interesting to note that apart from having Facebook pages and websites, the majority of the schools in this study had Twitter accounts, as shown in Table 5. Schools with Twitter accounts were KS, SM, and SA. However, unlike Facebook and website platforms, schools appeared to have fewer third-party Twitter accounts, and none of the schools had a PIBG Twitter. In KS School for instance, the third-party Twitter account was managed by the students' association while in SG School, they were managed by individual students.

Additionally, the study found that except for SA School, the remaining schools did not have an Instagram account, as shown in Table 6. It is noteworthy that the three boarding schools were the ones without an

Table 6
Instagram matrix

Instagram	KS	SM	SG	SA	Total
School	X	X	X	√	1
PIBG	X	√	X	X	1
Alumni	X	√	X	X	1
Others	√	√	√	√	4
Total					7

Instagram account. SA School, on the other hand, had two Instagram active accounts with recent postings. As a non-boarding school, SA School students have greater access to technology when they are at home, so they can access Instagram more often. This could be one of the reasons for SA School's own Instagram accounts.

Three schools did not have alumni or PIBG Instagram account while SM school had both, including a third-party Instagram. As mentioned earlier, School Principal E preferred promoting his school's success via third-party social media. The study also uncovered that all schools had additional Instagram accounts. These additional Instagram accounts belonged to the school students. Some were active with recent postings while others were not.

It was found that website, Twitter, and Instagram platforms were overall less visible than the Facebook platform, as shown in Table 7. There were 17 Facebook accounts but only seven websites, Twitter, and Instagram accounts. The findings showed that websites, Twitter, and Instagram were secondary conduits that school principals leverage to showcase their school success stories as a part of their public relations practice. Not every school had an official website, Twitter, or Instagram. Interestingly, whenever a school did not have them, it leveraged a third-party account instead, such as the PIBG, alumni, or individual student account, to showcase their school success stories as a part of their public relation practice.

Overall, the findings of this study provided evidence that public relations are an important element of DL as postulated in the Seven Pillars of Digital Leadership in Education (Sheninger, 2014). School principals are now empowered to form the foundation of a positive public relations platform through free social media tools that afford them better control of shared content.

DISCUSSION

This study revealed that social media is beneficial to school principals in effectively disseminating information about their school and its achievements at a fast speed and to a larger audience. As such, social media is a public relations conduit for principals to establish, engage, and

Table 7
Facebook, Website, Twitter, and Instagram matrix

Items		Total number of accounts	
Facebook	School	4	17
	PIBG	4	
	Alumni	4	
	School principal	3	
	Others	2	
Website	School	3	7
	PIBG	1	
	Alumni	2	
	Others	1	
Twitter	School	3	7
	PIBG	0	
	Alumni	2	
	Others	2	
Instagram	School	1	7
	PIBG	1	
	Alumni	1	
	Others	4	

strengthen the relationship between schools and stakeholders for school progress. The findings of this study are consistent with Smith's (2010) findings, which suggested that school principals should highlight the success of their schools through social media to foster positive public relations both within schools and among students, parents, the ministry, and the community. This is consistent with Sheninger's (2014) *Seven Pillars of Digital Leadership in Education* that emphasise the importance of promoting social media as a conduit in enhancing public relations of the school.

Facebook is the primary conduit in school principals' public relations practice, given that it has a vast amount of information with more updated postings, pictures, and videos of school activities and programmes compared to other online platforms (i.e., websites, Twitter, and Instagram). Thus, stakeholders gain a better understanding of the schools as more detailed information can be easily accessed in the form of mission statements, history, news, photos, and videos (Waters et al., 2009). In addition, most school principals have personal Facebook accounts, which can be advantageous to the schools to further showcase their success stories. Through their personal Facebook page, school principals are able to connect directly and more efficiently with the community to improve their public relations practice. Clearly, social media expedites the circulation of information to broader audiences (Eyrich et al., 2008). Besides sharing information on school events and activities, social media is beneficial in

establishing and strengthening relationships by engaging external parties (Eyrich et al., 2008). The nature of social media as a helpful tool for public relations practitioners allows organisations, including non-profit ones, to create dialogues with audiences to build strong and lasting relationships (Briones et al., 2011).

This study shows that schools, PIBG, and alumni are less visible on websites, Twitter, and Instagram compared to Facebook. These platforms are considered secondary conduits in school principals' public relations practice. Interestingly, school principals leverage third-party social media accounts, such as PIBG websites, alumni Facebook pages, and students' Instagram pages, to spread their schools' success stories. These third-party social media platforms serve as additional channels to further showcase school success. It can be surmised that school principals are making full use of the social media available today to promote school success and strengthen their public relations practice. These schools have certainly increased their presence in the virtual world to showcase their achievements and forge positive public relations, either through their official school accounts or third-party PIBG, alumni, and student accounts.

CONCLUSION

Taken together, these findings signify that the school principals in this study are indeed making full use of the availability of social media to help promote their school success and strengthen their public relation

practice. These schools have been successful in increasing their presence in the virtual world by showcasing their school success stories and thus strengthening their public relation practice. Overall, school principals use Facebook as their main social media tool while websites, Twitter, and Instagram are used as secondary tools for their public relations. The narration of school success by students, parents, and alumni through social media enhances the school principals' efforts to improve their public relations with stakeholders, given that such information may be seen as more acceptable and trustworthy. In other words, these narratives validate the information from school principals and further supports their public relation practices. The aforementioned findings indicate that public relations are an important and relevant element of the DL of exemplar Malaysian School principals, whereby the contemporary public relations conduit best suited in this digital age is definitely social media. Good public relations practice benefits not only the school but also the society at large. Given its ubiquitous nature, school principals should continue to engage with social media for the benefit of their stakeholders.

Future research could explore DL among school principals from the 'digital native' generation, as the current research investigated how technology is leveraged as a conduit in the leadership of school principals from the 'digital immigrant' generation. It would be interesting to examine how 'digital

native' school principals differ from 'digital immigrant' school principals.

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Turning Environmental Strategies into Competitive Advantage in the Malaysian Manufacturing Industry: Mediating Role of Environmental Innovation

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ABSTRACT

The environmental literature has focused on examining how firms leverage environmental innovation to convert environmental challenges into driving forces of competitive advantage. This paper enhances the knowledge on the implementation of environmental strategies in the Malaysian manufacturing industry by examining the impacts of environmental shared vision and environmental strategic focus on competitive advantage in the greening of the industry. The Smart PLS technique was used to analyse data collected from 124 Malaysian manufacturing firms on their environmental strategies as well as their implications for competitive advantage and environmental innovation. The findings suggest that environmental innovation mediates the positive exchange between firms' environmental strategies and competitive advantage. The study provides valuable information for manufacturers in crafting their corporate competitive strategies, policies, and action plans. The direct and indirect roles of environmental innovation in fostering competitive advantage suggest that manufacturers should prioritise their environmental activities by enhancing innovation outcomes to achieve a successful green business status.

Keywords: Environmental innovation, environmental shared vision, environmental strategies, environmental strategic focus, manufacturing industry, Malaysia

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INTRODUCTION

Due to proliferating worldwide demand for environmental protection, environmental innovation (EI) has become the major vehicle driving economic development

(Chang, 2011). Concurrently, more stringent environmental protection regulations have been enforced on businesses, significantly reshaping the nature of business competition into an environment-oriented one. Consumers, too, exhibit trends of increasing demand for green products that generate less harm to the environment (Ong et al., 2019). In response to these changes, governmental bodies and business organisations all over the world are proactively implementing environmental protection actions in an attempt to avoid and solve environmental degradation issues (Nishimura, 2014; Ong et al., 2019; Wiengarten et al., 2013). Companies which are proactive in managing environmental issues surrounding their business are likely to gain benefits (e.g. differentiating their products from competitors, lowering their cost structure as a result of waste reductions), which represent valuable opportunities to gain competitive advantage (CA) (Ong et al., 2020; Porter, 1981; Porter & van der Linde, 1995). In relation to this notion, EI is the implementation of new products, processes, or methods to reduce environmental impacts and satisfy users' needs, which subsequently leads to higher competitiveness as well (Cheng & Shiu, 2012; OECD, 2005; Schiederig et al., 2012). Following this reasoning, it is plausible that EI acts as the agent that enables environmental management practices to foster CAs.

Barney (1991) and Porter (1980) refer to CA as the state where a company's competitive strategies are not replicable by other companies operating in the same

market. In this regard, EI reflects the incorporation of environmental solutions into product design as well as the production process, which provides the basis for differentiation that forms a CA (Chen et al., 2006; Hart, 1995). Besides improving efficiency (Porter & van der Linde, 1995), EIs enhance product value, thereby validating the trade-off between the investment costs and benefits of environmental solutions. In view of these strategic benefits, EIs are at the top of the corporate agenda in the competitive global environment. Indeed, most companies are increasingly prepared to invest more resources into such innovation. By focusing on EI, companies can mitigate conflicts between environmental protection investments and financial performance, enjoying a win-win outcome in both aspects. Therefore, companies are now aware that devoting capital to environmental protection strengthens their EI capabilities, which limits potential legal liabilities, improves operating efficiency, and expands markets for green products (Chang, 2011; Chen, 2008).

The resource-based view of the firm (RBV) asserts that firms' competitive advantage and performance are highly influenced by the resources and capabilities owned by them (Barney, 1991, 2001). As such, the RBV regards firm performance as attributed to resources having a differential level of efficiencies by the firms (Barney, 1991; Hart & Dowell, 2011; Peteraf & Barney, 2003). Following a similar idea of the RBV, Hart (1995, p. 991) illustrated that "it is likely that strategy and competitive

advantage in coming years will be rooted in capabilities that facilitate environmentally sustainable economic activity”.

Notably, the literature on the natural resource-based theory (NRBV) has established EI as the underlying reason for companies' ability to improve performance through environmental management. Environmental management encompasses creating, organising, monitoring, and handling environmental issues related to corporate activities, with the objective of mitigating adverse environmental impacts (Dost et al., 2019). Firms with environmental management proactively place environmental considerations at the centre of their strategic planning and decision making, in addition to cultivating a shared environmental vision among their employees. Consequently, these companies are likely to develop and utilise innovations to make ongoing improvements to their environmental efforts, leading to possibilities of new markets, better cost structures, and superior financial performance (Chang, 2011; Walley & Whitehead, 1994).

In line with these propositions, numerous studies have found support for the positive effect of environmental strategies on EI (Fernando et al., 2019; Ong et al., 2019, 2020). Nevertheless, the literature lacks empirical studies that link firms' environmental strategies involving EI to CA. Additionally, apart from Grekova et al. (2013), scholars have devoted limited attention to the role of EI in the link between environmental performance and firm performance. In view of these research gaps,

this study investigated EI as the mediating factor that explains the impact of two environmental strategies (environmental strategic focus and environmental shared vision) on CA. This research included firm size as the control variable as it has functioned as a robust control variable in studies explaining corporate environmental management and business performance (Buysse & Verbeke, 2003; Guenther & Hoppe, 2014; Ong et al., 2020). This is due to large firms tend to invest more extensively in environmental management due to better availability of resources (Judge & Douglas, 1998) and also greater need to protect their reputation, hence are more likely to gain competitive advantage (Coombs & Bierly, 2006).

The rest of this paper is organised as follows: Section 2 presents a review of literature; Section 3 explains the hypotheses development; Section 4 describes the research methodology; Section 5 reports the empirical findings; Section 6 provides a discussion of the findings; Section 7 puts forth the implications and conclusions of the study; and Section 8 addresses the limitations of study with suggestions for future research.

LITERATURE REVIEW

Environmental Strategic Focus

The potential of environmental sustainability initiatives to enhance firm value is highly dependent on the extent they are considered strategic priorities (Porter & Kramer, 2006). Taking this into account, an environmental strategic focus (ESF) conceptualises the

extent to which environmental considerations are incorporated in corporate strategy development (Banerjee, 2002). The ESF enables a firm to align the essentials of its environmental strategies with its company and business strategies (Banerjee, 2002; Banerjee et al., 2003; Judge & Douglas, 1998). Thus, the ESF enables corporate management to adopt an integrated view of their environmental sustainability responsibilities and shareholders' financial performance requirements in strategic planning and decision making.

Environmental Shared Vision

An organisational shared vision refers to the collective aims and ambitions of the members (Tsai & Ghoshal, 1998) that specify the future direction of a company (Larwood et al., 1995). That is, an organisational vision is self-identified and shared by organisational members (O'Connell et al., 2011; Zaccaro & Banks, 2001). Consistent with this, an environmental shared vision (ESV) is defined in this study as an environmental strategic goal that is collectively adopted as a core value among organisational members (Chen et al., 2015; Larwood et al., 1995; Tsai & Ghoshal, 1998). Corporate environmental studies have lately extended the concept of a shared vision to environmental protection goals (Aragón-correa et al., 2008; Chen et al., 2015). For example, Chen et al. (2015) referred to a green shared vision as a collection of common environmental goals and ambitions that have been intensely embraced by members of a company. Thus,

adding to the key attributes of a shared vision, an ESV conceptually embodies environmental protection goals.

Environmental Innovation

Scholars have commonly used three interchangeable terms to represent environment-related innovation: EI (Cortez & Cudia, 2010; Forsman, 2013); eco-innovation (Arundel & Kemp, 2009; Cheng et al., 2014; Kesidou & Demirel, 2012; Sezen & Çankaya, 2013), and green innovation (Chang, 2011; Chen et al., 2008; Chen et al., 2006; Chiou et al., 2011). Upon analysing the definitions of environment-related innovation, Schiederig et al. (2012) concluded that three core aspects of innovation are generally included in almost all environmental researchers' definitions: (i) reference to a product, process, or service methods; (ii) incorporation of market orientation to satisfy needs or stay competitive; (iii) incorporation of the environmental objective to reduce negative impact. Overall, the definitions of EI integrate both economic and ecological aims (Schiederig et al., 2012).

We defined EI as the implementation of new products, processes, or methods that reduce environmental impacts and better satisfy users' needs, thereby improving competitiveness (Cheng & Shiu, 2012; OECD, 2005; Schiederig et al., 2012). In line with this definition, in this study, EI was represented as technical innovation, which is the firms' technical knowledge and know-how that has been successfully implemented

and has improved processes and products. Specifically, we considered EI to be reflected by two aspects of technical innovation: environmental product innovation (ENP) and environmental process innovation (ENC) (Armbruster et al., 2008; Cheng & Shiu, 2012; OECD, 2005; Rennings et al., 2006; Schiederig et al., 2012).

ENP refers to the launching of a new service or product with significantly enhanced features that reduce adverse environmental effects associated with its use (Cheng & Shiu, 2012; OECD, 2005; Rennings et al., 2006). Similarly, ENC refers to the adoption of a substantially improved or new method that decreases the harmful environmental impacts of manufacturing processes (Cheng & Shiu, 2012; OECD, 2005; Rennings et al., 2006). Consequently, ENP equips firms with unique green products that are appealing to customers in the green market while ENC fosters production competencies that engender resource efficiency and better product quality. Given that superior products and processes exert the strongest influence on firms' competitive position, the focus on product and process aspects enables an outcome approach in examining firms' EI. That is, both environment-related product and process improvements contribute to firms' ability to compete (Chen et al., 2006; Chiou et al., 2011; Forsman, 2013). As such, this research argued for the need to empirically examine how EI strengthens two major indicators of economic performance: CA and financial performance.

Competitive Advantage

CA refers to the market situation engaged by a company following its successful strategy that is not imitable by competitors (Barney, 1991). Peteraf and Barney (2003, p. 314) similarly conceptualised it as the "ability to create relatively more economic value in comparison to marginal competitors either through superior differentiation or having lower cost".

Studies adopting the resource-based view explain CA through the net benefits approach, whereby larger net benefits indicate more efficient use of firm resources. However, the resource-based theory (Barney, 1991) does not argue for the inherent link between a firm's CA and its ability to achieve superior profitability. Scholars stress that not all profits generated by a firm are reflected in its accounting-based or market-based performance measures (Coff, 1999; McCarthy et al., 2015; Newbert, 2007). Instead, superior firm performance is only achievable when firms make effective use of their CAs (Ma, 2000; McCarthy et al., 2015). On top of the CA factor, firms' profitability is also influenced by its distribution of residual net benefits among various resources providers (Coff, 1999; Peteraf, 1993), including debt providers, equity providers, and employees. Thus, it is crucial to differentiate the construct of CA from firm performance in empirical studies testing sources of firm competitiveness (McCarthy et al., 2015; Sigalas & Economou, 2013; Sigalas et al., 2013), so as to eliminate additional factors that potentially affect superior firm performance besides CA.

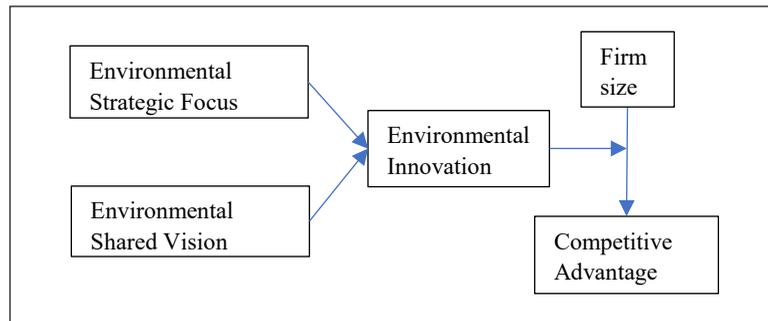


Figure 1. Research framework

THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

In this section, we developed our overall research model by first exploring the ESF’s relationship with EI before examining the link between ESV and EI. Subsequently, we evaluated the relationship between EI and CA. Finally, we tested the mediating role of EI between the two environmental strategies and CA. Firm size is included as the control variable on competitive advantage. Figure 1 presents the conceptual model of this study.

Environmental Strategic Focus (ESF) and Environmental Innovation

Companies with an ESF regard environmentalism as the underlying factor driving new product development. These companies proactively take actions to incorporate environmental considerations into their products and manufacturing processes to mitigate their environmental damage (McCloskey & Maddock, 1994; Ong et al., 2020). In particular, an ESF within a firm is reflected by top management’s commitment to environmental protection, a functional environmental interface, and

explicit environmental policies. These elements precede firms’ environmentally responsive behaviour in the development of new products (Pujari et al., 2004), which ultimately strengthens firms’ ability to generate new goods with less adverse environmental impacts. This enhances firms’ EI. Further, an ESF is positively associated with the allocation of resources for environmental protection, which translates into investments in cleaner technologies. Such technologies enable a firm to radically change its operations into more environmentally friendly ones (Shrivastava, 1995; Ong et al., 2020), resulting in the minimisation of pollution and waste from its manufacturing processes (Klassen & Whybark, 1999). This contributes to firms’ EI. Thus, we postulated the following hypothesis:

H1: Environmental strategic focus (ESF) is positively associated with environmental innovation (EI).

Environmental Shared Vision (ESV) and Environmental Innovation (EI)

According to the shared cognition literature, a shared vision fosters team dynamics

(Pearce & Ensley, 2004) in the form of team belief in success, teamwork, and intra-team helping behaviours, which in turn drive firms' innovative performance. Consequently, high team dynamics cultivate working groups that are not just rich in environment-related ideas but are also highly enthusiastic about EIs. Moreover, a shared vision results in higher resource exchange and integration among organisational members, which also facilitates the innovation process.

Taken together, an ESV would nurture the drivers of EI, namely environmental learning, environmental knowledge and skills, green creativity, team dynamics, and market information generation. We, therefore, theorised that the higher the degree of ESV in a firm, the greater its EI. To empirically validate this notion, the following hypothesis was developed:

H2: Environmental shared vision (ESV) is positively associated with environmental innovation (EI).

Environmental Innovation (EI) and Competitive Advantage (CA)

The NRBV (Hart, 1995; Hart & Dowell, 2011) emphasises that EI contributes to a firm's CA, as this capability is rare, valuable, firm-specific, and non-imitable by competitors (Barney, 1991), in addition to being socially complex and path-dependent (Hart, 1995; Sharma & Vredenburg, 1998). Empirical studies have consistently validated this positive association between EI and CA. In particular, both environmental product and process innovations have been

reported to positively affect CA in firms in Taiwan (Chen et al., 2006; Chiou et al., 2011), China (Liao, 2016), and Turkey (Küçüköğlü & Pınar, 2015). Thus, in line with the NRBV literature and empirical evidence that both environment-related product and process innovations contribute to firms' ability to compete (Chen, 2006; Chiou et al., 2011; Forsman, 2013), it was hypothesised that:

H3: Environmental innovation (EI) is positively associated with competitive advantage (CA).

Mediation Effect of Environmental Innovation (EI)

EI is believed to be the key factor underpinning the positive association between proactive environmental practices and firm performance (Hart, 1995; Porter & van der Linde, 1995; Sharma & Vredenburg, 1998). Environmental researchers have postulated that investments in environmental management inflict net costs and lose cost advantages if companies exhaust opportunities to gain net benefits from environmental practices (Schaltegger & Synnestvedt, 2002). As such, firms' choice of strategies for environmental improvement is critical in turning environmental strategies into CA (King & Lenox, 2001; Reinhardt, 1998). Specifically, Orsato (2006) argued that firms implementing an EI strategy are more likely to gain competitive strengths from environmental practices. For example, a product differentiation advantage is attainable through innovative changes in product design and materials that improve

green features and functionality. Likewise, the implementation of green process improvements creates a cost advantage. It can thus be surmised that the potential to gain competitiveness from environmental performance is contingent on firms' ability to convert their environmental strengths into green products and processes through innovation.

Consistent with this, the NRBV (Hart, 1995; Hart & Dowell, 2011) also posits that innovation must be an outcome of environmental strategies (i.e. ESF and ESV) in order to achieve superior CA. Hence, we proposed the mediating role of EI in the following hypothesis:

H4a: Environmental innovation (EI) mediates the influence of environmental strategic focus (ESF) on competitive advantage (CA).

H4b: Environmental innovation (EI) mediates the influence of environmental shared vision (ESV) on competitive advantage (CA).

Firm Size as the Control Variable

Firm size is included in the research model as the control variable. Meta study reported the significant influence of firm size on innovation (Camisón-Zornoza et al., 2004). Larger size firms are more advantageous in terms of economies of scale, advertising, and new product developments that could serve as sources of firm performance and competitive advantage (Coombs & Bierly, 2006). The natural logarithm of a firm's number of employees would represent the measure of size.

RESEARCH METHODOLOGY

Questionnaire

Data was collected using a questionnaire that was sent to targeted companies via postal mail and, in some cases, via email. Each hardcopy questionnaire form was mailed with a cover letter and a stamped return envelope. Multiple phone calls were made to the respondents as a follow-up measure to increase the response rate and to persuade those who had not returned their questionnaire. A replacement questionnaire was provided to those who had missed the previously sent one.

Measurement Scales of Study

The questionnaire comprised five sections; one solicited the companies' details while four measured the study variables using scales adapted from previous literature. The scales for ESF (7 items) and ESV (4 items) were adapted from Banerjee et al. (2003) and Chen et al. (2015). CA's measure (5 items) was adapted from Karagozoglu and Lindell (2000). EI's scale had 11 items adapted from Chen et al. (2006), Chen (2008), and Chiou et al. (2011). All items were rated on a 5-point Likert scale, from '1-strongly disagree' to '5-strongly agree'.

Sample

All ISO 14001 Environmental Management System (EMS) certified manufacturers in Malaysia (a total of 483 at the point of data collection) were included as the study population. Despite not mandatorily required to by Malaysian regulations, these companies have channelled substantial

resources into certifying their EMS. Such an investment signals to stakeholders these firms' commitment to and assurance of environmental protection. As such, these manufacturers are likely to be highly proactive in implementing environmental practices.

Pilot Test

The questionnaire was first pre-tested by six academic experts before being pilot-tested among 20 companies. The questionnaire was then revised according to the comments of the experts and pilot test respondents. 124 survey responses were gathered from the 483 distributed questionnaires. This yielded a response rate of 25.7 percent, which is comparable to other firm-based survey studies in Malaysia (Eltayeb et al., 2011; Lee et al., 2013). Moreover, a sample size of 124 companies was deemed adequate for partial least squares structural equation modelling (PLS-SEM) analysis as it fell within the acceptable sample size range (Hair et al., 2017).

Non-response Bias and Common Method Bias

The findings from Harmon's single-factor indicated that 36.99 percent of the total variance was explained by the first factor, hence common method bias was not a risk in this study (Podsakoff et al., 2003). All constructs were also subjected to an independent t-test to assess whether the data gathered was significantly different between the 106 late answered companies and the 18 early answered companies. Levene's

test statistic reported a non-significant result, proving that non-response bias was negligible (Gastwirth et al., 2009).

RESULTS

Descriptive Results

Table 1 describes the companies' profiles. The main activities of these firms included chemicals, chemical products, and manmade fibres (n=16, 13%), rubber and plastic (n=18, 15%), motor vehicles, transport equipment, and basic metal products (n=22, 18%), electrical and electronics (n=29, 23%), and others (n=39, 31%). A majority of the sampled firms (n=108, 107%) had more than 50 percent Malaysian ownership. Age and size statistics indicate that most of the sampled firms had well-established large-scale manufacturing operations aged between 21 and 40 years (n=58, 46%) and more than 40 years (n=53, 43%). Only a minority were less than 20 years of age (n=13, 11%). The firms' full-time staff force size was taken as a proxy for their size. Since most firms were large, they employed 200 to 500 employees (n=41, 33%) or more than 500 employees (n=31, 25%). The remaining smaller firms had a workforce of fewer than 200 employees (n=52, 42%) (SME Corporation Malaysia, n.d.). In terms of international involvement, a majority of the respondent firms had a considerable proportion of their products exported: 56 firms (45%) had 10 to 50 percent of their products sold to overseas markets, while 21 firms (17%) had more than half of their products exported. The remaining firms (n=47, 38%) had no exports.

Table 1
Profile of respondent companies

Description	Frequency	%
N = 124		
Companies' main activities		
Communication equipment and radio, television, electrical machinery, optical equipment.	29	23%
Fabricated metal products, basic metals, motor vehicles, and transport equipment.	22	18%
Plastic and rubber products	18	15%
Chemicals, chemical products, and man-made fibres	16	13%
Others	39	31%
Employees No.		
Less than 200 (Small and medium size)	52	42%
Less then 200	52	42%
Between 200 and 500 (large size)	41	33%
Above 500 (large size)	31	25%

Partial Least Squares Structural Equation Modelling (PLS-SEM) Analysis Results

To perform PLS-SEM analysis, SmartPLS Version 3.2.3 (Hair et al., 2016) was employed to assess the measurement model and structural model.

Assessment of Measurement Model

As per Hair et al. (2016), the measurement model confirms the reliability and validity of the constructs before testing the hypotheses. In this study, EI was a second-order reflective construct; therefore, the two-stage method was employed to evaluate the reliability and validity of EI. Specifically, product innovation and process innovation were first assessed separately with all other first-order constructs in the model (Bradley & Henseler, 2007; Henseler et al., 2015).

The results of internal consistency reliability and convergent validity are illustrated in Table 2. The average variance extracted (AVE) for all constructs ranged from .557 to .699, while CRs ranged from .862 to .923 and Cronbach's alpha values ranged from .738 to .892. As the thresholds for AVE and reliability are .5 and .7 respectively, the constructs in this study demonstrated satisfactory convergent validity and internal consistency reliability (Hair et al., 2013).

Fornell and Larcker's (1981) criterion was used to evaluate the constructs' discriminant validity, which indicates that each construct is different from the other (Hair et al., 2013). To establish discriminant validity, the square root of each variable's AVE should be higher than the squared correlations between the variable and other

Table 2
Convergent validity

First Order Construct					
Items	Loadings	Constructs	AVE	CR	CA
CA1	0.784	Competitive advantage (CA)	.570	.868	.809
CA2	0.791				
CA3	0.617				
CA4	0.749				
CA5	0.817				
EF1	0.799	Environmental strategic focus (ESF)	.557	.862	.802
EF2	0.700				
EF3	0.751				
EF6	0.713				
EF7	0.764				
EV1	0.728	Environmental shared vision (ESV)	.582	.847	.764
EV2	0.732				
EV3	0.791				
EV4	0.798				
ENC1	0.855	Process Innovation (ENC)	.699	.920	.892
ENC2	0.806				
ENC4	0.796				
ENC5	0.868				
ENC6	0.853				
ENP1	0.820				
ENP2	0.705				
ENP4	0.737				
ENP7	0.731				
Second Order Construct Loadings					
ENC	0.928	Environmental Innovation (EI)	.856	.923	.832
ENP	0.923				

Table 3
Discriminant validity

S No	Constructs	1	2	3	4	5
1	Competitive Advantage	<i>.755</i>				
2	Environmental Innovation	.614	<i>.710</i>			
3	Environmental Shared Vision	.545	.552	<i>.764</i>		
4	Environmental Strategic Focus	.685	.693	.571	<i>.724</i>	
5	Firm size	-.031	-.182	-.163	-.147	<i>1</i>

Note: Diagonals (italic) show the square roots of AVE. The rest are Pearson's correlation values.

variables (Chin, 1998; Fornell & Larcker, 1981). As shown in Table 3, the diagonal square roots of AVE were greater than the off-diagonal correlations. Therefore, discriminant validity was fulfilled in the study model.

Assessment of Structural Model

After evaluating the measurement model, we subsequently tested the structural model to confirm the study hypotheses. Since PLS-SEM does not generate inferential statistics on model fit and parameters, the bootstrapping procedure was carried out with 5000 resamples using the SmartPLS 3.0 software (Chin, 2010). Bootstrapping produces statistics on standard path coefficients, standard errors, and t-values, which allows the evaluation of the significance of each hypothesis (Hair et al., 2017).

Path Coefficients of Direct Relationships

Table 4 presents the results of direct path coefficients. ESF reported a significant positive relationship with EI ($\beta=.561, p=.000$), supporting H1. H2 was also supported by the significant positive link

between ESV and EI ($\beta=.231, p=.010$). Likewise, H3 was significant as EI was found to exert a positive influence on CA ($\beta=.629, p=.000$). We also included firm size as a control variable in the analysis. However, firm size did not have a significant effect on CA ($\beta=.083, p=.000$).

Henseler et al. (2009) posit that the predictive power of the structural model relies on its coefficient of determination (R^2) value. The R^2 value must be substantial for the model to exhibit explanatory power. The R^2 values were .517 for EI and .340 for CA, suggesting that the exogenous variables (ESV, ESF, and EI) in this study satisfactorily explained both the endogenous variables.

Based on the effect size (f^2) in Table 4, it can be seen that ESF had a large effect and ESV had a small effect on EN. Lastly, EN had a large effect on CA.

The predictive relevance, Q^2 , value is evaluated using the blindfolding procedure, where structural models with a Q^2 greater than zero are considered to have predictive relevance (Hair et al., 2016). Table 5 shows the Q^2 values for all the endogenous constructs, which establish that the model has predictive relevance.

Table 4
Hypothesis testing

Hypothesis	Path	Standard beta	Standard Error	T-value	P-value	Results	f^2	R^2
H1	ESF → EI	.561	.076	7.341***	.000	Supported	.440	.517
H2	ESV → EI	.231	.09	2.56**	.010	Supported	.075	
H3	EN → CA	.629	.055	11.447***	.000	Supported	.622	.340
CV	FS → CA	.083	.065	1.29	.197	Unsupported	.011	

Note: ** $p \leq .01$, *** $p < .0001$. CV=control variable; CS=firm size; ESF= environmental strategic focus; ESV=environmental shared vision; EI=environmental innovation; CA = competitive advantage

Table 5
Predictive relevance (Q^2)

No	Construct	Q^2
1	Competitive advantage _	.356
2	Environmental Innovation _	.364
3	Environmental Shared Focus _	.330
4	Environmental Shared vision _	.313
5	Firm Size	1

Mediation Analysis Results

The bootstrapping function of SmartPLS 3.0 was again employed to determine the mediating effect of EI between environmental strategies and CA. Table 6 illustrates that both indirect effects had beta values ranging from .353 to .146 and t-values ranging from 5.920 to 2.337, thereby establishing the positive mediating effect of EI and supporting H4a and H4b.

DISCUSSION

Our findings reveal the vital role of EI as a mediating variable that converts the values of environmental strategies into CAs for manufacturers that implement proactive environmental management. Proactive environmental strategies signify firms' successful mitigation of environmental damages, such as solid waste, wastewater, air emissions, hazardous materials,

and environmental accidents (Chow & Chen, 2012; Delmas et al., 2013). These achievements are indirectly linked to customer satisfaction through the latter's concern for environmental protection. Moreover, firms may showcase their environmental performance for regulatory compliance or legitimacy purposes despite limited market orientation. Beyond these uses, firms are expected to lead a CA when they convert environmental capabilities implanted into EI. This is mainly because EI provides the biggest opportunity for companies to create competitive competencies from their proactive environmental investments (Orsato, 2006; Reinhardt, 1998). Eventually, these firms gain a market differentiation advantage through their superior green products or superior environmental reputation (Ambec & Lanoie, 2008; Porter & van der Linde, 1995). Likewise, ENC, through better processes in operations and manufacturing, may reduce operating costs (Ambec & Lanoie, 2008; Porter & van der Linde, 1995), thus granting a cost advantage. Therefore, building strong EI should be the top priority for manufacturers, given its mediating ability to realise CAs from environmental management.

Table 6
Mediation analysis results

Hypotheses	Path	Indirect effects				Results
		Beta	Standard error	t-value	p-value	
H4a	ESF → EI → CA	.353	0.060	5.920***	.000	Supported
H4b	ESV → EI → CA	.146	0.062	2.337*	.019	Supported

Note: * $p \leq .05$, ** $p \leq .01$, *** $p < .0001$. ESF= environmental strategic focus; ESV=environmental shared vision; EI=environmental innovation; CA = competitive advantage.

Ultimately, manufacturers with superior EI tend to derive CAs from their achievements in environmental protection. Underpinned by the RBV (Hart, 1995; Hart & Dowell, 2011; Sharma & Vredenburg, 1998), the mediating role of EI found in this study provides evidence that through such innovations, competitive capabilities arise from manufacturers' environmental strategies. In addition, according to the eco-efficiency concept (Figge & Hahn, 2012; Schaltegger & Synnestvedt, 2002; Wagner & Schaltegger, 2004), the mediating effect establishes EI as the key foundation behind value-based environmental strategies.

IMPLICATIONS AND CONCLUSION

The current study proposed and empirically examined the antecedents of CA from an environmental standpoint. The extant literature has largely focused on evaluating the impact of environmentally derived competitive capabilities on economic performance. Going beyond this view, we articulated the concepts of an environment-driven shared vision and strategic focus and posited them as sources of dynamic capabilities that help firms maintain or enhance their competitiveness. Empirical evidence has thus far failed to validate ESV and environmental management support as environmental capabilities, despite high adoption of these practices among environmentally proactive manufacturers. In this regard, our findings reveal that ESF and ESV serve as environmental capabilities that drive EI. These outcomes, therefore,

offer useful insights for future research to examine the conditions necessary for these constructs to act as environmental capabilities.

Our findings also provide valuable information for manufacturers in crafting their corporate competitive strategies, policies, and action plans. The direct and indirect roles of EI in fostering CAs suggest that manufacturers should prioritise their environmental activities by enhancing innovation outcomes to achieve a successful green business status.

Additionally, EI's mediating mechanism puts forth a strong justification for manufacturers to invest in environmental efforts. This is achievable through a well-crafted environmental strategy and a shared vision within the organisation to ensure that strengths generated from environmental protection practices are translated into EIs. As such, manufacturers should capitalise on green design and green processes for their competitive strategies to achieve financial goals while also fulfilling environmental accountability expectations through environmental performance. This finding is therefore useful to manufacturers in addressing the conflicts between demands for environmental protection and demands for economic returns.

Finally, the findings of this study highlight the possibility for manufacturers to remain competitive by improving efficiency and effectiveness via the integration of environmental considerations at the strategic level. These measures could include the effective use of environmental information,

adoption of eco-control systems, alignment of work culture to environmental directions, and employee empowerment through training programmes that promote environmental learning and creativity. Ultimately, the benefits of an environmental strategic focus and shared vision would be converted into environmental innovation and competitive advantage as a result of the direct effects as well as the indirect effect of environmental innovation in the relationship between environmental strategic focus and shared vision on competitive advantage.

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Relationship between Online Interethnic Interactions on Interethnic Bridging Social Capital: A Study of Academic Staff in Malaysian Private Universities

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ABSTRACT

For decades, the uniqueness of Malaysia's multiethnic, multilingual, and multicultural characteristics have been the focus of thinkers and policymakers in their effort towards nation-building. Such effort has been complemented by the contribution of researchers who provide relevant data and findings. Though the area of interethnic relations and interactions in Malaysia has been well researched, there is a gap in the literature regarding online interethnic relations and its role in bridging social capital. Hence, this study examined the relationship between online interethnic interactions and bridging social capital as well as

the moderating effect of ethnicity among academics in Malaysian private universities. Quantitative data was collected through online self-administered questionnaires with 118 respondents and analyzed using SmartPLS software. The findings revealed that online interethnic interactions were vital in bridging social capital between academic members in private universities. The predictors of online ethnic interaction ($\beta = 0.718$, $t = 15.158$, $f^2 = 1.062$) were found to have a positive relationship with bridging social capital. The R of 0.515 suggesting there is 51.5% of the variation in bridging

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social capital was explained by online ethnic interaction. However, there is no evidence of ethnicity as a mediating role in bridging social capital. The authors argued that the role of private universities in Malaysia as a catalyst towards nation-building should be recognized and leveraged.

Keywords: Academic staff, bridging social capital, interethnic interaction, Malaysia, private university

INTRODUCTION

Strong and conducive interethnic interaction is arguably the foundation of any multiethnic community or nation. The communication motivation and pattern between members of various ethnic groups have been linked to the development of bridging social capital, or a social network between individuals with others of different interests and social backgrounds (Putnam, 2001). Though social capital that is shaped, developed, and maintained based on similarity (bonding capital) is important, bridging social capital is also vital as it allows individuals to leverage on resources and networks beyond their inner circle and promote community identity. Failing to develop such a relationship, not only will the growth of the community be stunted, but members of the community may also experience conflict that could be damaging to themselves and the community as a whole. Thus, it is in the interest of this research to explore the interethnic interaction and their bridging social capital. The fact that bridging social capital may be contributed by formal and

informal social ties, this study was designed to understand interethnic interaction and bridging social capital among academics in private universities. Given the current context of heavy technological reliance, the focus of this study was to uncover online interethnic interactions. The findings of this research provide an important snapshot of the interethnic relations within the segmented population, namely the academics. The role of academic institutions as functional social institutions that shape their students as well as contribute towards nation building makes this study not only timely and relevant, but also important.

Background

Multiethnic Nations, Interethnic Relationship and Interaction: A Malaysian Perspective. The Department of Statistics Malaysia estimated that in 2019, there were 32.6 million citizens in Malaysia with 69.3 percent *Bumiputras* (son of the soil)¹, 22.8 percent Chinese, 6.9 percent Indians and 1 percent combined smaller ethnic groups. The influx of Chinese and Indian immigrants to Malaya during the British colonial era in the 19th century formed the multiethnic society of Malaysia. Hundreds of Chinese men were brought into Malaya by the British government to work in the mines,

1 *Bumiputra* refers to the Malays and indigenous communities in Sabah and Sarawak, but excluded the original people, namely the *Orang Asli* (the original people) of West Malaysia. Non-*Bumiputra* on the other hand, refers to the Chinese and Indians or in general, the non-Malays.

plantations and shops (Andaya & Andaya, 2001; Harper, 1999; Ongkili, 1985), while a large number of Tamil and Telegu men from southern India were brought in to work as cheap labour in rubber plantations (Andaya & Andaya, 2001; Harper, 1999).

The ethnic-based population structure did not only create a multiethnic nation of Malaya but it also contributed to the ethnic tensions and conflict in the later years (Wan, 2020). For instance, Cheah (2004) noted that the census report in 1921 showed that the Malays and other Indonesian-Malays represented 48.8 percent of the total population in Malaya, while the Chinese represented 35.2 percent and the Indians represented 14.2 percent. The increase in the Chinese population was perceived as a threat to the Malay economic and political future and hence created tension between the two ethnic groups. The tension between different ethnic groups in Malaya (later Malaysia) continued during the British colonial era, and subsequently during the Japanese occupation and the Independence of Malaya (Akashi, 1981). According to Shamsul (1998, 1999), the divide-and-rule approach imposed by the British through colonialism changed the Chinese-Malay relationship which worsened during the Japanese occupation. The social categorizations in Malaysia today such as the 'Malays', 'Chinese', 'Indians' and 'Others' are evidence of the legacy left by the British colonial's communal policy. Malaysians were then later segregated into *Bumiputra* (son of the soil) and non-*Bumiputra* after its independence in 1957.

The nature of ethnic-based practices after independence by the political party Alliance (the present *Barisan Nasional*, the National Front)², consisted of the Malay-dominant United Malays National Organization (UMNO), the Chinese-dominant Malaysian Chinese Association (MCA) and the Indian-dominant Malaysian Indian Congress (MIC). The ethnonationalist sentiments held by the respective politicians on communal issues and rights were believed to be among the main contributors to interethnic tension. The problem was exacerbated when the racial card was played during the general elections, for instance, the May 13 racial riots (Ng, 2019; Ong, 1998). According to Andaya and Andaya (2001), the May 13 incident was caused by long-suppressed anger and disappointment due to decades of perceived injustice and discrimination.

Another contributing factor to the ethnic tension is the implementation of the New Economic Policy (NEP) in 1971 that created dissatisfaction among the Chinese and the Indian communities. According to Jomo

² *Barisan Nasional* was known as Alliance before 1974 and consisted of thirteen component parties across Peninsular Malaysia and Sabah and Sarawak. However, in the 14th General Election (GE14) on 9 May 2018, BN was severely defeated by the opposition *Pakatan Harapan* led by the former Prime Minister Mahathir Mohamad. For the first time in Malaysia history, Malaysian and the world witnessed a change of regime and government of Malaysia at the Federal Government level. The current BN component parties had reduced from fourteen to three, namely the UMNO, MCA and MIC as the other component parties have left the coalition after the GE14.

(2004), NEP is an ethnic-based economic policy that favours one ethnic group at the expense of the others. Jomo pointed out that unequal business and job opportunities as well as the practice of the quota systems in public higher institutions, particularly in the public sectors, favored the Malays. This created dissatisfaction among non-Malays and increased inter-ethnic tension. This indicates that it is vital to consider the politics, economy and social context of Malaysia in the study of interethnic relation and interaction in the 21st century as the historical background of the formation of a multiethnic nation more or less contributes to the ethnic tension among different ethnic groups in today's Malaysia.

According to Shamsul (2008), Malaysia is challenged by a 'stable tension'. Although ethnic relations in Malaysia were built upon conscious efforts from all parties especially after the May 13th, 1969, ethnic riot³. One significant example of ethnic tension after the 1969 ethnic riots was the ethnic tensions in 1987 that subsequently resulted in *Operasi Lalang* (Weeding Operation)⁴.

3 13 May 1969 ethnic riots was a communal clash between ethnic Malays and Chinese that broke out in the streets of Kuala Lumpur, leaving hundreds dead. It brought to the suspension of parliamentary rule and for nearly two years, the National Operation Council from 1969 to 1971 governed Malaya

4 In 1987, the appointment of non-Mandarin trained administrators such as principals and senior assistants in Chinese national-type schools sparked criticisms among Chinese educationists and protests by the custodians of Chinese education, *Dongjiaozong* (董教总) and abetted by political parties such

Another example of interethnic conflicts that challenged nation-building in Malaysia was the *Kampung Medan* ethnic clash in 2001⁵. In 2008, the racist remarks toward the Chinese as '*pendatang*' (immigrants) by an UMNO Penang leader was another example that indicated that the inter-ethnic relationship in Malaysia was fragile especially when it was used to provoke citizens by politicians during the elections⁶. However, despite the few interethnic incidences throughout the history of building a multiethnic nation,

as MCA, GERAKAN and DAP. It provoked a counter-rally by UMNO Youth, led by the then-chief Najib Razak, in which about 10,000 people turned up. On 27 October 1987, the Mahathir government announced *Operasi Lalang* and detained 106 Malaysians under the now-abolished Internal Security Act (ISA). The detainees included opposition politicians and civil society activists (Kee, 2012).

5 In March 2001, *Kampung Medan*, Kuala Lumpur ethnic clash broke out after rumors of Malay-Indian fights were spread following the misunderstanding of the incident of a Malay wedding and an Indian funeral. The *Kampung Medan* clashes caused six deaths and other victims suffering from head injuries, slash wounds and broken bones (Chandran, 2002).

6 In 2008, the Penang Bukit Bendera UMNO Division Chief, Ahmad Ismail made a controversial remark and described the Malaysian Chinese as *pendatang* (immigrants) in his speech during the Permatang Pauh by-election campaign. Ahmad Ismail's racist remark was reported by the senior journalist of *Sin Chew Daily*, Tan Hoon Cheng, who was then detained under the Internal Security Act for eighteen hours ("Arrest No. 2", 2008; Teoh, 2012). In this case, the remark hurt the feelings of the Malaysian Chinese in the country.

Malaysia is still considered a stable country in terms of its interethnic relationships.

Among the studies on interethnic relationship in Malaysia include studies from the perspective of affirmative action, namely the New Economic Policy and its impact on the interethnic relationships (Crouch, 2001; Gomez, 2003); interethnic conflict and media framing (Lai & Ishak, 2012) as well as interethnic relations among university students (Katab et al., 2015; Tamam, 2009, 2013; Tamam & Abdullah, 2012; Ting, 2012) to name a few.

Ting (2012) in her article synthesized past research and claimed that interethnic tension among Malaysian public university students was more serious in the sixties compared to the present situation. She argued that between 1967 and early 1970s, there were two main protagonists in Universiti Malaya that were actively involved in campus politics. They were the multiethnic Socialist Club and the Malay Language Society. In addition, the Islamist and intra-Malay communities were also active and their role defined the interethnic dynamic on campus since 1974. Noraini's (2007) study, on the other hand, indicated that the issue of polarization between the two main ethnic groups, i.e. the Malay and the Chinese students in Malaysian public universities has continued as both groups are more prejudiced towards the other group. Thus, it is evident that the multi-ethnic setting of Malaysian society is also reflected in social institutions such as universities. Since there are apparent differences between the public and private universities, the authors

argue that such distinction would translate into different interethnic relationships and bridging of social capital.

The history of Malaysian private universities can be traced back to the mid-1990s during the premiership of Mahathir Muhammad. Scholars argue that this was the period when the government enabled large-capital private sectors to establish private universities in this country (Mujani et al., 2014). In addition, factors such as globalization, modernization, and business collaboration have contributed to the development of private Higher Educational Institutions (HEIs) in Malaysia. Another key point that contributed to the advancement of the private HEIs in Malaysia was the introduction of the Education Act 1996 in replacement of the Education Act 1961. Section 16 of the Education Act 1996 recognizes three types of educational institutions in the National education system, namely, government institutions, government assisted institutions, and private institutions. This Act is seen as a significant part of legislation that allows the private sector to be part of the government for higher education in Malaysia (Mujani et al., 2014).

According to the official website of Ministry of Higher Education Malaysia (n.d.), presently, there are 20 public universities and 437 private higher education institutions (HEIs) in Malaysia. Public universities are fully funded by the government, while the private HEIs are privately-owned, self-funded and run by business entities. Both Public and Private HEIs play equally

important roles in Malaysia's higher education sector. These vast numbers of HEIs provide more opportunities for access to education for both Malaysians and non-Malaysians, offer a wide range of tertiary courses with distinctive routes, and create intense competition between institutions to distinguish between themselves (Ministry of Higher Education Malaysia, 2015). With the abovementioned political, social and educational setting in the Malaysian context, this research was carried out to examine the relationship between online interethnic interactions and the bridging of social capital among the academic staff in Malaysian private universities.

Internet Era and Interethnic Interaction.

Interethnic interaction is crucial in the process of nation-building in a multiethnic society such as Malaysia. It is therefore vital to promote interethnic interaction not only within the physical world but also within the virtual world to avoid unwanted ethnic tensions and clashes. Virtually, the technological advancement and heavy social media reliance by the masses arguably can promote or hinder healthy interethnic interaction.

Based on the latest data by the Department of Statistics Malaysia (2020), 90.1% of the households in Malaysia have internet access. Out of this, 87.1% used mobile broadband, 91.0% had access to smart mobile phones, 97.1% of them participated in social networks and 77.4% of the users telephoned over the internet/VOIP. In terms of number of social network users

in Malaysia, Statista ("Number of social network users", n.d.) reported that there are 31.76 millions active social network users in 2021. According to Müller, (2021), the most popular social media platforms among the Malaysian users in 2020 were Facebook, Instagram, Facebook Messenger and LinkedIn.

The existence of the Internet has changed the communication style and pattern as well as its impact. Numerous studies have been conducted among Malaysians in general and on students and young adults, in particular, in terms of their social media usage pattern, motivation as well as addictive behavior. Scholars tend to also focus on Facebook as the platform of choice due to its popularity among users (Balakrishnan & Shamin, 2013; Lim et al. 2014; Moghavvemi et al., 2017; Wok et al., 2012). Other scholars like Ketab et al. (2019) asserted that the development of the internet and social media has brought a new form and norm of online interaction. The importance of virtual interactions was further studied to test its impact and relationship on one's social capital (Donath, 2007; Ellison et al., 2007, 2011; Williams, 2006). Scholars have found that Facebook usage among Malaysian undergraduates tended to be associated with social capital. It was also argued that the definition of social capital was significantly different in online interaction as it was affected by different socio-cultural issues (Ellison et al., 2007; Wan Jaafar, 2011). In other studies, online interaction through social media was found to contribute towards bridging social capital. For instance, Ellison et al. (2007) found

that Facebook played an important role in the process by which students formed and maintained social capital. Though Phua et al. (2017) also found evidence regarding the role of Facebook on social capital, they asserted that the highest bridging social capital is found among Twitter users, then Instagram, Facebook and Snapchat users.

Interethnic Bridging Social Capital.

To put the discussion of this paper into perspective, a basic understanding of social capital is imperative. Social capital is the resources an individual accumulates through the investment of his/her social relationship. Scholarly literature indicates that social capital has been explored internationally in many fields of study such as sociology, economics, psychology and public health. More specifically, social capital is also used in the research of disaster, social work, oppression of disadvantaged community, social policy, race, ethnicity and so on (Barnshaw & Trainor, 2007; Farrell, 2007; Hawkins & Maurer, 2009; Lin, 2001; Pooley et al., 2004; Roberts, 2004).

The concept of social capital was first developed by Pierre Bourdieu (1930-2002), a French sociologist, as one of the capital dimensions namely economic, cultural and social capital (Siisiäinen, 2000, 2003). Bourdieu defined social capital as the “sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network for more or less institutionalized relationship of mutual acquaintance and recognition” (Bourdieu & Wacquant, 1992, p. 119). Thus, social

capital is based on conflict and structuralist traditions which connect the idea of class and power suggesting that people of a higher class and/or who have more power tend to have a more advantageous position in terms of who they know and develop close relationships with. This in turn would further increase their life chances in contrast to those of a lower class who lack power within the society.

An American sociologist, James Coleman (1926-1995) links social capital to economics and ‘human capital’. According to Coleman (1988), the two broad intellectual streams describing and explaining social actions were from the sociologists’ and economists’ perspectives. The former “sees the actor as socialized and action is governed by social norms, rules and obligations”; while the latter “sees the actor as having goals independently arrived at, as acting independently, and as wholly self-interested” (Coleman, 1988, p. 95). To Coleman (1988), social capital is an important resource for individuals that may affect their ability to act and perceive the quality of life.

The concept of social capital is further popularized by a US Professor from Harvard University, Robert D. Putnam (1993) who defines social capital as the “features of social organizations, such as networks, norms and trust that facilitate action and cooperation for mutual benefit” (p. 35). According to Siisiäinen (2000, 2003), Putnam’s concept of social capital is based on the American theory of pluralism and functionalism in the 1950s. The three

components of Putnam's model were 1) moral obligation and norms, 2) social value (i.e. trust) as well as 3) social networks (i.e. voluntary associations). Putnam's central thesis produced a well-functioning economic system and a high level of political integration, which to Putnam, brought success in the accumulation of social capital (Siisiäinen, 2003).

Siisiäinen (2003) pointed out that Putnam's idea of social capital deals with "collective values and societal integration" (p. 190), while Bourdieu's approach is from the perspective of "actors engaged in struggle in pursuit of their interest". Putnam (2001) further distinguished two basic forms of social capital, namely bonding (exclusive) and bridging social capital. Bonding social capital refers to ties between individuals who come from a similar age, gender and/or ethnic groups where they share little diversity in their background, while bridging social capital refers to creating ties with people from different social groups with different generations, ethnic, age and/or gender. Granovetter (1983) described bridging as 'weak ties' or loose connections between individuals that may provide useful information but not emotional support. In short, bridging social capital enables people from different backgrounds to connect with others within social networks (Granovetter, 1983; Putnam, 2001). In comparison to bonding social capital, bridging social capital is seen as important in a diverse or heterogenous society such as Malaysia as it helps to reduce discrimination (Hammond & Axelrod, 2006).

Previous research on bridging and bonding social capital in Malaysia includes the work of Yokoyama and Ali (2006) who found that bridging and bonding structural social capital affect the productivity of farmers in Malaysia and improve farming performance. Campbell and Yen (2007) compared the association among members of multiethnic and mono-ethnic and concluded that bridging social capital increased trust among multiethnic members. At university level, the multiethnic environment is a reflection of the larger context of the multiethnic society in Malaysia. Ketab et al. (2019) indicated that interethnic social capital among different ethnic groups of students was crucial for the proper functioning of academic institutions. They found that in a diverse community such as Malaysia, ethnocentrism prevents online interethnic interactions, while virtual interethnic interactions contributed to interethnic bridging social capital. Other findings highlighted was that among the Malays, Chinese and Indian ethnic undergraduates, the Indians had higher interest in multiethnic environments compared to the other two groups of students.

Social capital development has been linked to formal and informal social ties. Formal social ties refer to the social bond that develops between individuals due to established aims, appointed roles and structured interactions (Etzioni, 1975). This is often work related interaction, and individuals may even be obliged to interact with others merely to 'get their work done' and to maintain their professionalism.

In contrast, informal social ties refer to relationships that are beyond the organized and structured interaction which is more intimate and personal in nature (Cooley, 1909). Though this is commonly developed within informal settings, it is not uncommon and may even be desirable to certain extent within the formal context such as at the workplace.

Though both online interaction and bridging social capital are not new areas of study, the connection between the two within the context of workplace and academia are limited. The authors argue that the findings from the study of interethnic social capital among academic staff are not only an important contribution to the corpus of knowledge, but it provides useful practical implications in the workplace and is in-line with nation building in general.

Problem Statement of the Study

The diverse ethnic groups in Malaysia have no doubt contributed to the richness of Malaysian society. However, “ethnic differences exist and often manifest in stereotypes, discriminations, tensions and conflicts that complicate the process of building national unity” (Ali, 2015, p. 1). For this reason, harmonious interethnic interactions are strongly stressed by the government and civil societies in Malaysia, and social interactions among the various ethnicities have become a topic of concern (Crouch, 2001; Hirschman, 1986; Shamsul, 1997; Tamam, 2013). This is indeed one of the issues that need to be well understood

so that it can be dealt with effectively and with the utmost sensitivity.

On top of that, bridging social capital is seen as necessary for the better functioning of the social system. Zooming into educational institutions, similar challenges are faced by universities especially within the private sector as they tend to have a more diverse community of students and staff compared to public universities. Malaysian universities are indeed ‘mirrors’ that reflect the larger context of Malaysia’s multiethnic society (Kent, 1996). Studies that focus on ethnicity within university settings in Malaysia tend to focus on students’ perception on the impact of the Ethnic Relations course (Zainal et al., 2010); social integration among multiethnic students (Mustapha, 2009) and the development of higher education in Malaysia in connection with ethnic relation and nation-building (Ibrahim et al., 2011), just to name a few. As limited studies have been conducted to examine the relationship between online interethnic interaction in private universities in general and among the academic staff members in specific, hence, this study aims to address this research gap. In addition, the rise of the Internet and social media has opened more communication channels for interethnic interaction. However, little has been done to examine online interethnic interactions and interethnic bridging of social capital among the academic staff in Malaysian private universities. Hence, this study acknowledges this with the objective of incorporating and integrating this online facet into the study.

Based on the discussion above, the present study was conducted to test the following hypotheses:

H₁: Online interethnic interaction has a positive relationship with interethnic bridging social capital among academic staff.

H₂: Ethnicity significantly moderates the relationship between online interethnic interaction and interethnic bridging social capital among academic staff.

Thus, the conceptual framework of this study is as per Figure 1 below:

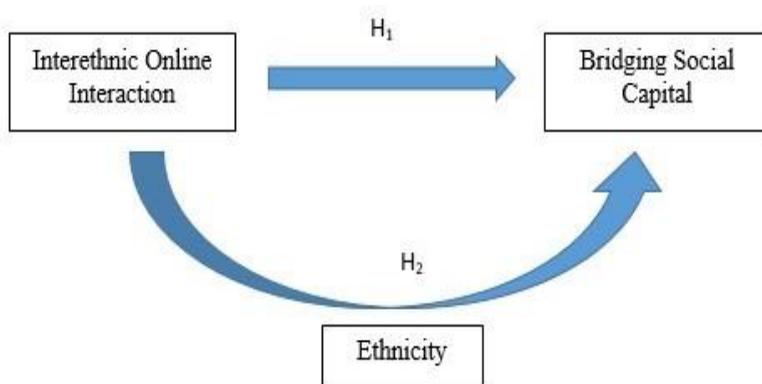


Figure 1. Conceptual framework

METHODS

Participants and Procedure

For the purpose of this research, a quantitative approach was employed via self-administered surveys. The population of the study includes academicians who were teaching at private institutions (IPTS) in Malaysia due to the diverse ethnic nature of IPTS population. The respondents were mainly from 10 Malaysian private universities such as SEGi University, Universiti Tunku Abdul Rahman, Asian Institute of Medicine and Sciences Technology University, Taylor's University, Asia Pacific University, Limkokwing

University, Multimedia University, Manipal International University, UCSI University, and Management and Science University. About 10% of the respondents chose not to disclose their current institutions.

A total of 118 respondents obtained through quota and snowball sampling method. The sample composition consists of 85% female respondents with approximately 34% Malay, 34% Chinese, 28% Indian and 4% of other ethnic groups. The higher distribution of female respondents was contributed by the overrepresentation of female academics and higher cooperation received by the targeted sample. The majority of the respondents (58%) were

between 31-40 years old followed by 25% of them between 31-40 years old, 12% were between 20-30 years old and the remaining were between 51-60 years old.

Instrument

The instrument was adapted from the work of Ketab (2015) as well as Ketab et al. (2016) with a five-point likert scale, ranging from (1) strongly disagree to (5) strongly agree. However, the items were modified to meet the current research objectives and population. For interethnic bridging social capital construct, 15 items were included to test how respondents leveraged on resources from peers of other ethnic groups (Ketab, 2015). Some examples of the items were: 1) I can easily get valuable information from colleagues from different ethnic groups at my workplace, 2) Interacting with colleagues of different ethnic groups at my workplace provide me with different perspectives 3) Interacting with colleagues of different ethnic groups at my workplace help me in terms of social and cognitive growth. The Cronbach alpha of the scale was .933.

For online interethnic interaction construct, 14 items were included to examine respondents' interaction with colleagues of other ethnic groups in cyberspace (Ketab, 2015). Examples of items as included were: 1) I use online media to interact with colleagues of different ethnic groups, 2) I had honest online discussions about ethnic relations with colleagues of different ethnic groups, 3) I had meaningful online discussions about ethnic relations with

colleagues of different ethnic groups. The reliability coefficient of the scale was 0.915.

Both variables' Cronbach Alpha score were more than 0.70, the commonly agreed upon lower limit for social sciences, hence indicating internal consistency among its items (Hair et al., 2010).

Data obtained were further analysed using SmartPLS software. Two types of validity, namely convergent validity and discriminant validity were assessed in the measurement model. The convergent validity of the measurement model was ascertained by examining factor loadings, average variance extracted (AVE), and composite reliability (CR) (Hair et al., 2017).

As shown in Table 1, the factor loadings were all greater than 0.6 as suggested by Hair et al. (2017). The AVE and CR obtained were all higher than 0.5 and 0.7 respectively as suggested by Hair et al. (2017). Two criterions, Fornell-Larcker (1981) and Heterotrait-monotrait (HTMT) (Henseler et al., 2015) were used to assess discriminant validity. The Fornell-Larcker (1981) criterion was examined by comparing the square root of the AVE with the correlations between the constructs. Table 2 shows that all the square roots of AVE (diagonal values) were more than the correlation coefficients between the constructs (off-diagonal values), indicating the discriminant validity was adequate (Fornell & Larcker, 1981). Discriminant validity is established if all the HTMT values obtained are less than the required threshold of HTMT_{.85} (Kline, 2011). As shown in Table 3, all the HTMT

values were less than HTMT_{.85} indicating that discriminant validity is ascertained. The collinearity issue was assessed using variance inflation factor (VIF) with a cut

off value of 5 as suggested by Hair et al. (2017). The VIF value as presented in Table 4 was less than 5 indicating no collinearity problem.

Table 1
Convergent validity

Construct	Item	Loadings	Cronbach's alpha	CR	AVE				
Online ethnic interaction	C3	0.698	.935	0.943	0.524				
	C4	0.689							
	C5	0.779							
	C6	0.847							
	C7	0.852							
	C8	0.845							
	C9	0.852							
	C10	0.625							
	C11	0.684							
	C12	0.709							
	Bridging social capital	B1				0.734	.919	0.932	0.581
		B2				0.786			
B3		0.749							
B4		0.748							
B5		0.796							
B6		0.625							
B7		0.731							
B8		0.718							
B9		0.678							
B10		0.721							
B11		0.623							
B12		0.739							
B13		0.681							
B14		0.735							
B15		0.763							

Note. CR= Composite reliability; AVE = Average Variance Extracted

Table 2

Discriminant validity using Fornell-Larcker Criterion

	Bridging social capital	Online interethnic interaction
Bridging social capital	0.724	
Online interethnic interaction	0.718	0.762

Table 3

Discriminant validity using HTMT ratio

	Bridging social capital	Online interethnic interaction
Bridging social capital		
Online interethnic interaction	0.752	

RESULTS

Structural Model

The structural model was performed using bootstrapping procedure with a resample of 5,000 (Hair et al., 2017) for improving

the accuracy level of the estimation (Figure 2). The structural model assesses all the relationships between the constructs, its corresponding beta and t-values. The results are shown in Table 4.

Table 4

Direct effect

	Relationship	Std. Beta	Std. error	T-value	p
H ₁	Online ethnic interaction -> Bridging social capital	0.718	0.728	15.158**	.000

	Relationship	Decision	VIF	R ²	f ²	Q ²
H ₁	Online ethnic interaction -> Bridging social capital	Supported	1.000	0.515	1.062	0.242

**p < .01, *p < .05

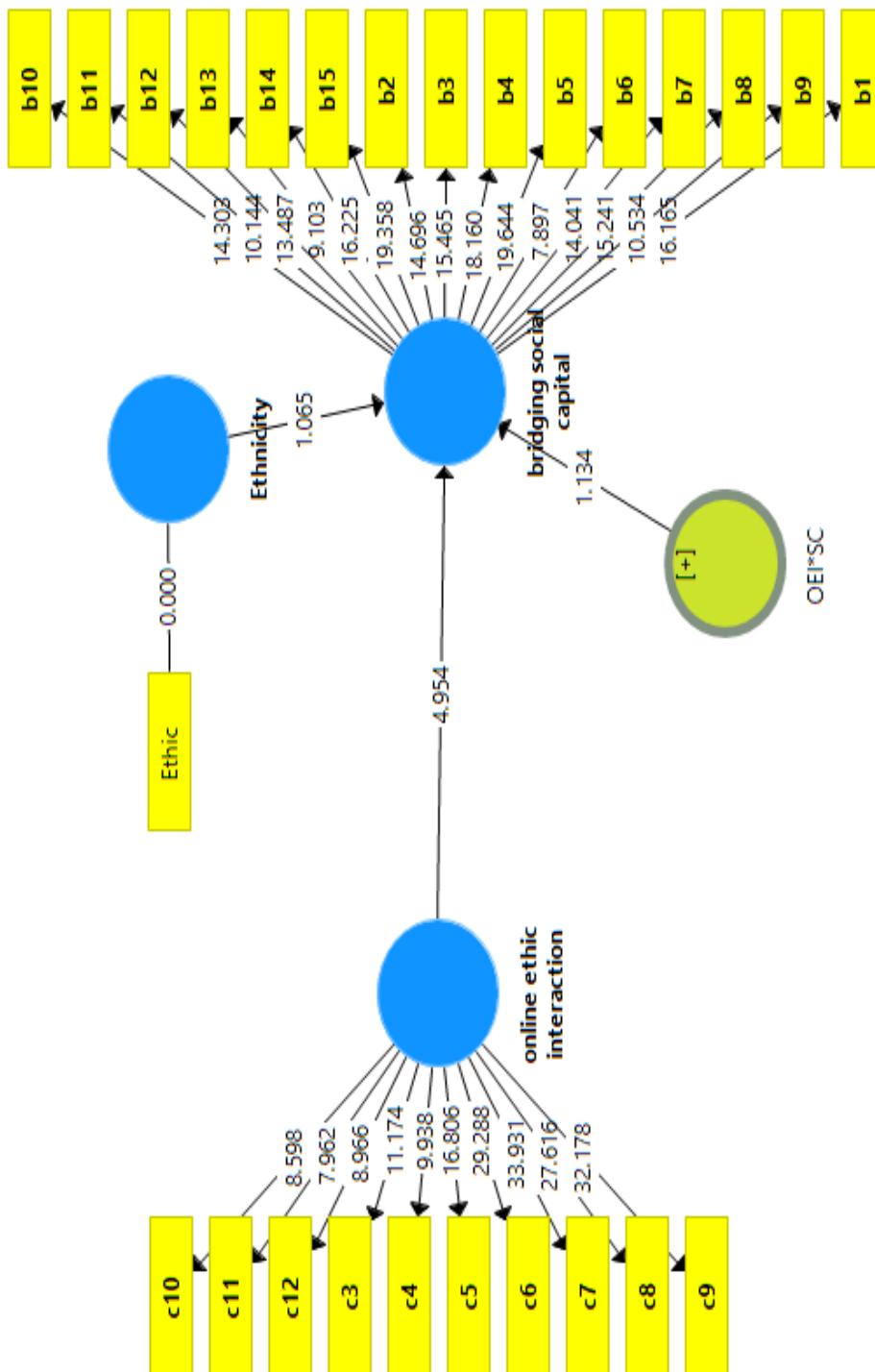


Figure 2. Structural model

The predictors of online interethnic interaction ($\beta = 0.718, t = 15.158, f^2 = 1.062$) were found to have a positive relationship with interethnic bridging social capital. Hence, H_1 was supported. The R of 0.515 suggesting there is 51.5% of the variation in interethnic bridging social capital was explained by online interethnic interaction. In the moderation analysis, this paper employs a two-stage approach as the

moderator was using categorical data in creating the interaction effect. The result in Table 5 shows that H_2 is not significant ($\beta = -0.045, t = 1.134, p = .128$), hence, H_2 is rejected. This finding suggests that there is lack of evidence to support ethnicity as a moderating factor towards the relationship between online interethnic interaction and interethnic bridging social capital. Hence, interaction effect was not performed.

Table 5
Moderation effect

	Relationship	Std. Beta	Std. error	T-value	p
H_2	OEI*Ethnicity -> bridging social capital	-0.045	-0.045	1.134	.128

Relationship	Decision	Confidence Interval (BC)	
		LL	UL
H_2 OEI*Ethnicity -> bridging social capital	Not supported	-0.109	0.020

DISCUSSION

The findings of this research paint an interesting and hopeful picture of the current state of interethnic interaction among the respondents within the private university setting. The significant positive relationship found between online interethnic interaction and the bridging of social capital adds to the list of established social media importance besides its use for entertainment, news acquisition, knowledge sharing, communication, among others.

The interethnic social capital development based on one’s online interaction is not only beneficial for individuals (or in this case the academics) but also to the community that they are a part of. The fact that online communication has been found to serve its role in bridging social capital suggests that the computer mediated technology allows individuals to feel safe behind their keyboards to engage in honest and meaningful discussion including tabooed topics of ethnic relations. Users may also find it easier to connect with others virtually

to discuss personal matters, ask for help or even provide advice to members of different ethnic groups. Perhaps the fear of facing inappropriate physical reaction or the lack of it may contribute towards more open communication online. In addition, the emojis and gifs may further boost online interethnic interaction as it encourages communication and may make serious discussion more palatable.

The online bridging of social capital was also found to have contributed to formal ties between academics in this study. Based on the itemised data, respondents claimed that as part of the work community, the academics who developed interethnic social capital claimed to be able to obtain information easily, engage in healthy work discussion (diverse viewpoint and opinion) as well as contribute towards their social cognitive growth. They also highlighted that they are more willing to engage in diverse interethnic activities designed for staff members, prefer working in multiethnic teams as well as comfortable being members of committees with different ethnic groups. Therefore, the positive correlation does suggest that the online interethnic interaction does contribute towards bridging social capital that is work-based or formally structured. This in turn further draws interethnic interaction both online and offline.

Bridging social capital between academics of different ethnic groups have also been found to benefit them in terms of non-work communities - the informal ties beyond work settings. It is reported that

academics have no qualms in borrowing or exchanging things with one another, they have an impact on each other and trust one another as well. There is a believe that they can rely on each other and would help each other beyond their work obligations. The current researchers believe that this form of bridging social capital is stronger than those previously defined by Putnam (2001). It is not merely the type of social capital for one to leverage on beyond their inner circle but it is this type of bridging social capital that develops and maintains interethnic relationships and communities.

The fact that ethnicity was not found to have a moderating role between online interethnic interaction and bridging social capital, the authors argued that these academics have moved from bridging to what can be termed as 'traverse social capital' - where the individuals have moved across the bridge to develop interethnic relationship but have yet to develop a 'familial' bond between members of different ethnic groups. Though the initial interaction may be due to the formal arrangement at the workplace, the further interethnic interaction has enabled the academics to develop stronger bonds but not on the basis of their ethnic membership, but rather based on their work teams, committees, non-academic activities and affiliations.

Contextualizing the findings within the broader multiethnic setting, the private universities possess two characteristics that play an important role in promoting interethnic bridging of social capital, unlike other spheres and settings within the

Malaysian context. The first is the perceived level of opportunity for teaching positions and promotion among academics in private universities creates competition between ethnic groups upon entering the university. This is unlike the quota system for staff and students in certain public universities. Secondly, there is not much avenue to promote ethnocentrism within private universities, at least explicitly. Diversity is often emphasized and celebrated as a marketing selling point within these institutions. This can be contrasted to racial-based clubs and activities in some public universities or racial-based politics and post-colonial divide-and-rule social and economic initiatives within the larger Malaysian context that may pose as a challenge for interethnic bridging of social capital. Thus, the authors argue that the role of private universities as a catalyst to multiethnic nation building cannot be ignored as they are also seen to be among some of the functional social institutions we have today.

CONCLUSION

The findings of this research support the hypothesis that online interethnic interaction has a positive relationship with interethnic bridging of social capital among selected academic staff in Malaysian private universities. The significant relationship can be attributed to the computer mediated platform of interaction that they engaged in as well as the formal and informal ties that they have developed. However, ethnicity was not found to have a moderating role

between online interethnic interaction and interethnic bridging of social capital relationship among the academics.

The lack of support towards ethnicity as the mediating role is believed to be due to other similarities such as teams, committees, non-academic activities, and affiliations, hence contributing towards social capital development - not ethnicity. The authors have put forth another form of social capital, termed as 'traverse social capital' to explain the type of bond that the academics have developed beyond Granovetter's (1983) 'weak ties' of bridging social capital. It is believed that in this study, the academics have developed more valuable interethnic relationships than as mere working colleagues or networks. However, this does not go beyond the point of strong 'familial' bonds between them.

The authors believe that further exploration on 'traverse social capital' will be imperative to better understand the how's and when's the respondents 'crossed over' through their narratives in order to compare between traverse and bonding social capital. The latter tends to be linked to the bond developed by members of the same ethnic groups. Future research may also want to explore other mediating roles such as online group membership or non-work activities. These findings suggest an optimistic picture of a strong and healthy interethnic relationship within the academic communities in Malaysia. It is hoped that the potential of private institutions towards strengthening multiethnic nation building is fully realized and utilized.

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Using Context Clues in Determining Contextual Meaning of Arabic Words

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ABSTRACT

Language context plays an important role in determining the meaning of a word. To understand its meaning, it is imperative that context be considered. Today, many students have difficulty understanding the meaning of Arabic words as they are unable to understand the context. However, words, phrases or sentences in a text can serve as a guide or clue to understand the meaning of unknown words. This is termed as context clues. This study aims to identify how context clues help students determine the contextual meaning of an Arabic word. Their understanding process is analysed from the critical discourse analysis perspective using a three-dimensional model introduced by Fairclough (1989). This study was conducted using a questionnaire and interviews with twenty undergraduates studying Arabic language from five Malaysian universities. Five Arabic words were selected from five news texts quoted from the Arab news portal al-Ra'i (<http://alrai.com/>); covering sports,

economics, politics, social and technology. The words selected have many meanings, depending on the context of the sentence. Students must determine the meaning contextually by stating the context clues in the text that guided them. The findings show that context clues can help students understand the meaning of Arabic words and enhance their understanding based on its sentence context.

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INTRODUCTION

The meaning of a word in a text or discourse cannot be obtained lexically or merely by one meaning but needs to take into consideration its contextual features (Abdul Jabar, 2011). Understanding the meaning of vocabulary based on a linguistic context means that a word has its meaning understood in the context of a sentence and in the grammatical structure based on the rules and principles of grammar (Requejo, 2007) or the connection of meaning with other words (Benjamin & Crow, 2009). According to the views of the anthropologist, Hall (1974), relating to context, he stresses that “information taken out of context is meaningless and cannot reliably interpreted” (p. 21). This statement shows that in speech or text there are three main aspects that must be present: information, context, and meaning.

When faced with a text or discourse, at least 98% of the total words in the text should be read for the purposes of understanding (Carver, 1994; Hsueh-chao & Nation, 2000). Difficulties understanding the message and important content will arise if there are many unknown words. Understanding the meaning of a word can also be achieved using the contextual clue found in a text. This can refer to any word, term, phrase or sentence found in the text from the perspective of structure, grammar or syntax. Harris and Hodges (1995) define contextual clue as the reading strategy used to determine the meaning of an unknown word by obtaining assistance from words, phrases, sentences or illustrations that provide an idea directly or indirectly

about the meaning of that word. It may be more effective for the reader to start with the process of using the contextual clue to identify a word as it is then easier to build the meaning of the word (Allen, 1998). Contextual clue can also help create interaction between the reader and the text which can help support the process of determining the meaning of the unknown word (Hibbard, 2009). Hence, information that provides the real meaning, or words in sentences is known as context clue (Mansor & Abdul Jabar, 2019).

Learning Arabic language has a long history in Malaysia, however, according to research the level of language skill among students is still unsatisfactory (Baharum & Samah, 2015). Students who pursue the Arabic language course in the institutions of higher learning especially non-native speakers are observed to experience difficulties in commanding the language. Their weakness in understanding the Arabic language vocabulary is worrying (Hasmam et al., 2017).

Educators should also emphasise the contextual feature in understanding the meaning of vocabulary. In linguistics, context plays an imperative role in clarifying the true meaning of a word. Sometimes the context cannot be seen clearly and obviously, as it is hidden between the words and vocabulary found in the text (Dash, 2008). Hence, one has to read the entire text when faced with many unknown words. One can then deduce the meaning of the word based on the correct and accurate context of the sentence.

To resolve the problem which exists in the study of languages, especially the Arabic language, we view that one of the alternatives is applying the use of contextual clues in determining the contextual meaning of an Arabic word. Hibbard (2009) opines that one of the effective techniques to aid the process of understanding the meaning of difficult vocabulary is based on the clue or guide found in the context of the sentence. The information which supplies the meaning of the word is known as the context clue. This context clue can consist of one or more words, phrases, declarative sentences, definitions, synonyms, antonyms and others. Hasnam (2012) is of the view that the strategy of understanding the meaning of vocabulary by way of context clue is especially important and should be given the appropriate emphasis.

Context clue also enables increased knowledge regarding the meaning of new words through reading. This was supported by the research findings by Yuen (2009) which show that the use of context clue is able to improve understanding the meaning of new words while reading a text or discourse. Mahmoud (2016) also conducted research on how context clue can help in the reading process of students undertaking the *English as a Foreign Language (EFL)* course. The findings indicate that the students show a gradual improvement in using context clue and giving clearer meaning to unknown words.

Objectives

The main objective of this study is to identify the role of context clues in determining the

contextual meaning of Arabic words among students. More specifically, the study sought to:

1. Identify the contextual meaning of Arabic words that students understand from their context clues.
2. Analyse the linguistic processes involved in understanding the contextual meaning of Arabic words based on Fairclough's three-dimensional model.

METHODOLOGY

This research is in the form of a qualitative research conducted using the field study method. This study involved 20 undergraduate students majoring in Arabic language in 5 Malaysian universities: Universiti Putra Malaysia (UPM), The National University of Malaysia (UKM), Islamic Science University of Malaysia (USIM), University of Malaya (UM) and Universiti Teknologi Mara (UiTM) Shah Alam. The findings were analysed using descriptive analysis to explain the use of context clue in determining the meaning of the Arabic word by the student. A model from the critical discourse analysis field was applied in this research; the three-dimensional model pioneered by Fairclough (1989), which connects the text or discourse with the social process experienced by the reader.

Research Data

Research data was obtained from a questionnaire and interviews of respondents conducted in the Malay language. In conducting this study, we also collected

research data from books, journals and theses. Five Arabic news texts were taken from an Arabic online news portal, al-Ra'i (<http://alrai.com>). Part of the rationale for choosing this news portal is that it uses the fusha or standard Arabic language, which is easily understood by various levels of society. This news portal also presents various local and international current issues.

To simplify the analysis process, the coding method was used. The five Arabic words selected and tested were labelled with the code "P". The code "R" was used for the respondents.

Research Theory

The research of discourse analysis based on this context clue uses the three-dimensional model framework introduced by Fairclough (1989). This model views text based on three dimensions, which are text, discourse practice and social practice.

The first dimension is text, which is analysed linguistically by looking at the vocabulary, sentence, and semantic features. Fairclough also observed cohesion and coherence, how the word or sentence is combined to form a meaning. The second dimension, which is discourse practice, is connected to the production and consumption of text used to analyse the process of the text's production and interpretation by the reader. Fairclough explained that the interpretation procedure is divided into two parts which are interpretation of text and context. The third dimension is called social practice which is the dimension that connects the first and second dimensions with the process experienced by the recipient of the text. This dimension proves that the discourse is part of social practice.

The three dimensions developed by Fairclough can be depicted in Figure 1.

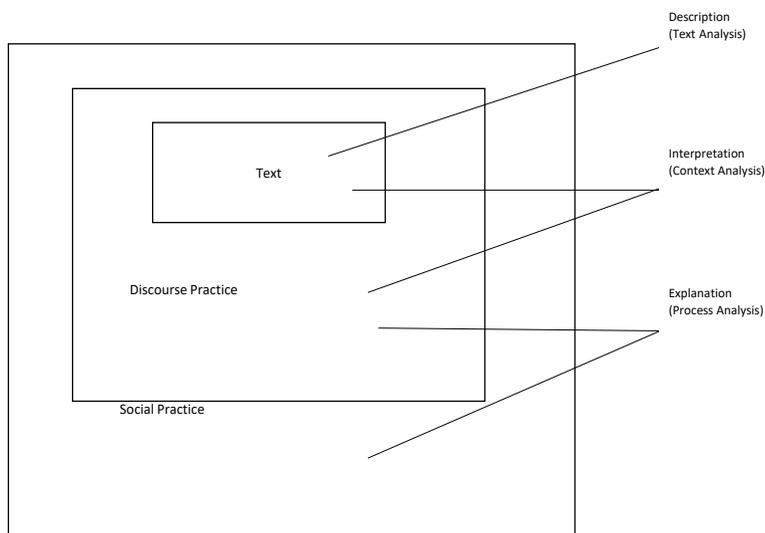


Figure 1. Fairclough's Three-Dimensional Model (1989)

RESULTS AND DISCUSSION

The analysis of the research data will discuss the results obtained from 20 respondents regarding the process of determining the meaning of the Arabic word based on context clues. The findings will be explained using the Fairclough three-dimensional model framework. We will explain the textual and discourse practice dimensions relating to the determination of the meaning of the word contextually based on the context clue. In the social practice dimension, we will explain the process the student underwent to determine the context clue and the meaning of the word tested.

Analysis of Textual Dimension

This first dimension focuses on the linguistic features found in a discourse or text. Here, we will only focus on the semantics feature which is the meaning of the word determined contextually by the respondent based on the word tested. Five Arabic words change meaning when placed in a different context of sentences. The respondent answers have been classified and shown in Table 1.

Based on the answers for P1, most respondents were able to provide the accurate meaning which is “*gol*” [goal] as interpreted by R10, R18, R19 and R20. Whereas R01, R03, R04 and R05 added the word “*menjaringkan*” [scored], a verb usually paired with the word “*gol*” in football terminology. Some respondents R02, R06, R07, R08, R09, R11, R12, R13, R14 and R15 explained “*هَدَفَ*” using the original meaning which is “*tujuan*” [purpose] or “*matlamat*” [objective]. That

meaning can also be applied, as “*gol*” becomes the objective or main purpose to win a football match. R16 and R17 gave the meaning “*sasaran*” [target] and “*target*” that can also be referred to as “*goal*” in this context although not exact in the context of the actual sentence as the word “*هَدَفَ*” is the dependent word to “*التَّقْدِيمُ*” which means “*early goal*”.

The contextual meaning for P2 varied. Most respondents gave the meaning “*dedah*” [expose] with different prefixes and suffixes. The word “*dedah*” in the original text means “*open*” and “*uncovered*”. R01, R03, R14 and R15 gave the meaning “*pendedahan*” [exposure] whereas R02, R04, R05, R06, R07, R08, R13, R18 and R20 defined “*تَعَرَّضَ*” as “*terdedah*” [exposed]. One respondent, R10, gave the meaning in English, “*exposure*”. All these are accurate based on the context of the sentence in the actual text. Some respondents gave different but almost similar meaning to “*dedah*” such as “*paparan*” [display] as given by R09 and R12 whereas R16 gave “*memaparkan*” [displays]. According to *Kamus Dewan* (2005), both these meanings have the meaning *mempamerkan* [to display] or *mendedahkan* [to expose] something so that it can be seen. Another contextual meaning given by R17 was “*dipamerkan*” [on display] which means showing something to the public. However, this word is mostly used for competition or demonstration. R19 defined “*تَعَرَّضَ*” as “*terpampang*” [clearly seen] which means the same as displays. Another respondent, R11, gave a different meaning from the others, which is “*tersebar*” [distributed].

Table 1
Respondent answers for contextual meaning of word

Respondent (R)	Arabic Word	Contextual Meaning of Word				
		P1	P2	P3	P4	P5
01	هَفَفَ	<i>Menjaringkan gol</i> [Scored a goal]	<i>Pendedahan</i> [Exposure]	<i>Penasihat</i> [Adviser]	<i>Mendapat kenaikan</i> [Obtain increase]	<i>Perhatian</i> [Attention]
02	تَعَرَّضَ	<i>Bertujuan</i> [Purpose]	<i>Terdedah</i> [Exposed]	<i>Penasihat</i>	<i>Menyelesaikan</i> [To solve]	<i>Kepentingan</i> [Importance]
03	مُسْتَشَارَ	<i>Menjaringkan gol</i>	<i>Pendedahan</i>	<i>Penasihat</i>	<i>Purata</i> [Average]	<i>Menitikberatkan</i> [Emphasise]
04	شَوْرَى	<i>Menjaringkan gol</i>	<i>Terdedah</i>	<i>Penasihat</i>	<i>Purata</i>	<i>Fokus</i> [Focus]
05	اَهْتَمَامَ	<i>Menjaringkan gol</i>	<i>Terdedah</i>	<i>Penasihat</i>	<i>Purata</i>	<i>Memfokuskan</i> [Focuses]
06		<i>Matlamat</i> [Objective]	<i>Terdedah</i>	<i>Menantu</i> [Daughter/ Son in law]	<i>Mencecah</i> [Reaches]	<i>Perhatian</i>
07		<i>Matlamat</i>	<i>Terdedah</i>	<i>Penasihat</i>	<i>Kenaikan</i> [Increase]	<i>Kepentingan</i>
08		<i>Matlamat</i>	<i>Terdedah</i>	<i>Presiden</i> [President]	<i>Penyelesaian</i> [Solution]	<i>Kepentingan</i>
09		<i>Tujuan</i> [Purpose]	<i>Paparan</i> [Display]	<i>Perunding</i> [Consultant]	<i>Penyelesaian</i>	<i>Mementingkan</i> [Stress importance]
10		<i>Gol</i> [Goal]	<i>Exposure</i>	<i>Adviser</i>	<i>Penyelesaian</i>	<i>Kepentingan</i>

Table 1 (Continued)

Respondent (R)	Contextual Meaning of Word				
	P1	P2	P3	P4	P5
11	<i>Tujuan</i>	<i>Tersebar [Distributed]</i>	<i>Maklumkan [Inform]</i>	Penyelesaian	<i>Mementingkan</i>
12	<i>Tujuan</i>	<i>Paparan</i>	<i>Perunding</i>	<i>Penyelesaian</i>	<i>Perhatian</i>
13	<i>Tujuan</i>	<i>Terdedah</i>	<i>Perunding</i>	<i>Penyelesaian</i>	<i>Perhatian</i>
14	<i>Tujuan</i>	<i>Memberi pendedahan [Provide exposure]</i>	<i>Perunding</i>	<i>Penyelesaian</i>	<i>Perhatian</i>
15	<i>Tujuan</i>	<i>Pendedahan</i>	<i>Perunding</i>	<i>Penyelesaian</i>	<i>Perhatian</i>
16	<i>Sasaran [Target]</i>	<i>Memaparkan [Displays]</i>	<i>Penasihah</i>	<i>Penyelesaian</i>	<i>Perhatian</i>
17	Target	<i>Dipamerkan [On display]</i>	<i>Penasihah</i>	<i>Baki [Balance]</i>	<i>Perhatian</i>
18	<i>Gol</i>	<i>Terdedah</i>	<i>Penasihah</i>	<i>Menstabilkan [Stabilises]</i>	<i>Kecaknaan [Caring]</i>
19	<i>Gol</i>	<i>Terpampang [Clearly seen]</i>	<i>Penasihah</i>	<i>Penstabilan [Stabilization]</i>	<i>Kepedulian [Care]</i>
20	<i>Gol</i>	<i>Terdedah</i>	<i>Penasihah</i>	<i>Kompromi [Compromise]</i>	<i>Kepedulian [Care]</i>

For P3, most gave the contextual meaning “*penasihat*” [adviser] as stated by R01, R02, R03, R04, R05, R07, R16, R17, R18, R19 and R20. Whereas R10 gave the same meaning in the English language. The adviser in this text refers to the person advising the president of Israel, which is Donald Trump. The other respondents, R09, R12, R13, R14 and R15 gave the meaning for “مُسْتَشَار” as “*perunding*” [consultant]. One respondent, R08, determined it as “*presiden*” [president] which also means a leader or one with authority to give advice. R11 responded in the form of a verb “*maklumkan*” [inform] which refers to the duty of an adviser in the text. Only one respondent, R06 gave a different contextual meaning, which is “*menantu*” [daughter/son in law]. As for P4, the contextual meaning determined differed. Frequently given was “*penyelesaian*” [solution] as stated by R08, R09, R10, R11, R12, R13, R14, R15 and R16. R02 gave the same meaning with different affixes which is “*menyelesaikan*” [to solve]. Three respondents gave close meanings, they were R01; “*mendapat kenaikan*” [obtain increase], R06; “*mencecah*” [reaches], and R07; “*kenaikan*” [increase]. These three meanings revolve around the price increase of crude oil stated in the original text. Next, R03, R04 and R05 defined the word “تَسْوِيَةٌ” as “*purata*” [average] which is the most accurate meaning in the context of the actual sentence. R18 and R19 provided “*menstabilkan*” [stabilize] and “*penstabilan*” [stabilization]. Both mean the same with different affixes, which is a

situation that does not change or fluctuate; that meaning can be connected to the price of crude oil. Only respondents R17 and R20 determined a different contextual meaning, which is “*baki*” [balance] and “*kompromi*” [compromise].

The respondents were able to provide the accurate contextual meaning for P5 because the meaning determined was almost the same. The meaning provided most is “*perhatian*” [attention] as stated by R01, R06, R12, R13, R14, R15, R16 and R17. The next is “*kepentingan*” [importance] as provided by R02, R07, R08 and R10. Both these words have the same meaning. R09 and R11 also gave the meaning from the base word “*penting*” [important] with different affixes which is “*mementingkan*” [stress importance]. Whereas R03 and R05 determined the meaning of “إِهْتِمَامٌ” as “*menitikberatkan*” [emphasizes] and “*memfokuskan*” [focuses]. These three verbs mean the same, but the original word in the text is in the form of a noun (*isim*), not a verb (*fi'il*). R04 responded with “*fokus*” [focus] which shows a noun, suitable with the placement of the original word in the Arabic text. R19 and R20 defined P5 as “*kepedulian*” [care] which is a synonym for “*perhatian*”. Similarly, the contextual meaning as stated by R18, “*kecaknaan*” [caring] which comes from the word “*cakna*” [care] which is about caring and attention.

Analysis of Discourse Practice Dimension

This second dimension will focus on how

the student interprets the meaning of the Arabic word by using the context clue found in the discourse or text. Fairclough explains that the interpretation procedure in this dimension is divided into two parts, which are interpretation of text and context. Therefore, we connected the context clue with the determination of the correct contextual meaning of the word by the respondent as shown in Table 2.

In any dictionary, the word “هَدَفُ” (P1) means purpose or objective. However, in sports, it means scoring a goal, as understood by the respondent. There are several words, phrases or sentences found in the text which became context clues for the respondent to determine the contextual meaning of this word. As stated by R08, R09, R12, R14, R17 and R19 they connected the word found after it to obtain the true contextual meaning. The word “هَدَفُ التَّقَدُّمِ” which means early goal is a dependent word or called “الإِضَافَةُ” in Arabic language grammar, which are two nouns combined and depend on one another in determining its meaning. “التَّقَدُّمِ” which means advance was seen as the clue for the respondent to match its meaning with goal. R08, R10, R13, R16 and R20 chose the sentence “تَبَادَلَا الهِجَامَاتِ” which means “exchanging attacks” as context clue. This showed that the respondent is capable of understanding the situational context in the sentence and connects it in the process of determining the meaning of the word after it which is “هَدَفُ”. In the context of football, exchange of attacks between two teams is solely for the purpose

of scoring a goal, as the text narrates that the Chelsea and Manchester United teams exchanged attacks to obtain the early goal. Five respondents, R01, R03, R04, R05 and R06 chose the sentence found before P1 which is “مُنْذُ أَوَّلِ الدَّقِيقَةِ”. This proved that the respondent is able to find the connection between the sentences “since the first minute” with “early goal” in the context of football news. Sentences found in the text play a crucial role in helping the reader find the clue or context clue in determining the meaning of an unclear or unknown word. According to R15 and R18, the word “المُبَارَاةِ” which means “match” became the context clue for understanding the meaning of “scoring a goal” in the text. The last clue is the sentence “لِيُنْتَهِيَ الشَّوْطُ” as stated by R02 and R11 which means “to end the first minute”. The respondent was able to understand the contextual meaning of P1 by referring to the sentence after the word being tested in the original text.

For P2 which is the verb “تَعَرَّضَ”, the respondents provided context clues according to their individual understanding. The context clue most frequently chosen by R03, R04, R05, R08, R09, R12 and R17 was the sentence “أَنْ يَدْخُلُوا مِنْ خِلَالِ فَيْسْبُوكْ” which means “logging in through Facebook”. This sentence appears after the word “تَعَرَّضَ” that can become a declarative sentence which explains about certain webpages that request the user to sign in using their Facebook page to save time while accessing certain user information. For R01, R02 and R07, the phrase “فِي الأَحْيَانِ” meaning “sometimes”, became a clue to understand the contextual

Table 2

Context clue used by respondent

Arabic Word (P)	Respondent (R)	Context Clue
P1 هَدَفُ	08, 09, 12, 14, 17, 19 08, 10, 13, 16, 20 15, 18 01, 03, 04, 05, 06 02, 11	التَقَدُّمُ تَبَادُلًا هَجَامَاتِ المُبَارَاةِ مُنذُ أَوَّلِ دَقِيقَةٍ لِيُنْتَهَى السَّوْطُ
P2 تَعَرَّضَ	03, 04, 05, 08, 09, 12, 17 01, 02, 07 10, 16, 20 14, 15, 19 06, 13 11, 18	أَنْ يَدْخُلُوا مِنْ خِلَالِ فَيْسْبُوكِ فِي الْأَخْيَانِ مُخْتَوِيَاتِهَا فَيْسْبُوكِ عَلَيْهِمْ العَرُضَةَ
P3 مُسْتَشَارٍ	02, 03, 04, 05, 06, 08, 10, 12, 13, 14, 15, 16, 17 01, 07, 19, 20 11, 18 09	صَهْرُ الرَّئِيسِ تَرْمَبِ جَارِيذُ كُوشَنَرِ مَبْعُوثُهُ Person dealing with a party
P4 تَسْوِيَةَ	02, 03, 05, 07, 08, 09 01, 06, 17 04 10, 12, 13, 14, 15, 16, 20 18, 19 11	الْأَمْسُ إِرْتِفَاعًا بِنِسْبَةِ 0.9 بِالْمِئَةِ إِرْتِفَاعًا 0.9 بِالْمِئَةِ وَحَقَّقَ النَّقْطَ الْخَامُ لِيَسْتَأْيِبَ صُغُودَهُ عِنْدَ
P5 اِهْتِمَامٍ	01, 02, 03, 04, 05, 08, 11, 12, 13, 14, 15, 16, 17 19, 20 07, 18 06 09, 10	أَجْبَالُ الْجَدِيدَةِ لَا نَقْفَدُهُ مَسْحُ التُّرَاثِ New generation must be sensitive Heard before and often used

meaning of “تَعَرَّضَ” which shows that not all webpages have this request. Several respondents, R10, R16 and R20 determined that the word “مُحْتَوِيََاتِهَا” which means “its contents” refers to user information. As understood by these respondents, by registering to enter the webpage using Facebook, the user will then automatically disclose their personal information to that webpage. There were also respondents, R14, R15 and R19 who chose the word “فَيْسُبُونَكُ” as the context clue. The word is after P2 and became the clue to understand the meaning of “تَعَرَّضَ” that is connected to Facebook. Whereas respondents R06 and R13 viewed the word “عَلَيْهِمْ” that appears immediately after P2 as the context clue for understanding said meaning. The personal pronoun or *dhamir* “هِمْ” on the word refers to the user of the webpage that is meant in the actual text. R11 and R18 have mentioned the base word for “تَعَرَّضَ” which is “الْعُرْضَةُ” which means “target” as the context clue. Although the meaning is not in line with the contextual meaning required, the respondent is able to understand the meaning of P2 in a manner which is out of context but unable to adapt to the context of the actual sentence. The word early on in the sentence, “تَعَرَّضَ”, became the clue that explained about certain webpages that required the user to set up an account and sometimes the user is requested to log in using their Facebook page which could expose their personal information.

The next word, P3, was “مُسْتَشَارٌ” which means “adviser”, that refers to

the right-hand man to President Trump. According to R02, R03, R04, R05, R06, R08, R10, R12, R13, R14, R15, R16 and R17 the phrase “صَهْرُ الرَّئِيسِ تَرْمَبُ” which means President Trump became the context clue to determine the meaning of “مُسْتَشَارٌ”. An adviser is an individual or a group that has the skills in an area of expertise which is used for a certain purpose by the organisation or company. This differed from R01, R07, R19 and R20 who referred to the name of the adviser, “جَارِيدُ كُوشْنَرُ” as the context clue. Jared Kushner is an individual who holds the position of adviser to President Trump. The next context clue mentioned by R11 and R18 is “مُبْعُوْثُهُ”, “*duta besar*” [ambassador] which means “*wakil yg dilantik secara sah atau dihantar (oleh kerajaan, pertubuhan, firma) ke negara asing*” [a representative appointed legally or sent (by the government, association, firm) to a foreign country] (*Kamus Dewan*, 2005). The respondents chose the word found after the word tested to understand its contextual meaning. Both the adviser and the ambassador are responsible in matters relating to diplomatic relations and are the right-hand persons to President Trump. R09 defined it as “person dealing with a party” and can also be referred to as an adviser in news text. This showed that the respondent was able to use existing knowledge to understand the contextual meaning of the tested text.

The fourth word tested is “تَسْوِيَّةٌ” which means “average” in the original news text. Several respondents, R02, R03, R05, R07, R08 and R09 chose the

sentence after the word tested which is *“الأمس إرتفاعًا بنسبة 0.9 بالمئة”*. This sentence explains the overnight price increase of 0.9 percent. This declarative sentence became the clue for the respondent to understand the contextual meaning of P4. For R01, R06 and R17, the context clue stated is *“إرتفاعًا”* which means “increase”, refers to the price of crude oil. Whereas R04 chose the value of the increase, which is *“0.9 بالمئة”* or 0.9 percent. For R10, R12, R13, R14, R15, R16 and R20, the sentence that became the context clue is *“وَحَقَّقَ النَّفْطُ الْخَامَ”*. This is the beginning of the sentence that mentions the increase of crude oil in America and gave a clue to the respondent for the contextual meaning of P4. R18 and R19 stated that the sentence *“لِيَسْتَأْنِفِ صُعُودُهُ”* which means “to continue its increase” as the context clue. This sentence also appears after the word *“لِيَسْتَأْنِفِ صُعُودُهُ”* and the respondents were able to connect this declarative sentence to determine its meaning. For R11, it was the word *“عِنْدَ”* meaning “at”, that refers to the time the increase in crude oil occurred, which was yesterday.

For the final word tested, different context clues were given to understand the contextual meaning of *“إِهْتِمَامَ”* (P5) which means “attention” in the news text. Among the context clues that assisted the respondents is the term *“أَجْيَالُ الْجَدِيدَةِ”* as stated by R01, R02, R03, R04, R05, R08, R11, R12, R13, R14, R15, R16 and R17. This term means “new generation” which no longer value cultural activities

that have been handed down for generations but instead value more modern activities. Whereas R19 and R20 chose the sentence *“لَا نَفَقَدُهُ”* which means “it is not lost” which refers to cultural activity. This sentence can become the context clue by referring to the preceding sentence where the Minister of Culture recommends for more programmes focusing on cultural heritage so that it is not lost with time. R07 and R18 viewed that the context clue is the sentence *“مَسْخُ الثَّرَاثِ”*. The view by R06 was different, who stated that “new generation must be sensitive” as the context clue where this sentence refers to the sentence after the word tested. As for R09 and R10, they only used their personal experience as context clue as they have heard the word before and used it often in learning the Arabic language.

Based on this, we can conclude that the respondent is able to use the words and sentences found in the text to become context clues for understanding the contextual meaning of Arabic words tested. Respondents need not refer to the dictionary as the clue or guide found in the text helps extensively in determining the meaning which is unclear or unknown. Since this study observes the extent context clues can assist the respondent in determining the contextual meaning of the Arabic word, we did not evaluate the grammatical correctness of the answers.

Analysis of Social Practice Dimension

This third dimension is the final analysis in the framework and involves the process of critical explanation. We will explain

the student's understanding process in determining the contextual meaning of the Arabic word based on the context clues found in the five news texts. The student goes through the process of looking for context clues, interpreting as well as determining whether the meaning of the word is suited to the context of the sentence. We will also explain the importance of the context clue in assisting in the search for the meaning of the word contextually. The interview method was used to more clearly understand the process where the student interacts with the text and the context clue in the Arabic language.

Methods of Obtaining Context Clue in the Text. We would like to understand the ways the respondent looks for or obtains context clue in the text. Context clue can be referred based on a word, term, phrase, sentence and so on to assist the respondent to obtain the clue to understand the meaning of a word. The findings of the research by Kanatlar (1995), show that predicting the meaning of the word through context clue is the most popular strategy among students.

Referring to the Word Before and After. We found that obtaining the context clue by referring to the word before and after is the technique most used by the respondents. The word or sentence before and after the Arabic word tested plays a vital role in assisting the student understand the meaning required. The word or sentence that becomes the context clue can be categorised as a

synonym, definition, term that is often used in daily life, a declarative sentence and so on. The before and after word and sentence then becomes a clue and connected to the context and meaning of the sentence that is to be conveyed.

(R01) "Knowing the meaning of the **word before and after** the keyword, and then matching the meaning of the word with the narration context in the text"

(R03) "By looking for the meaning of the word which is not understood and then identifying the **sentence before and after** said word"

(R04) "I will look for the word that has a connection to it or by looking or reading the **sentence before or after** it"

(R10) "Seeing or referring to the **sentence before and after** a meaning to understand the purpose of the essay"

(R17) "By understanding the **sentence before and the sentence after** it. If not able to, I will try to adapt according to the title of the text given"

(R20) "Refer to other **words** present **before or after**"

Besides referring to the word or sentence before and after, respondents also tried to find the connection between the sentence and the word with the Arabic word tested as stated below.

(R05) "Refer to a **related sentence** with the same meaning either before or after the relevant sentence"

(R16) "Looking at the **related word or sentence** that brings meaning to the said word"

There were also respondents who referred to other words which explain the word being tested.

(R07) “**Look for the context clue that explains that word** or the word refers to a context clue”

Understanding the Context of the Sentence.

The context of a sentence plays an important role in determining the meaning of a word as the meaning changes when placed in a certain context. The research findings by Çetinavcı (2014) show that a sentence rich with context enables the student to correctly guess the meaning of the word. Respondents also used the context of the sentence to find the clue when trying to understand the meaning of the Arabic word tested.

(R11) “Looking at the **context** of the sentence and the important content of the text”

(R19) “By looking at the **context** similarities being discussed in the text.”

Understanding the Meaning of the Word.

To understand the meaning and message conveyed by a text, mastery of the vocabulary and understanding the meaning of the word are important. There were respondents who obtained the context clue by understanding the meaning of either the word being tested or the word before or after it.

(R09) “Try to understand the title and try to **understand several words or sentences** in the quotation”

(R12) “**Understand the meaning of the word** or text”

Some respondents referred to the words that they already know the meaning to assist.

(R02) “Look for **the word already understood** and the word that can help me know the meaning of the word”

However, some respondents chose to directly understand the meaning of the context clue in the text as stated.

(R08) “**Understand the context clue** in the text”

Understanding Overall Text.

Mastery of vocabulary enables the reader to understand the implicit and inferred in the text. According to Bromley (2000), vocabulary is presumed the main contributor to understanding, fluency, and attainment in a text. In this study, some respondents understood the text as a whole to obtain the context clue to determine the contextual meaning of the Arabic word tested.

(R14) “Try to **understand the overall text**”

(R18) “I will **read the entire text** and understand the gist”

Other Alternatives. Other alternatives used by the respondents to obtain the context clue included using the Google Translate application.

(R06) “I will look for the meaning of the word from **Google Translate**”

The respondent not only obtained the answer instantly, but also obtained a clue or context clue based on the translation provided.

Alternatively, there were those who discussed with friends to look for the context clue in the text.

(R13) “**Asking friends** and try to invite them to discuss about what the excerpt is trying to say or convey”

Yet another alternative used by the respondent is by looking for the subject and predicate or *mubtada' wal khabar* in a sentence.

(R15) “I look for *mubtada' and khabar* in a sentence”

Importance of Context Clues

Based on the study conducted, context clues can help the respondent in determining the contextual meaning of the Arabic word in the text. Although given the option to refer to the dictionary, respondents were able to determine the meaning of said word by only referring to the word and sentence found in the text. The view of Hibbard (2009) states that one way to support the development of vocabulary and assist the reader is by identifying new words and mastering the search for meaning by using context clues. The importance of context clues presented by the respondents includes enabling clear understanding of the meaning of the word, knowing the different meanings of a word, able to master meaning based on context and able to easily understand the entire text.

Clearly Understand the Meaning of the Word. Besides referring to a dictionary, the respondent can use the context clue to help know and understand the meaning of an Arabic word clearly as stated below.

(R03) “Context clue is very important for **understanding the meaning of a word** as it helps to facilitate **if there is no**

dictionary or any reference. For example, when answering a question during an examination”

(R16) “I am of the view that context clues are very important in determining the meaning of a word especially **when there is no dictionary**. This way is very helpful in **understanding the word** or sentence that is not known”

Using the context clue also saves time when looking for the meaning of the word without having to refer to other sources.

(R14) “In my view, context clue is very important in determining the meaning of a word as it is easy for me to **understand a word more accurately and quickly**”

(R02) “Important to make it easy for me to **understand the text quickly** without referring to any online and offline dictionaries.”

Some students assumed that context clues are extremely important in determining the meaning of a word or sentence, as they were then able to understand the intended message of the entire text as stated by the respondent:

(R06) “Important, because if one does not **understand the meaning of the word**, he will change the meaning of the Arabic text”

Nevertheless, there were views that if one is unable to understand the meaning of the context clue accurately and correctly, it can lead to a meaning that is inaccurate and incorrect.

(R08) “Very important because if we **misunderstand the meaning of the context clue** then **the meaning of the word is also wrong.**”

(R13) “By **understanding the context clue**, I can guess the **meaning of a word** and **sometimes not accurately**”

Know the Various Meanings of the Arabic Word According to Context. When communicating in Arabic language text, the reader is unable to determine the meaning of a word without looking at the context of the sentence in the text. This is because it changes according to the situational context in a specific condition. Most students were of the opinion that context clues are particularly important in understanding the meaning of an Arabic word as most words have multiple meanings.

(R09) “Indispensable because one word or sentence **has many meanings.**”

(R15) “Context clue in determining the meaning of a word is very important because the Arabic language is a unique language where one word **can have various meanings** but depending on the context of that sentence”

(R12) “Essential because the **meaning of the word** is sometimes **different according to the text**”

(R10) “Important, because there are **various meanings** in one word or sentence”

(R01) “Context clue is very important to determine the meaning of something because without context clue, **the meaning of that word can change** or is different and can change the meaning of the text”

(R18) “Important in understanding what is being narrated and discussed in the text. This is because every text has a

different context. So, it is very important to **determine the context to determine the meaning of a word**”

Besides being able to adapt the variability of meaning of the Arabic words with the context of the sentence, the students were also of the view that context clues can provide understanding so that the meaning chosen does not affect the true meaning of the sentence and can determine the accurate contextual meaning.

(R17) “It is very important because a word **can change meaning according to the context** of the sentence. It will become different if literally translated. So, having the context clue, it will help me to adapt the meaning with the context of the sentence”

(R20) “The importance of the context clue in determining the meaning of a word because incomprehension of context **can affect the accuracy of translating the meaning** and may be different from the intended true meaning”

(R07) “Context clue is very important because if we only translate a word without referring to the context clue. Most probably will be **wrong in translating** that word”

Convey the Meaning of the Entire Text.

The main component when reading an Arabic text is understanding the entire text. When one is able to accurately know the meaning of the word and sentence in the text, then one will easily understand the meaning of the entire text. Students recognised that using context clues helps them understand the meaning of the word based on the context of the sentence and

subsequently to master understanding the entire text.

(R11) “Able to **convey meaning** to the reader”

(R19) “Context clue is important in **determining the direction of the intended text**”

(R04) “Context clue is very important for me because it is **easy for me to understand the entire text** when I face the problem of not having a dictionary”

(R05) “For me the context clue is very important because it makes it easier for me to **understand the sentence of the entire text**”

Based on the analysis of the social practice dimension, we can conclude that the student is able to benefit from the context clues found in the text to determine the meaning of the Arabic word tested. Several methods were practiced in obtaining the context clue, including referring to the word before and after as well as understanding the context of the sentence. Other alternatives included using the Google Translate application, discussions with friends and looking for the *mubtada' wal khabar* in the sentence.

CONCLUSION

This study is an attempt to understand the relation between context clues and contextual meaning of Arabic words in order to help learners understand the real message behind a text. Most students pursuing the Arabic course or subject were only able to understand the meaning of the word lexically

without considering the context features in a sentence or text. Therefore, context plays a very important role in learning Arabic language (Abd Rahman & Abdul Jabar, 2014). The learning and teaching techniques for the Arabic language should vary and not focused merely on syntax and morphology. This is important to inculcate interest as well as improve the mastery and understanding of the student, including introducing the context clue technique.

The use of context clues plays a role in assisting the student determine the meaning of an Arabic word accurately and correctly based on the context of the sentence and the text as a whole. This method is still not fully practised in the study of Arabic language in Malaysia as most students still rely on dictionaries or online translation applications. We have high hopes that this study will open the eyes of the educators as well as other researchers of the Arabic language to increase the effort to benefit from context clues in the learning session whether in or outside the classroom. Improvement in terms of creativity and the method of using this context clue can be studied in greater detail until such time it is able to have a positive impact on the development of Arabic language in Malaysia.

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Annexes

Sports News Text

(T1) تشيلسي يتأهل إلى نهائي كأس الاتحاد الإنجليزي

انتزع الفريق تشيلسي اليوم الأحد بطاقة التأهل إلى المباراة النهائية لبطولة كأس الاتحاد الإنجليزي لكرة القدم. وتغلب تشيلسي على ساوثهامبتون بهدفين دون رد في المباراة التي أقيمت بينهما على ملعب "ويمبلي" ضمن منافسات المربع الذهبي للبطولة. بذلك، سيواجه تشيلسي في المباراة النهائية للبطولة نظيره مانشستر يونايتد يوم 19 مايو/ أيار المقبل. جاءت المباراة سريعة وحماسية من جانب لاعبي الفريقين، تبادلًا للهجمات منذ أول دقيقة في رحلة بحث عن هدف التقدم، وتوالت الفرص الضائعة من الجانبين لينتهي الشوط الأول بالتعادل السلبي.

<http://alrai.com/article/10433992> (22.4.2018)

Technology News Text

(T2) خطأ كبير يفعله كثيرون من مستخدمي فيسبوك

نبه باحثون رقميون من جامعة برينستون، مؤخرا، إلى أن تسجيل الدخول لبعض المواقع الإلكترونية بحسابات فيسبوك، وهو أمر يفعله كثيرون، يزيد العرضة للقرصنة وخرق البيانات على منصة التواصل الاجتماعي. وتطلب بعض المواقع من مرتادها أن ينشئوا حسابات حتى يصلوا إلى بعض محتوياتها، لكنها تعرّض عليهم في الأحيان أن يدخلوا من خلال فيسبوك، حتى يختصروا الوقت. وبحسب ما نقله موقع مجلة "بي سي ماغزين" عن الباحثين، فإنه حينما يدخل المستخدم إلى موقع ما عبر التسجيل بحسابه في فيسبوك، فإنه يكون قد أتاح لأطراف ثالثة أن تصل إلى معلوماته دون أن يظن إلى ذلك.

<http://alrai.com/article/10434248/> (24.4.2018)

Political News Text

(T3) واشنطن تستعد لنشر (صفحة القرن) بعد رمضان

كشفت صحيفة «يديعوت أchronوت» الإسرائيلية، أمس السبت، أن إدارة الرئيس الأميركي دونالد ترمب، تستعد لنشر خطته للسلام بين الفلسطينيين والاسرائيليين الشهر المقبل، أي بعد فترة وجيزة من شهر رمضان بالتحديد. وأضافت الصحيفة، أن المعلومات نُقلت عن خمسة من المسؤولين في الإدارة ومساعد في الكونغرس، وأن معدي الخطة الرئيسيين، صهر الرئيس ترمب ومستشاره جاريد كوشنر ومبعوثه للشرق الأوسط جيسون جرينبلات، شرعا بالفعل في سرية في إبلاغ بعض الحلفاء والشركاء بعناصر الخطة.

<http://alrai.com/article/10437481/> (20.5.2018)

Economic News Text

(T4) ارتفاع أسعار النفط

ارتفع الخام الأميركي إلى مستوى 71.35 دولار للبرميل من مستوى الافتتاح 71.15 دولار، وسجل أعلى مستوى 71.41 دولار، وأدنى مستوى 70.78 دولار. وصعد خام برنت إلى مستوى 78.85 دولار للبرميل من مستوى الافتتاح 78.40 دولار، وسجل أعلى مستوى 78.90 دولار الأعلى منذ 25 تشرين الثاني 2014، وأدنى مستوى 78.09 دولار. وحقق النفط الخام الأميركي عند تسوية أمس ارتفاعاً بنسبة 0.9 بالمئة، ليستأنف صعوده الذي توقف يوم الجمعة مؤقتاً ضمن عمليات التصحيح من أعلى مستوى في ثلاث سنوات ونصف 71.86 دولار للبرميل، وصعدت عقود برنت بنسبة 2.0 بالمئة، بأكبر مكسب يومي منذ 18 نيسان.

[http://alrai.com/article/10436962/\(15.5.2018\)](http://alrai.com/article/10436962/(15.5.2018))

Social News Text

(T5) وزير الثقافة يكرم الشاعر الهقيش

أكد وزير الثقافة نبیه شقم على أهمية إبراز تراث البادية الأردنية بكافة أشكاله من خلال النشاطات الثقافية التي تؤكد على أصالته، ومن خلال المشاريع التي تعنى بمسح التراث وتدوينه حتى لا نفقده في ظل اهتمام الأجيال الجديدة بكل ما هو حديث. وقال شقم خلال استقباله الشاعر صالح الهقيش الذي حصل على المركز الخامس في برنامج المسابقات الخاص بالشعر النبطي «شاعر المليون» أن ما تحقق هو منجز أردني، ويعكس التجربة الشعرية، والثقافة الواسعة والتي تجلت في الموضوعات التي تطرق إليها «الهقيش» في قصائده.

[http://alrai.com/article/10437022/\(16.5.2018\)](http://alrai.com/article/10437022/(16.5.2018))



Analysis on Adjective *Suki* and Its Co-occurrences in Japanese Youtube's Comment

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ABSTRACT

Youtube is one of the most famous video-sharing and social networking platforms in the world. Due to its comment section function, Youtube also plays a role in describing the perception and reaction of the general public. This study aims to examine the discourse prosody found in the adjective *suki* and its co-occurrences. This is a mixed-method research where corpus linguistics is used for quantitative data analysis and, discourse prosody for the qualitative method. The Youtube comments chosen are five videos from Japan's number one Youtuber, *Hajimeshachoo* in January 2020. Only the first 24 hours comments were picked. The findings show that the adjective *suki* is the most significant

na-adjective used in the Youtube comments gathered. *Na*-adjective mainly co-occurred with an adverb that modified the adjective *suki* mostly to elevate the sense of likeness, adoration, or fondness of the content and/or creator of the video. The adjective *suki* can have both positive and negative discourse prosody depending on its co-occurrence.

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INTRODUCTION

Background of Study

Currently, Youtube is the largest video-sharing site, and has also become a social website where viewers and video creators could interact. Youtube provides a comment section for every video that enables people of different language backgrounds to communicate on various topics. In Japan, Youtube has a high number of users. According to Japan's Ministry of Internal Affairs and Communications (2018), 92.2% of respondents in their 20s and 88.4% of respondents in their 30s use Youtube as their social media in 2016. Macromill Co. Lt. (2017) stated that 97.8% of respondents of their survey use Youtube, dominating over other online video spaces like Niconico Douga and Dailymotion.

Youtube offers numerous social tools for community interaction, as well as the opportunity to comment on published videos and, also to rate comments from other users (Siersdorfer et al., 2010). Similarly, Youtube Japan comments sections display various types of comments from positive to negative. Previous studies show that Youtube comments display a wide range of human behavior through its linguistic aspect of written text. These comments demonstrate both negative and positive emotions, tones, and behaviors. According to Tsou et al. (2014), Youtube commenters tend to be more emotional in leaving either positive or negative comments when speaking about the content of a video. Besides, due to the existence of 'thumbs down' button, the offensive or inappropriate

Youtube comments that the viewers posted are usually kept unnoticed (Siersdorfer et al., 2010).

According to Siersdorfer et al. (2010) and Zaikovskii (2019), an adjective is one of the most notable lexical found in Youtube comments. Siersdorfer et al. (2010) explained that an adjective is used to write a comment that may aggravate strong responses of approval or denial in the Youtube community. However, many papers involved in the study of adjectives in Youtube focus on their analysis on English language (Shiryayeva et al., 2019; Siersdorfer et al., 2010; Zaikovskii, 2019) creating a gap in research on other languages. Thus, this research aims to examine the adjectives within Youtube Japan comments section.

Besides, Youtube researchers who used corpus linguistics as their instrument of study mainly analyzed a large number of words or huge English corpora (Schmidt & Marx, 2019; Shiryayeva et al., 2019; Zaikovskii, 2019) instead of focusing on a specific word (or also known as Key Word In Context (KWIC) in corpus linguistics) and its co-occurrences. These studies of English language in Youtube focused either on Multimodal of Discourse Analysis (Darvin, 2019; Schmidt & Marx, 2019; Zappavigna, 2019), communicative strategy (Shiryayeva et al., 2019), code-switching (Darvin, 2019), or non-verbal (Feng et al., 2020).

Despite the attention given by these scholars on Youtube, recent researchers have yet to explore how semantic of a specific word is perceived positively, negatively, or

neutrally (discourse prosody¹) within the Youtube discourse. This study attempts to fill the gap by identifying the discourse prosody of the adjective and its co-occurrences within Youtube Japan comments section in January 2020. The novelty of this research is determined by its focus on Japanese language from the perspective of a foreigner and the use of corpus linguistic in Japanese language within the research environment of Malaysia. Lastly, it is vital to look at language materials involving Youtube as an information and communication phenomenon, branching this research into the various social science field, specifically linguistics (Shiryaeva et al., 2019).

The purposes of this study are (1) to examine the frequency of adjectives within Youtube Japan comments section in January 2020, and (2) to study the discourse prosody of the adjective and its co-occurrences within Youtube Japan comments section in January 2020.

Japanese Adjective

There are mainly 3 types of adjectives in Japanese language; (i) *i*-adjective, also known as *keiyoushi*, (ii) *na*-adjective, also called *keiyoudoushi* (Bunt, 2003), and (iii) *no*-adjective. *Na*-adjective is an adjective that ends with the *hiragana* letter *na* when used as a modifier in front of a noun. However, when used at the end of the sentence, suffix *na* is removed, for example,

1. *Kirei na heya*
Clean room
2. *Ano heya wa kirei desu.*
That room is clean

Na-adjective contains words that have adjectival meaning, however, they are also similar to nouns grammatically, thus they are also known as nominal adjective (Kaiser et al., 2013). Meanwhile, *no*-adjectives are words that have adjectival meaning, but, grammatically behave like nouns and they are attached with grammatical particle *no* before a noun when modifying it (Kaiser et al., 2013). An example of *na*-adjective and *no*-adjective given by Bunt (2003) can be seen below:

1. *Nihon no kuruma*
Japanese car
2. *Yuumei na joyuu*
Famous actress

Besides, noun can be transformed into *na*-adjective through the use of suffix *~teki* before a noun, for example, the noun *kihon* (foundation) transform into *na*-adjective *kihon teki* (fundamental) thus,

1. *Kihon no ruuru*
The rule of foundation
2. *Kihon teki na ruuru*
The fundamental rule

Na-adjective also can be used as an adverb in sentences by replacing the suffix *na* with the grammatical particle *ni* as below,

1 Discourse Prosody, also known as semantic prosody is the function of discourse that discovers the hidden attitudinal meaning and the objective of choosing a lexical item (Hamdi, 2018).

1. *Kihon teki ni watashi wa eiga ga suki desu.*

Fundamentally, I like movies.

Thus, it is important to understand that *na*-adjectives also have other grammatical functions in Japanese. This must be truly understood when examining data to ensure that *suki* and other adjectives that are chosen truly function as an adjective in the sentence.

LITERATURE REVIEW

Previous Studies on Youtube

Mohsin (2020) stated that Youtube has 2 million users with 90% of its United States users being within the age of 18-44. With this large number of users, Youtube comments can be an indicator of human behavior in the real world as it provides information and reasons for its viewers to share what they know or what they think. Previous researches also have focused on human behavior through their investigation on Youtube comment section. They narrowed their study to a certain aspect of human behaviors or emotions and many discovered how Youtube comments revealed the public's attitude, opinion, and tones towards certain content of Youtube videos.

Miller (2015) investigated how grief and any other related emotions were expressed in Youtube comment section regarding the Sandy Hook and Aurora Shootings, and Hurricane Sandy videos. He examined 2,207 comments within the first 1 month since these three events videos were posted on Youtube. The videos were chosen randomly and were analyzed quantitatively

using Stimulus Sampling. He concluded that comments on Youtube are similar to how grief is expressed in the real world and comments on man-made disaster videos (especially when children are involved) has more positive emotions, strong grief and warmth expressions with little hostility and discussions about negative social policies or any related topics than of natural disaster.

Siersdorfer et al. (2010) have analyzed qualitatively and quantitatively the distribution of comment ratings and its relation with sentiment values of terms and differences. They aimed to understand the possibility to predict the community feedback for comments by analyzing 6 million comments and comment rating behavior from 67,000 Youtube videos. They discovered that politics videos have more negative rated comments, however, music videos have the most positive comments compared to other categories. Thus, they concluded that different categories of video attract different types of users, consequently, producing different rating and sentiment values of comments.

Meanwhile, Tsou et al. (2014) have investigated the differences in the TED Talk viewers' comments on different TED Talk presenters that were posted on TED websites and Youtube. This study was done in two stages where each stage consists of Codebook, Coding, and Analysis; Stage one examined whether commenters engaged with the topic in the video, and Stage two refined these comments to investigate their behavior and attitude towards the video. Out of 1202 videos, the comments of 405

TED Talk videos in the field of Science and Technology were chosen and analyzed statistically. The findings revealed that around 72% of the comments talked about the content of the TED Talk videos. Only 12.3% of the 72% aimed to spark further discussion about the speaker or the video content. In contrast, only 56% of TED Talk Youtube commenters talked about the content of the video but among the 56%, commenters on Youtube, 24% encouraged communication between commenters, which is higher than that of the TED Talk website.

More recent studies made by Schmidt and Marx (2019), and Zappavigna (2019) examined Youtube using Multimodality with a different objective and types of video. Schmidt and Marx (2019) aimed to describe the intricate Youtube communication by outlining the framework of participation and explaining systematically vital elements that are part of a YouTube corpus using the discovered conceptual outline. Meanwhile, Zappavigna (2019) aimed to investigate the connection between people and their domestic objects in decluttering undesired items vlogs on YouTube. Despite both examining using Multimodality, Schmidt and Marx (2019) looked into Youtube's 'Let's Play' videos, and Zappavigna (2019) investigated beauty videos. Zappavigna (2019) concluded that people expressed relief and find decluttering in vlogs on Youtube to be personally transforming as these objects that were decluttered are important to these vloggers' feelings of self-worth and happiness. Meanwhile, Schmidt

and Marx (2019) discovered that Youtube is multimodal and data collected in Youtube need to be in either a single component (like video) or/and how it is connected to surrounding elements (like the video embedded in a webpage).

Previous studies have shown that Youtube comment section contains a diverse form of interaction that reacts and responds to different categories of video (Miller, 2015; Schmidt & Marx, 2019; Siersdorfer et al., 2010; Tsou et al., 2014; Zappavigna, 2019). Different types of video unveiled different written communication of how an individual and collective community feels about the topic discussed. However, viewers who watched the same video also displayed different aspects of emotions and attitudes. Besides, the previous studies revealed, mainly using statistics, that through Youtube comments, public current and future action can be predicted and the factors that affect public views can be identified.

In previous work, research studies have been done mainly using a quantitative approach, namely statistical analysis (Miller, 2015; Siersdorfer et al., 2010; Tsou et al., 2014). Due to a large body of data, a more objective approach is justified for being more suitable. However, the quantitative approach alone is insufficient as a more in-depth investigation is crucial to comprehend human behavior linguistically. Thus, in more recent studies, scholars are starting to use qualitative method in analyzing the linguistic aspect of Youtube.

Other previous studies also looked at the whole written comments in general and

not on a specific aspect of the comment (Feng et al, 2020; Miller, 2015; Schmidt & Marx, 2019; Siersdorfer et al., 2010; Tsou et al., 2014; Zappavigna, 2019). They also focused more on the social part of the comments rather than the linguistics like Schmidt and Marx (2019) looked into the social semiotic of Youtube, meanwhile, Feng et al. (2020) examined the non-verbal communication aspect. Generally, majority of previous studies shifted from quantitative approach to qualitative approach when analyzing Youtube discourse, but, they mainly revolved around English language. Due to how Multimodal Youtube is, many academic aspects are yet to be discovered and among them is the study on the linguistic aspect of other languages than English. Therefore, this study aimed to bridge these gaps by providing a qualitative approach in investigating Youtube comments written in Japanese language.

Previous Studies on Adjective in Online Content

Adjective plays a crucial role in describing and/or modifying nouns by attributing and qualifying them (Jitpranee, 2017; Khamying, 2007). However, in his study on English adjectives in online comments of Algerian English speakers, Belfarhi (2019) discovered that adjectives are used in different forms by combining them with non-linguistics forms (emoji) and how they did not function as a modifier to nouns. The Facebook comments posted by these non-native English speakers majorly consist of attributive adjectives together with non-linguistic elements like emoji.

Adjectives also work as a persuasive method by describing the characteristic of something or someone. Unlike research papers, adjectives are used in popular science articles to mainly express scientific knowledge to readers as the meaningfulness of the articles depends on how attractive, readable, and accessible they are (Jitpranee, 2017). However, Marzá (2011), through her corpus analysis of adjectives in hotel advertisements, discovered that unlike the common belief of advertisements contains high use of the adjective, hotel advertisements use a subtle amount of adjective as it is discovered that evaluative adjective is not even half the number of adjective in the corpus. Marzá (2011) explained that an excessive number of adjectives in advertisements have a reverse effect on potential customers. A small number of adjectives are sufficient in making the reader or viewer understand the persuasive message that hotelier wants to deliver.

When teaching English language to non-native English speakers, especially school graders, adjectives play a vital role in composing sentences to express their ideas effectively. If used correctly, adjectives could amplify the delivery of an idea or build a strong argument. Nevertheless, Gan (2014) revealed that adjectives are used as compensation for being less proficient in English among students. The less proficient a student is, the more he or she tends to use a large number of adjectives as pre-modifier in a noun phrase. However, these students will gradually able to use a more complex

adjective, like derivational and participial adjectives, as they advance to a higher grade.

Based on all these studies, the main function of an adjective is to describe an idea or information to serve a certain purpose of its writer or speakers. Adjectives are used in many different texts online despite the writer's proficiency in English language. Corpus is also used as the main method in examining adjectives and they are commonly analyzed using quantitative approach. There is a requirement for research on adjectives to be done as it enables us to take a glimpse of human behavior especially online where there are no external elements (like body language) that can assist in delivering information more effectively. Thus, this study has highlighted the issue of how adjectives are used online and how they can become an indicator of human behavior. This issue is an opportunity for researchers to dig even deeper in linguistics online and to investigate part of the public's attitude on certain topics arise.

MATERIAL AND METHOD

Research Design

The research design used in this study is quantitative for the first research question and qualitative method for the second research question. Quantitative is defined as a research method used to explain phenomena through the collecting of numerical data which then, are analyzed using mathematic-based-methods,

particularly statistics (Creswell, 1994), and qualitative is defined as a multi-method that involves an interpretative or naturalistic approach to subject matter related (Denzin & Lincoln, 2005). The use of different approaches in this study is because the desired outcomes focus on two different things; frequency and discourse prosody. The quantitative approach is used to prove that there are a significant number of adjectives used in Japanese Youtube's comment and the qualitative approach is used to look into the discourse prosody of Japanese adjectives in Youtube's comment.

The research design of this study has adopted the idea of corpus linguistic in analyzing discourse prosody as discussed by scholars like McEnery and Hardie (2012) as well as Sinclair (2003). One of the critics in discourse prosody is how intuitive and introspective its analysis method. To overcome this critic, the analysis must be done with larger data using a computational method like corpus (Alcaraz-Mármol & Almela, 2016; Channell, 1999; Fox, 1998; Hoey, 2005; Widdowson, 2000). Alcaraz-Mármol and Almela (2016) discussed that Sinclair (2003) had suggested discourse prosody must be investigated using corpus-analytic methods as it enables researchers to observe special meanings (which is not associated with dictionary but more towards preference and evaluation) of words that co-occur together. Thus, this study used this approach by utilizing corpus to gather the co-occurrences of the adjective *suki* and look into discourse prosody.

Instrument

The instrument used in this study is a corpus software called Sketchengine. In the website, Sketchengine is defined as an instrument that contains text analyzing algorithms to examine how language works by investigating any emerging usage within a language. This website is designed specifically for linguists and lexicographers to analyze words, phrases, or phenomena in the format of Word Sketches, concordances, or word lists. Besides that, Sketchengine is suitable for this study as it supports the Japanese writing system and can be accessed easily through <https://www.sketchengine.eu/#blue>.

Sample and Data Collection

The sample of Youtube comments is extracted from a Japanese Youtube channel calledはじめしゃちょー *hajimeshachoo* which is the number one Youtube channel in Japan. *Hajimeshachoo* is an entertainment channel that tries weird experiments and has 9.1 million subscribers as of February 2021. 5 random videos of his were chosen and the first 24 hours comments are recorded. The videos chosen were:

1. 【100,000lm】世界1明るいライトを鏡の部屋で使ってみた
【100,000lm】 *sekai 1 akarui raito o kagami heya de tsukatte mita.*
([100,000 lm] Trying to use world brightest torchlight in a mirror room)
2. 700万円の買い物をしてしまった。
700 man en no kaimono o shite shimatta.
(Shopping with 7 million yen)

3. 2020年は1年間〇〇します。
2020 nen wa 1 nenkan 〇〇shimasu.
(Doing _____ within the year 2020)
4. サウナの入り方
Sauna no hairikata.
(How to get into a sauna)
5. 録音した音声っぽく電話したら100%録音だと思う説wwwww
Rokuonshita onsei ppoku denwa shitara 100% rokuonda to omou setsu wwww
(Do people think my voice is a recording if I pretend to be a recording in phone call experiment Hahahaha)

All these videos were uploaded and viewed in January 2020. All the comments were collected and uploaded to a corpus website called Sketchengine. Through Sketchengine, the words in the comments were categorized, and to validate as well as triangulate the data, the words are double-checked through dictionary and had been scrutinized in the sentences they are in. Besides, the findings were transcribed using Hepburn Romanization to assist non-Japanese speakers in understanding the analysis.

Data Analysis Method

The data analysis for the first research question is done by using descriptive analysis. Descriptive analysis is simply used to describe samples in researches to identify causal effects (Loeb et al. 2017). The frequency of adjectives in Youtube comments was recorded and presented

using tables and pie charts to emphasize the number and percentage of data collected. Besides, descriptive analysis was also used to list the co-occurrences found with adjective *suki* which was also presented in a table. The span of co-occurrence chosen depends on the word list given by Sketchengine and the syntax structure of sentences.

The discourse prosody of the adjective *suki* and its co-occurrences found in the sample was examined to identify whether their connotation is positive, negative, or neutral. Positive discourse prosody is when the adjective *suki* and its co-occurrences are used to describe positive emotions or display positive images, however, negative discourse prosody is when the adjective *suki* and its co-occurrences are used to describe negative emotions or display negative images. Neutral discourse prosody is when the meaning does not stand in either negative or positive.

According to McEnery and Hardie (2012), words or phrases have negative or positive discourse prosody when they co-occur with units that have positive or negative denotations. Thus, to answer the second research question, the co-occurrences of the adjective *suki* were examined and analyzed. Discourse prosody connects a word (or in corpus linguistic, a node) to some expression of attitude or evaluation that cannot possibly be found in a single word, however, can be understood in a wider context (in this study, refers to co-occurrence) (McEnery & Hardie, 2012). Alcaraz-Mármol and Almela (2016) explained that discourse prosody can

uncover the position or attitude of writers towards particular lexical items on top of his/her communicative purpose.

As mentioned in research design, discourse prosody is criticized for its intuitive and introspective analysis method. However, this method doesn't need to be discarded entirely. McEnery and Hardie (2012) stated that the analysis of collocation concerning discourse prosody depends on the linguistic intuition of the analyst. Therefore, the researcher's ability to interpret meaning was used to explore the discourse prosody of the adjective *suki* and its co-occurrences.

RESULTS

Frequency of Adjective in Youtube's Comments

According to corpus analysis done in Sketchengine, the Youtube's comments gathered consist of 10,970 Japanese words. Table 1 demonstrates the frequency of adjectives in Youtube's comments.

Within those 10,970 words, 365 are adjectives (as shown in Table 1). The adjective with the highest number is *i*-adjective that consists of 64.7% of the overall number of adjectives. The second highest is *na*-adjectives with 21.6% and finally, the third place is *no*-adjective with 13.7%. Due to the specification of this study to look into *suki* which is a *na*-adjective, it is important to examine where *suki* stand in term of frequency in *na*-adjective.

Table 2 and Figure 1 shows the list and frequency of *na*-adjective found in Youtube's comment.

Table 1

The frequency of adjective in Youtube's comments

Adjective	Frequency	Percentage
<i>Na</i> -adjective	79	21.6%
<i>I</i> -adjective	236	64.6%
<i>No</i> -adjective	50	13.7%
Total	365	100.0%

Note. Percentage in the table legend refers to the frequency of each adjective type over the total number of adjective, 365

Based on Figure 1 and Table 2, out of all 17 adjectives, the most significant *na*-adjectives is *suki* with a frequency of 32, followed by *maji*, *kiken*, *dame*, *genki*, and *hen*. The rest of the 11 *na*-adjective has the

lowest frequency of 1. This justified why *suki* is chosen to be analyzed. As you can see in the pie chart in Figure 1, *na*-adjective has mainly consisted of *suki*.

Table 2

List of Na-adjective in Youtube's comment gathered

No.	<i>Na</i> -Adjective	Transcription	Meaning*	Frequency
1	好き	<i>suki</i>	like/love	32
2	危険	<i>kiken</i>	dangerous	7
3	ダメ	<i>dame</i>	no good	6
4	マジ	<i>maji</i>	serious	15
5	元気	<i>genki</i>	lively	5
6	意図的	<i>itoteki</i>	intentional	1
7	不思議	<i>fushigi</i>	mysterious	1
8	ファンタスティック**	<i>fantasuthikku</i>	fantastic	1
9	有名	<i>yuumei</i>	famous	1
10	さいてき	<i>saiteki</i>	best	1
11	簡単	<i>kantan</i>	simple	1
12	変	<i>hen</i>	weird	3
13	素敵	<i>suteki</i>	wonderful	1
14	悲惨	<i>hisan</i>	tragic	1
15	新た	<i>arata</i>	new	1
16	個人的	<i>kojinteki</i>	personal	1
17	いろいろ	<i>iroiro</i>	various	1

Note. ** The *na*-adjective *fantasutikku* is a loanword written in *katakana* and originated from the English adjective 'fantastic' unlike the other *na*-adjective in the table.

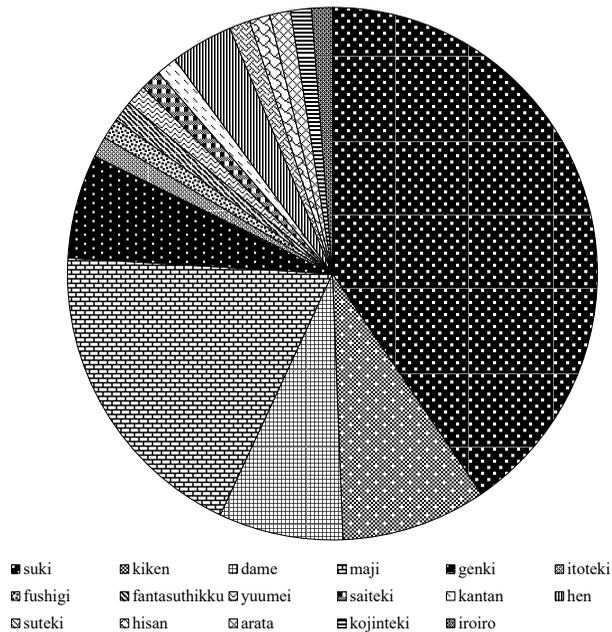


Figure 1. The frequency of *Na*-adjective

The Co-Occurrence Pattern for *Suki* Adjective

The adjective *suki* can be written in both *hiragana* and *kanji*, however, in Youtube's comments, this adjective is commonly written in *kanji* instead of *hiragana*. Through the corpus analysis in Sketchengine, 10 words co-occurred with the adjective *suki*. The words are,

Grammatical Particle	:	<i>ga, mo</i>
Noun	:	<i>Hajimeshachoo, watashi</i>
Adverb	:	<i>sugoku, suggo, anmari, meccha, majide, mechakucha, anma, kekkou</i>

Table 3 shows the categorization of adverbs that co-occurred with adjective *suki*

as positive or negative adverbs (refer to data analysis method for explanation).

Based on the list given, *suki* has co-occurred the most with adverbs. In Table 3, we can identify 2 types of adverbs. The list shows that *suggo* is the abbreviation of *sugoku* and *meccha* is the abbreviation of *mechakucha* which both pairs have the same meaning and function. *Suggo* and *sugoku* is synonym² to the word “very” or “really” in English while *meccha* and *mechakucha* is synonym to “extremely”. On the other hand, *majide* is an adverb from the combination of the noun *majime* and the grammatical particle *de*. Through the

² For this study, the word ‘synonym’ refers to lexical synonym. Stanojević (2009) explained that “lexical synonymy is a sense relation that holds between two or more lexical units with the same sense in the given contexts in which they are interchangeable.”(pg. 194)

Table 3

Positive and negative co-occurrence used together with the adjective *Suki*

Positive Adverbs	Negative Adverbs
<i>sugoku, suggo, meccha, majide, mechakucha, kekkou</i>	<i>anmari, anma</i>

Note. The discourse prosody of each adverbs in the above is identified by analysing their meaning when they co-occurred together with the adjective *suki*. Refer to data analysis method for further explanation.

particle *de* that demonstrates the means of action, the noun *majime*, after removing *me*, can be used as an adverb that is synonym to “seriously”, “diligently” and “earnestly”. Finally, the adverb *kekkou* has the same meaning as the English word, “quite”. *Kekkou* also is used to show refusal similar to “no, thanks”. Meanwhile, both negative adverbs of *anmari* and *anma* come from the same adverb of *amari* which means “don’t really” or “not very”. *Amari* is the standard dictionary form of the word while *anmari* is usually used in daily conversation. On the other hand, *anma* is the abbreviation form of *amari*.

Adjective *suki* also co-occurs together with the noun *hajimashachoo* and the pronoun *watashi*. *Hajimeshachoo* refers to the Youtuber of the videos. Meanwhile, pronoun *watashi* is synonym to English pronoun “I”. The grammatical particles *ga* and *mo* also co-occur with the adjective *suki*. However, unlike adverbs and nouns, these grammatical particles are not meaningful lexical. In corpus linguistics, these particles are grammatical features within a collocation called colligation. Despite not having meaning, these colligations have their own functions when used in Japanese sentences.

The grammatical particle *ga* is mainly used to describe things when used together with adjectives or to deliver new information. While particle *mo* is used to express inclusion as it is synonym to the English word “too” and “also”.

DISCUSSION

The Discourse Prosody of *Suki* Adjective and Its Co-Occurrences

The adjective *suki*, when used with positive adverb (*sugoku, suggo, meccha, majide, mechakucha, kekkou*) had usually the connotative meaning of extreme fondness or likeness of certain activities, items, or person in the Youtube video concerned. This implies that in using these adverbs together with *suki*, viewers or commenters of the Youtube videos can express not only their excitement on activities, items, and persons displayed in the video but also how they agree of the content of the video and can relate with the content maker of the video positively. Below are the examples of positive adverbs co-occurring with *suki*:

1. *Ato hajimeshachoo itsu mo no dougade wa goukai de omoshiroi koto shiteru kedo fudan majime de sugoku **suki** desu! !*

- Besides, I really like this video that is usually done on interesting matters but with the usual serious [tone].!!
2. *Mukashi yori nandaka ochitsuite ite suggo **suki** desu!*
Really like that it is more relaxed than the previous one!
3. *Kou iu douga nareeshon to sesshon shi teru no **kekko** **suki***
Quite like [him] doing narration and session like this video [.]
4. *Hyoro kara maccho ni natta wake ne kocchi no hou ga danzen ikemen ore ofuro **meccha** **suki** desu*
 [You] changed from lanky to macho [.] This is more by far good-looking [.] I extremely like bath [.]
5. *Kou yuu douga **majide** **suki** yuttari shitate nareeshon no hajime no koe mo ochitsukushi motto kou yuu douga fuyashite hoshii*
Seriously like this kind of video [.] The calm narration of *Hajimeshachoo*'s voice is relaxing [.] I want more of this kind of video [.]
6. *Hajimen hitori tabi mitai na kanji ga hisashiburi ni mirete **meccha** **suki** desu!*
 I extremely like when it seems that the feel as if it has been a while since *Hajimen* has traveled alone!
7. *Daitai jijii sauna wa **mechakucha** **suki** da ga, don dake nagaku haitte mo mizuburo ni wa hairen no da yo na.*
- Generally, I extremely like *Jijii Sauna*, but [I] don't think I can take a cold bath no matter how long [I] take it.
8. *Sauna wa **mechakucha** **suki** da ga, don dake nagaku haitte mo mizuburo ni wa hairen no da yo na.*
 I extremely like the sauna, but [I] can't take a water bath no matter how long [I] take it.
9. *Watashi mo **meccha** **suki** 6: 04 Genki desu ka?*
 I extremely like it too [.] 6:04 Are you okay?
- These examples suggest that viewers or commenters express the level of their excitement and relatability of the video content. On the other hand, below are the instances for negative adverbs:
1. *Kawaii kanji no moji no goshikku kawaii kanji no kaisetsu nanka mitete honobono suru ore sauna **anmari** **suki** janai kara*
 The gothic cute letters [.] cute commentary is made somehow to be seen faintly[.] I don't really/not very like sauna[.]
2. *Ore mo sauna **anma** **suki** dakedo mizuburo de moguru yatsu to ka ase nagasanaide haitte kuru yatsu to ka gachi yamete hoshii.*
 I also don't really/not very like sauna but I want people who dive [in bath], people who don't wash away their sweat, to seriously stop.

The negative adverbs, when co-occurred with adjective *suki*, indicate a level of unpleasantness of the content of the video. They are also a polite form of delivering disagreement or different opinions than what is in the content of the said video.

The second most frequent co-occurrence of adjective *suki* is the grammatical particles *ga* and *mo* (colligation). These grammatical particles are used together with adjective *suki* to form adjective sentences. According to Hu (2015), colligation in relationship to the collocations of words can be examined to investigate the varying patterns between adjective pairs. In a Japanese adjective sentence, the particle *ga* helps to emphasize the items, persons, or activities as it shifts the focus of the sentences from the adjective *suki* to what is it the viewers or commenters like. In other words, particle *ga* helps viewers or commenters to display how they can relate with the content maker's and other viewers' excitement of the related topics. Below are examples of comments with particle *ga* as the co-occurring word of adjective *suki*.

1. "Okote iru" to teroppu ni emoji () wa shushushu no umami no kiwami-san-kan sugoi hontai ga todoita toki no shachoo no fukusou ga suki.

It is incredible that it feels like there are people who have high standard writing again and again in telop "I am angry". I like Shachoo's clothes when the real thing arrived.

2. Sauna kayotte nan de anna shinzou ni waru-souna koto ga suki na no ka naa?

Why do you like going to the sauna and doing things that seem to be bad for your heart?

3. Kikuchi-san no kaku hajimen kawaii = tokuni o kuchimoto ga suki yo ^ ^
[I] like Kikuchi-san's drawing on Hajimeshachoo especially the mouth (in the drawing) ^ ^

Similarly, the grammatical particle *mo* is also used to show how the commenters share the same positive feeling with both the content maker and other viewers, however, it is done differently than grammatical particle *ga*. Grammatical particle *mo* expressed the sense of involvement and sense of community or togetherness among viewers as grammatical particle *mo* is synonym to the word "too" or "also" in English. Below is the instance sentences of adjective *suki* and grammatical particle *mo*:

1. Tokidoki kumi ni iku kurai wakimizu mo suki da kara
Because from time to time, I too like to go and get spring water[.]
2. Mukashi no douga mo suki desu ga, kore kara mo yori yoi douga o mattemasu!
I also like the old video but, I am also waiting for better video!

The adjective *suki* also co-occurred with a noun. This happened when commenters tried to write their comment casually and similar to daily spoken communication. As we will see in the example given, a grammatical particle has been omitted from

the written adjective sentence to simplify the written text. Also, by omitting the grammatical particle *ga* and connecting the noun to the adjective *suki*, the sentence can emphasize the adjective *suki* thus, strengthen the image of fondness or excitement of the related topic in the video.

1. *Kore jibun dattara shinu no o satoru wa* 6: 28 *Hajimeshachoo* “e?” *Ushiro ni iru hajimeshachoo* “e?” “*Yappari hajimeshachoo suki da wa.*

I realize that I would die if it were me [...] 6:28 *Hajimeshachoo* “Eh?” *Hajimeshachoo* at the back “Eh?” Definitely, I like *Hajimeshachoo*.

Besides, the adjective *suki* plays a role as a modifier to a noun or descriptive noun when noun co-occurs together with it. As we can see in the example of the sentence below, the adjective *suki* modified the noun *watashi* by giving it a characteristic. By forming the phrase *suki watashi*, this reveals the excitement of the commenters in informing others of the commenter's likeness of the said matters. In addition, this co-occurrence is very casual and is written in a daily spoken structure where the suffix *na* after the adjective *suki* is omitted as shown below.

1. *Vlog-kan atte suki watashi tte tanjun da atsui tokoro nigate na no ni, kono douga mita shunkan sauna ikitakurun da mono.*

The me who like this Vlog feel, is simple [...] I'm not good at hot places,

but the moment I watched this video, I went to the sauna.

CONCLUSION

Based on the findings, it is clear that adjectives have a low frequency in the overall Youtube comment sections. The adjectives found in Youtube comment section are of 3 types; *na*-adjective, *i*-adjective, and also *no*-adjective. The highest number of adjectives in Youtube comments is *i*-adjective. However, to answer the second research question of this study, we must look into *na*-adjective. Through corpus analysis, it has been revealed that there are 17 *na*-adjectives used in Youtube comment and *suki* has the highest frequency of all.

Answering the second research question, the study discovered that *suki* mainly co-occurred with an adverb. These adverbs modified the adjective *suki* mostly to elevate the sense of likeness, adore, or fondness of the content of the video. However, *suki* also display disagreement and unpleasantness politely when co-occurring together with negative adverb. *Suki* also co-occurred with grammatical particles *ga* and *mo*. The particle *ga* helps commenters emphasize what they like and particle *mo* creates a sense of inclusiveness. Noun plays the role of emphasizing feelings such as liking and fondness when co-occurred with the adjective *suki*.

Implication of Study

The data obtained from the corpus analysis revealed the behavior of commenters based on a single keyword *suki*, therefore, these results can be used to assist future research

by comparing data and justifying related research. This study can also guide future studies on how to conduct a corpus keyword analysis and, assist sociologists and linguists when studying online human behavior.

Suggestion for Future Research

It is recommended that wider sample size is analyzed in future studies by adding the number of videos or the number of Youtube comments. Besides, video with different genres is highly recommended. If corpus keyword analysis on adjectives wanted to be done, looking into *i*-adjective, specifically adjective *ii*. Corpus keyword analysis is also interesting to be done in a different context, like advertisements, online social platforms, and academic papers.

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Students' Vocabulary Learning Strategies of Discovery and Consolidation in Malaysian Primary School English Language Classrooms

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ABSTRACT

A good grasp of vocabulary enables language learners to articulate, comprehend and communicate ideas and concepts effectively. For learners whose first language is not English, mastering vocabulary knowledge in terms of the breadth and depth is challenging and needs to start at a young age through the use of various strategies. The lack of English language vocabulary knowledge would demotivate learners and even result in abandoning efforts to learn the language. Therefore, it is important that learners know and are able to use five strategies, which include determination, social, cognitive, memory, and metacognitive strategies to learn vocabulary. Determination and social strategies are in the discovery category, while social cognitive, memory, and metacognitive strategies are in the consolidation category. This study aims to determine the vocabulary learning strategies used by 132 Year Five primary school English language students in two urban National Type Chinese schools in Sarawak. It investigated the strategies these learners used, how frequently they used them, and their reasons for preferring particular strategies. Data were collected from two classrooms at each school through the use of questionnaire and individual interview. Questionnaire results were analysed descriptively in terms of mean scores and

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standard deviation while interview responses were coded, categorised and analysed using thematic analysis. The findings suggest that while the students employed moderate use of all the five strategies, cognitive strategies which involved mechanical approaches were the most used while social strategies were not used by all students.

Keywords: English language learners, language learning, primary school, vocabulary knowledge, vocabulary learning strategies

INTRODUCTION

Vocabulary plays an important role in language learning. The knowledge of vocabulary is fundamental to language learning and use (Bakhsh, 2016; Nation, 2001). Language learners with large vocabulary are able to articulate, understand and communicate various ideas and concepts more effectively than those with limited vocabulary. With reference to learners whose first language is not English, learning the language requires knowledge of a very large number of lexical items (Schmitt, 2004; Wray, 2002) and this knowledge involves breadth (quantity of words) and depth (quality of words) (Nation, 1990). English language learners (ELLs) do not only need to know concepts, referents and associations but also spelling, pronunciation and word parts as well as functions, collocations and constraints of vocabulary (Nation, 2001). The ability to learn vocabulary determines success in learning (Gass & Selinker, 2008). According to Nation and Waring (2002) English language learners would need

more than 3,000 high frequency words to achieve success in language learning and as a minimum requirement for comprehension of text. Nation (2006) further recommends having knowledge of 34,660 words based on a vocabulary of 8000-word families while for Schmitt (2008), 8000–9000 word families are required for learners to read different texts that include knowledge of root forms, inflections and derivations of vocabulary. In terms of high frequency vocabulary Schmitt and Schmitt (2014) advocated an increase to the most frequent 3000 English word families which are maximally useful vocabulary and important for ELLs to master. For Collier (2016), at least 10000-word receptive vocabulary is needed for social interaction in the classroom. Therefore, ELLs need to have a range of between 3000 to 10000 words. The need for a large knowledge vocabulary in terms of breadth and depth necessitates that learning English language vocabulary needs to start at a very young age.

For ELLs, achieving oral proficiency takes three to five years whereas, academic English proficiency would require four to seven years to develop (Hakuta et al., 2000). Learning such a large number of lexical items as part of language proficiency could therefore be a daunting task for these learners (Laufer, 2000). While ELLs are able to comprehend the newly learned vocabulary, they often experience issues in remembering these words effectively (Khan et al., 2018) and are unable to apply newly learned vocabulary (Rafiah et al., 2016; Yee & Wahab, 2016). The challenge

to master vocabulary knowledge among young ELLs is even more complex as they lack abstract thinking (Dworetzky, 2002), have lower affective filters (Gürsoy & Akin, 2013), and lack purpose in learning the language (Gürsoy, 2012). A failure to master vocabulary knowledge that is required tends to demotivate or even cause ELLs to abandon learning the language (Karami & Bowles, 2019; Sari & Abdulrahman, 2019; Sundari, 2018).

Mastering vocabulary knowledge is also a challenge among young ELLs in the context of Malaysia (Husaini et al., 2016; Misbah et al., 2017) which is the focus of this research. English language is a compulsory subject starting from primary school and students are required to master the four basic skills namely listening, speaking, reading, and writing skills (Sulaiman et al., 2015). Vocabulary learning is incorporated in the teaching of the four skills (Tahir & Mohtar, 2016). Primary school ELLs learn the first 1,000 high frequency words and are then exposed to the next 2,000 high frequency words in secondary school (Letchumanan & Tan, 2012).

However, many Malaysian primary school ELLs remain weak in vocabulary knowledge due to a lack of practice and exposure (Ien et al., 2017; Prisla & Yunus, 2019), assessment driven approaches (Ali, 2003), and limited application opportunities in the classroom (Rafiah et al., 2016; Yee & Wahab, 2016). Such limitations can affect classroom social and academic interaction as well (Ab Rahman et al., 2020) and result in them being unable to master the English

language (Misbah et al., 2017). These drawbacks suggest that ELLs lack effective strategies that could support them to learn vocabulary effectively (Benson, 2001; Feng & Webb, 2020; Webb & Nation, 2017).

Therefore, this study aims to determine the vocabulary learning strategies (VLS) used by Year Five primary school students in two urban National Type Chinese schools in Sarawak, Malaysia.

Previous studies on Vocabulary Learning Strategies (VLS)

Applying appropriate strategies is important to learn vocabulary effectively. Studies have documented the use of VLS as supporting ELL's learning of vocabulary. ELLs are able to learn vocabulary by connecting words to synonyms and antonyms (Yazdi & Kafipour, 2014), use dictionaries, do guesswork and interact in the classroom (Mutalib et al., 2013), and communicate, read and listen to English songs (Nayan & Krishnasamy, 2015). However, a lack of exposure to VLS could hinder learners from performing well in vocabulary learning (Mutalib et al., 2013) and affect efforts for vocabulary retention (Dollah & Shah, 2016).

In the context of primary school English language learning, Kavvadia (2016) conducted a study investigating VLS used by 81 ELLs in a primary school in Greece. The learners from grade three to six participated by completing a questionnaire based on Schmitt's (1997) taxonomy of VLS. The findings from this study showed that these ELLs used pictures and translation

to discover meaning, and used songs, games, and stories as well as vocabulary notebooks that involved matching pictures with words and using words in sentences to consolidate vocabulary. As for their preferred VLS, the learners reported a tendency towards strategies that afforded them the “feel of free-time activities such as playing games, doing crossword puzzles, engaging in group-work activities, reading stories, listening to songs, guessing meaning from context/pictures” and the preferences for particular strategies varied according to grades (Kavvadia, 2016, p. 97). These VLS strategies point to categories of discovery and consolidation following Schmitt’s VLS taxonomy. Discovery involves determination strategies such as discovering and guessing meaning, while consolidation includes cognitive strategies such as keeping vocabulary notebooks and memory strategies such as associating words with pictures. The author concluded that the practised and preferred strategies among these ELLs reflected their teachers’ practices in the classroom, and that training learners in VLS from a young age enhanced their language learning performance.

Elsewhere, Thékes (2017) investigated the VLS used by 86 Hungarian sixth grade primary school ELLs using 52-item vocabulary learning strategies questionnaire as part of a pilot study. The results of this study indicated that they learned vocabulary frequently by writing words bilingually, receiving parental support for their learning, using either printed or

electronic dictionaries to look up words, reading English comics, listening to English songs, consulting the teacher, and writing words down repeatedly to remember them. Although these Hungarian ELLs were active social media users, they did not use these platforms to learn vocabulary and they did not see the need to evaluate their own learning. The outcome of this study also contributed to the author reducing the 52-item questionnaire to a total of 38 items.

In the context of Malaysia, Razali et al. (2017) conducted a study to explore how primary four ELLs could be supported to increase their memory retention of theme-based vocabulary through a game of cards. Data were collected through pre and post-tests at one primary school in Penang which consisted of a quiz. The findings based on the comparison of scores for both tests revealed that the ELLs were able to remember more words accurately having played the card game. The learners were also observed to be actively involved while playing the cards and they reported finding the experience enjoyable (Razali et al., 2017). Stavy et al. (2019) investigated the use of language games in supporting vocabulary retention among primary three ELLs in one rural school in Sarawak. This quasi-experimental research employed a one group pre-test and post-test design which used vocabulary retention tests. The results from this study indicated that the ELLs “scored better after learning vocabulary through language games than through conventional teaching” indicating

that vocabulary retention can be supported through games (Stavy et al., 2019, p. 113).

The studies investigating the use of VLS highlight three main aspects. First, the use of VLS is crucial to support ELLs' vocabulary learning particularly in recalling learned vocabulary and also applying knowledge of vocabulary effectively. Conversely, an absence of such strategies is detrimental to vocabulary learning. Second, exposing ELLs to the VLS is important to ensure that students are provided with opportunities for practise as part of language learning. Such opportunities are evident in practices that involve classroom interaction, picture-based vocabulary learning, translation activities, and games. Third, studies investigating VLS particularly at the primary school context in Malaysia suggest that ELLs are aware of these strategies as their teachers have taught them through various classroom activities. However, there appears to be a lack of evidence as to whether the students frequently used the strategies learned when learning vocabulary. For VLS to be effective there is a need to determine what strategies ELLs use in learning vocabulary to obtain insights into how they could be strategically supported to use them in their learning. Determining the strategies is important in supporting young ELLs' vocabulary learning which needs to begin at a very young age to enable a mastery of the required amount of vocabulary.

Vocabulary Learning Strategies (VLS)

Schmitt (1997) advocates the need to expose language learners to a variety of

strategies to support their learning. Such exposure is important for ELLs to know the strategies that are available when learning vocabulary so as to determine what works for them. Schmitt offers a comprehensive inventory of VLS which was adopted in this study. It consists of two categories of strategies namely discovery and consolidation. While the discovery category consists of determination and social strategies, the consolidation category comprises the social, cognitive, memory and metacognitive strategies. Social strategies are found in both categories as Schmitt considers it as applicable for both. These VLS are described next.

The discovery category of VLS involves determination and social strategies. Determination strategies can be referred as strategies that are used by learners in their attempts to discover the new word on their own when they encounter problems in comprehending the word such as guessing from context, referring to dictionary and analysing the structure of the language such as the parts of speech. In contrast, social strategies are employed when learners are unable to proceed with discovering on their own and require assistance and support from others such as the teacher and/or their peers to help them discover the meaning of the words by asking questions and cooperating with others in the learning process.

As for the category of consolidation, it includes social, cognitive, memory and metacognitive strategies. Cognitive strategies are strategies that can be defined as "repetition, and using mechanical means

to study vocabulary including keeping vocabulary notebooks” (Schmitt, 2000, p. 136). They involve learners repeating vocabulary by reciting them aloud or silently or by writing them down on words cards or making a list of words. The focus is, however, not on mental processing. Memory strategies are strategies that connect new words to learners’ prior knowledge. The new words can be linked to learners’ prior knowledge through imagery, keywords, grouping, associating or semantic grids. Metacognitive strategies are concerned with learners consciously overviewing their learning process and employing the most suitable learning methods. These strategies involve learners managing their own vocabulary progress and assessing it through various methods such as a vocabulary test.

Various studies have employed Schmitt’s (1997) VLS. Aisyah (2017) adapted Schmitt’s inventory as part of the questionnaire used to investigate the vocabulary learning of junior high school Indonesian ELLs. Schmitt’s inventory was also adapted by Kavaddia (2016) who used it as part of the questionnaire to investigate the vocabulary learning of young Greek ELLs as well as by Thékes (2017) for Hungarian primary school ELLs.

Rabadi (2016) employed Schmitt’s VLS as an adapted questionnaire to investigate Jordanian undergraduates’ VLS while Dong et al. (2020) employed a questionnaire developed from Schmitt’s VLS scale to investigate Chinese Grade seven ELLs.

Materials and Methods

The main aim of this study was to determine the VLS used by Year Five primary school students in two urban National Type Chinese schools in Sarawak, Malaysia to learn English language vocabulary. This main aim was addressed by the following research questions:

- What VLS were used by these primary school ELLs?
- How frequent did these ELLs use VLS?
- What were the ELLs’ reasons for preferring particular VLS?

The participants of this study consisted of 132 Year Five primary school ELLs drawn from two urban National Type Chinese schools in Sarawak, Malaysia. The two schools are characteristic of National Type Chinese primary schools where the main medium of instruction is Mandarin and being located in an urban area, the majority student population are of Chinese ethnicity. Each school has a total of four Year Five classrooms and students were recruited from two classes at each school. The teachers identified these students from each class based on their overall performance in the English language. These teachers consisted of two teachers per school and each teacher has been teaching English language for more than 10 years and is trained in the subject. The Year Five students aged eleven were chosen due to their level of intermediate knowledge and proficiency in English vocabulary based on the word lists for the level as described in the English language

curriculum (Curriculum Development Division [CDD], 2015). At this level, these ELLs would have grasped a fair amount of English language vocabulary having experienced up to five years of learning the language at school. In Malaysia, there are two types of primary schools - National Schools where the medium of instruction is the national language which is Malay, and National Type Schools where either Tamil or Mandarin is used as the main instructional medium. In both the National and National Type primary schools, English language is a compulsory subject. The total instructional time per week for an English language class at the National Type Chinese primary school is 180 minutes (CDD, 2015).

This research employed a mixed method design which involved both quantitative and qualitative approaches with the latter supporting the former. The quantitative aspect of this study enabled the collection of numerical data from a large sample in an objective manner to provide statistical descriptions of the phenomenon that is being investigated (Aliaga & Gunderson, 2000; Babbie, 2010; Ranjit, 2011). For this study, the quantitative approach involved a survey method that employed a questionnaire to obtain a collection of information from the target population through their responses to a set of statements (Check & Schutt, 2012). The information obtained enabled the researchers to identify and to determine the VLS used by the ELLs to provide statistical descriptions.

The questionnaire used in this study was adapted from Thékes (2017) who developed

a vocabulary learning strategies instrument for young ELLs. This questionnaire was based on Schmitt's (1997) and Taka's (2008) questionnaire items from Oxford's (1990) Strategy Inventory for Language Learning (SILL). Thékes' questionnaire consisting of 38 statements was used and these items were further adapted by the researchers of this study to suit the context and objectives. Two main adaptations were made to Thékes' questionnaire items. The first adaptation involved simplifying words which were unfamiliar to the context of ELLs in the two National Type Chinese schools. Words such as "link", "infer", "synonymous" were not found in the vocabulary list in the Curriculum Specification for Year Five (CDD, 2015) as they have yet to be exposed to them at this level. As such these words which were used in the original items in Thékes' questionnaire were simplified so as to enable the ELLs to understand them. The second adaptation made was related to the context of this study. The context of this study was National Type Chinese schools where the majority of ELLs are of Chinese ethnicity and Mandarin is the medium of instruction. As such, items containing the word "Hungarian" as used in Thékes' questionnaire items were replaced with the word "Chinese" to reflect the context of this study. The examples of the two types of adaptations are shown in Table 1.

The adapted questionnaire consisted of two main sections. The first section consisted of demographic information i.e. ethnicity and gender. The second section consisted of the 38 items pertaining to the

Table 1

Examples of adapted items in the questionnaire

Type of adaptations	Item no	Original questionnaire items	Adapted items
Simplifying unfamiliar words	11	I link new word to one with synonymous meaning.	I connect new word to one with same meaning.
	16	I link new word to one already known.	I connect new word to one already known.
	19	I infer the meaning of the new words from spoken English.	I guess the meaning of the new words from spoken English.
Context	2	I make English- Hungarian word cards.	I make English- Chinese word cards.
	20	I try to remember the Hungarian equivalent of the new English word	I try to remember the Chinese equivalent of the new English word.
	21	I watch English movies with Hungarian subtitles.	I watch English movies with Chinese subtitles.

VLS. This adapted questionnaire was then piloted to test for the reliability of items. A pilot study is used as a “small scale version or trial run in preparation for a major study” (Polit et al., 2001, p. 467). Furthermore, pilot study can be used to “identify ambiguities and difficult items in the questionnaire” (Peat et al., 2002, p. 123). A total of 12 students of similar characteristics – Year Five at a National Type Chinese school and eleven years old, volunteered to be pilot participants. These respondents took approximately 15-20 minutes to complete this questionnaire and during this session did not report experiencing any issues with the items in the questionnaire to the researchers who were present on site.

Data from the pilot study was analysed for reliability. Reliability test was employed to assess the quality of the data collection

instrument (McLeod, 2007). According to Ursachi et al. (2015), the Cronbach’s α value of .7 shows high reliability of the instrument. The reliability results from the pilot study show that Cronbach’s value of all the items in the questionnaire is .821. This indicates that the questionnaire has good reliability. However, there was one item – “I read English newspapers to learn words” which was rated as “Always” in terms of frequency by all pilot participants resulting in zero standard deviation. It was removed from the final questionnaire. Item-analysis was carried out through corrected item-total correlations. Six negative scores in corrected item total correlation were identified as most of the students chose ‘never’ as their answers and were omitted from inclusion in the final questionnaire. Six more items fell near or under the value of .194 for item

reliability, indicating that they could be misleading or ambiguous to the respondents. These items were also excluded from the final questionnaire. In total, of the 38 items in the pilot questionnaire 13 items were removed resulting in the final questionnaire consisting of 25 items. Also, the options for responses in terms of frequency based on a Likert scale was revised. In Thékes' questionnaire which was adapted for use in the pilot study a four-value frequency scale consisting of "never", "once a month", "once a week", and "always" were used. However, following Singleton et al. (1993), words such as "seldom", "often", "always"

which are commonly used to describe frequency in Likert scale ratings have been described as confusing to 11-year olds. As such, the word 'always' in the frequency scale of the questionnaire was replaced with the word "everyday" while the other indicators for frequency i.e. "never", "once a month", "once a week" remained. Sample items in the questionnaire are shown in Table 2.

This study also employed a qualitative approach to obtain deeper descriptive insights (Kerlinger, 1970; Neuman, 2014; Taylor et al. 2016) into the phenomenon from the data obtained quantitatively.

Table 2

Sample items in the questionnaire

Instruction: Circle the number in the box for your choice.

No	Vocabulary learning strategies	How often do you do these activities to learn words? 1 - never 2- once a month 3- once a week 4- everyday			
1.	I make a word list to remember the words.	1	2	3	4
2.	I underline the important words.	1	2	3	4
3.	I circle the word that is important	1	2	3	4
4.	I remember the page where I have seen the new word.	1	2	3	4
5.	I use the newly-learned word in speaking to remember it.	1	2	3	4
6.	I use new word in a sentence.	1	2	3	4
7.	I play with word games	1	2	3	4
8.	I look up the word in an electronic dictionary.	1	2	3	4

It involved the use of the interview as a tool to obtain insights. Therefore, while the questionnaire was used to identify and to determine the VLS used by the ELLs to provide statistical descriptions, the interview provided insights into why particular strategies were preferred.

Permission to collect data was first obtained from the Ministry of Education Malaysia and then the State Education Department of Sarawak. Data collection began after approval was granted by the authorities of the two urban National Type (Chinese medium) primary schools. The main researcher carried out the data collection from two Year Five classrooms at each school on separate days and times as discussed and agreed with each school authority. The main researcher was present at each classroom in each school throughout the administration of the questionnaire to describe the purpose of the data collection, clarify and explain each item in the questionnaire, and assure participants on the confidentiality of their responses. The administration and collection of the completed questionnaires were for a duration of 40 minutes per classroom. The interview which involved four Year Five students was conducted two days after the administration of the questionnaire for each classroom. The interview lasted for 15 minutes for each student. In total, data collection consisting of questionnaire and interview from each classroom was for the duration of one week while the total duration for data collection for this study was four weeks.

Data Analysis

Data derived from the questionnaire were analysed through descriptive statistics, means and standard deviation to identify the vocabulary learning strategies used by the primary school students. Schmitt's (1997) taxonomy of VLS was used as a guideline. According to Johnson and Christensen (2017), mean score has the most precise measurement as it includes the magnitude of all scores. Standard deviation shows how much variation or dispersion from the average and has similar value with the original value and mean (Brown, 1982). Therefore, while the mean is used to find out the strategies these ELLs used in their vocabulary learning, the standard deviation is employed to identify how spread out the data were from the mean. Interview data were audio-recorded and transcribed verbatim. The researchers studied the transcribed data and compared them against the related objective to provide insights into the participants' preferred VLS. The analysed data were then assigned codes and categories which were further organised into themes that highlighted the preferred strategies.

RESULTS

The 25-item questionnaire was distributed and completed by all 132 participants from two urban National Type (Chinese medium) primary schools (School A and School B). The total participants from School A was 72 students from two Year Five classes while for School B they consisted of 60 students

from two Year Five classes as well. The participants consisted of 62 males (47%) and 70 females (53%). The majority of the participants were of Chinese ethnicity (n = 123, 93.2%) while the rest consisted of participants who are of indigenous Sarawak ethnicities (n = 8, 6.1%), and Indian ethnicity (n= 1, 0.7%).

The students' responses on the VLS used were analysed descriptively. It is reported as mean scores and standard deviation. Mean score has the most precise measurement to identify the frequency of use as it includes the magnitude of all scores. Kaya and Charkova's (2014) mean score interpretation were used for this purpose as shown in Table 3.

Table 3

Kaya and Charkova (2014) mean score interpretation

Frequency use	Mean
Regularly used strategies	3.0 to 4.0
Moderately used strategies	2.0 to 2.99
Rarely used strategies	1.1 to 1.99
Never been used strategies	1.0

As for standard deviation (SD), it shows how much variation or dispersion from the average (Johnson & Christensen, 2017). Standard deviation is used to show how close data was clustered around the mean. If the standard deviation value is low, it meant the data clustered close to the mean (expected value) but if the standard deviation value is high, it meant that the data spread out over a wider range (Walliman, 2017).

Overall, the results showed that that the students used all the strategies moderately in their vocabulary learning. The highest mean score was recorded for Cognitive strategies (M=2.77) followed by Metacognitive strategies (M=2.64). The third most used strategies were Determination (M= 2.58)

followed by Memory (M= 2.56). Social strategies recorded the lowest mean score for moderately used strategies (M=2.53) with the highest standard deviation (SD=1.27). The findings suggest that social strategies were the least moderately used. Table 4 describes the results of each category of the strategies (cognitive, metacognitive, determination, memory and social) in the order of the most used to the least used VLS.

The results of each VLS used by the participants and the frequency are reported based on the most used to the least used which are cognitive, metacognitive, determination, memory, and social.

Cognitive strategies include strategies that employ mechanical ways to learn vocabulary such as listing, underlining,

circling, memorising, repeating, and remembering a list of words. Table 5 details the participants' responses to the related listed strategies.

It can be observed that underlining the important words was a regularly used vocabulary learning strategy (M= 3.02). Remembering the Chinese equivalent of the new English word was reported as moderately used (M=2.91) as was circling the word (M=2.79). Rote-learning was also a moderately used strategy (M=2.67) but not considered as a strategy used by most learners in learning vocabulary (SD=1.09). Making a word list recorded the lowest

mean score (M=2.45). For this cognitive strategy, all strategies were recorded as moderately used except for the underlining of important words which was a regularly used vocabulary learning strategy.

As for Metacognitive strategies, they consist of ELLs planning, managing, and evaluating their own vocabulary learning. These strategies include reading books in English, listening to English songs, watching English films with Chinese captions, evaluating themselves, and remember where they encountered the new word. The participants' responses to each strategy is shown in Table 6.

Table 4
The most used to the least used VLS

Strategies	Mean	SD
Cognitive	2.77	1.14
Metacognitive	2.64	1.15
Determination	2.58	1.18
Memory	2.56	1.14
Social	2.53	1.27

Table 5
The use of cognitive strategies

Strategies	Mean	SDS
Underline the important words.	3.02	1.14
Remember the Chinese equivalent of the new English word.	2.91	1.15
Circle the word	2.79	1.24
Rote-learn the words	2.67	1.09
Make word list	2.45	0.98

Reading English books was reported as a regularly used strategy (M=3.01) and was practised by most of the students (SD=0.92). The remaining metacognitive strategies recorded moderate use - listening to English songs (M=2.71), watching English movies with Chinese subtitles (M=2.54), self-evaluation having learned new vocabulary (M=2.54) and remembering the page where the new word was seen (M=2.29). For these learners, reading English books is an often used strategy among them while other VLS involving songs, movies, self-evaluation and memory were fairly used in the metacognitive strategy.

Determination strategies are strategies used by learners as they make attempts at discovering new words on their own when they experience problems. These strategies include guessing from context, using contextual clues, or referring to a dictionary. Table 7 describes the responses of the learners to the listed strategies.

Based on the mean scores for determination strategies, guessing the meaning of the word from the reading context was reported as a moderately used strategy (M=2.89). Learning new words by using own interpretation was also reported as moderately used (M=2.85) along with guessing the meaning of a word

Table 6

The use of metacognitive strategy

Strategy	Mean	SD
Read English books.	3.01	0.92
Listen to English songs	2.71	1.21
Watch English movies with Chinese subtitles.	2.65	1.22
Evaluate myself	2.54	1.09
Remember the page where I have seen the new word.	2.29	1.17

Table 7

The use of determination strategies

Strategies	Mean	SD
Guess the meaning of the new word from reading context	2.89	1.11
Learn new words by using own interpretation	2.85	1.06
Guess the meaning of the word whenever I encounter words I don't comprehend	2.75	1.10
Guess the meaning of the word from spoken English	2.73	1.16
Bilingual dictionary	2.54	1.16
Electronic dictionary	1.70	1.08

which was not understood (M=2.75), and guessing the meaning of a word that was spoken (M=2.73). However, the least used strategy was using an electronic dictionary (M=1.70). This finding indicated that the guessing strategy appears to be moderately used by these learners when learning vocabulary. This finding suggests that these learners preferred to guess the meaning of words than refer to the electronic dictionary.

Memory strategies connect new words to learners' prior knowledge. The strategies involve ELLs applying the learning of new words in their writing, to communicate, using new words, playing word games, analysing parts of the word, and making picture word cards. Details of the learners' responses to each strategy are found in Table 8.

From the mean score, it can be observed that the regularly used strategy was using the newly-learned word in writing (M=3.19). The standard deviation value for this strategy is low (0.94), and it shows that most of the students used the words they had learned in their writing. Using new words to

communicate (M=3.01) was also reported as a regularly used strategy. Strategies of using new word in a sentence (M=2.77), playing word games (M=2.65), using the newly-learned word in speaking (M= 2.40) as well as analysing the word parts (M= 2.14) were reported as moderately used by the students. However, making picture word cards was a rarely used strategy (M=1.75). Therefore, when employing memory strategies these students often applied new words learned in their writing and communication when learning vocabulary.

When learners are not able to discover new words on their own, they employ social strategies in their learning of vocabulary. Social strategies involve learners asking their classmates or seeking out assistance from others to help them discover the meaning of the words. Table 9 documents these students' responses to the strategies under the social strategy.

The mean scores showed that social strategies were used moderately in students' vocabulary learning. Asking their classmates reported a mean score of 2.82. The mean

Table 8

The use of memory strategy

Strategy	Mean	SD
Use the newly-learned word in writing.	3.19	0.94
Learn new words to communicate.	3.01	1.04
Use new word in a sentence.	2.77	0.96
Playing word games	2.65	0.95
Use the newly-learned word in speaking	2.40	1.20
Analyse parts of the word	2.14	1.09
Make picture word cards	1.75	1.07

Table 9

The use of social strategies

Strategies	Mean	SD
Ask my classmates	2.82	1.17
Look for English speaking friends in social media	2.23	1.31

score of looking for English speaking friends in social media was 2.23. This showed that students referred to their classmates more often as compared to their friends in social media to learn vocabulary.

Four Year Five students volunteered to be interviewed by the main researcher. The interview was conducted once on an individual basis. Each student was asked to share their frequently used VLS and explain the reasons for using the strategies.

For these Year Five students, remembering the vocabulary they were learning was considered important. To help them remember the vocabulary they frequently employed three strategies, which were using the newly-learned words in speaking and writing, underlining the important words, and reading English books.

The students considered having the opportunity to practise using new words in writing and speaking as supporting them to remember the words. They demonstrated an appreciation for such opportunities in the classroom to aid comprehension as one student explained,

“Teacher teaches me words then I use them to write essays, I understand better” (Student B).

Another student acknowledged the opportunity to apply vocabulary for

productive skills as a way to enhance memory of new words. For this student,

“Using the words in my speaking and writing help me to remember better” (Student C).

The students also viewed underlining important words as a strategy that helped them to learn English vocabulary. They considered this strategy as helping them to focus on new words and to remember them as well. One student described this focus as follows

“Underlining the words helps me to pay more attention to them” (Student B).

One student regarded the underlining of important words as a strategy that was helpful when revising for the exams. According to this student,

“I underline the words. I can refer back to the words easily when I study for exam” (Student D).

As for reading English books, these students were of the opinion that this strategy exposed them to many words. From their own experiences of reading English books, they described how they encountered many new words. This exposure provided them with more opportunities to learn new words. One student who liked reading English storybooks because of the learning opportunity remarked,

“I read storybooks. I like it because I can learn new words from the books” (Student A).

For another student, the new vocabulary learned from reading English storybooks were used to write essays. According to this student,

“I see new words from the storybooks and I learn them, I use them to write essay” (Student C).

The responses these four students provided on their frequently used VLS indicated that applying newly learned vocabulary to write and speak not only helped them to learn but also remember the vocabulary. Placing emphasis on learning new vocabulary by underlining words was also an important strategy to help them focus and prepare for exams while reading storybooks provided them opportunities to learn and use new words. The strategies highlighted by these learners reflected the VLS related to memory, cognitive, metacognitive and determination categories. Interestingly, there was no reference to the use of social strategies suggesting that the related strategies were rarely employed by these students as reported in the quantitative based findings.

Discussion

The findings indicated that these Year Five primary school ELLs used all five strategies moderately when learning vocabulary. Among the five moderately used strategies, cognitive strategies recorded the highest moderate use while social strategies

reported the lowest moderate use. This finding suggests that the ELLs consider the mechanical approach as effective when learning vocabulary as it helps them to remember by underlining, translating, circling, memorising, and listing words. It is interesting to note that the mechanical approach was preferred despite the students being exposed to other VLS as indicated in the interview. Their preference for cognitive strategies implies the importance they place on memory retention when learning vocabulary (Razali et al., 2017; Stavy et al., 2019). This emphasis is possibly due to the lack of sufficient opportunities to learn vocabulary (Rafiah et al., 2016; Yee & Wahab, 2016).

The least used among the strategies although moderately used but not by most students was social strategies. The participants in this study did not seem to learn vocabulary by asking their friends meanings of words or interact with those from beyond their classroom. This finding supports studies that have reported similar results among young ELLs who did not show a preference to practise social strategies (Kavvadia, 2016; Thékes, 2017). It is possible that this strategy was not preferred by the participants in this study, as they may have lacked the vocabulary needed to interact with others (Ab Rahman et al., 2020; Collier, 2016). They had limited exposure and the opportunity to practice to enable them to use the vocabulary to interact with one another or others (Ien et al., 2017; Prisla & Yunus, 2019).

The findings from the interview further confirmed the results from the questionnaire. The findings pointed to a preference for the consolidation category of VLS which is cognitive strategies. Their main concern was to remember the words and they employed various means to achieve this purpose. The concern for memory retention appears to be characteristic of these ELLs as it would help them to remember words to use in writing essays and in the examination (Dollah & Shah, 2016; Dong et al., 2020; Razali et al, 2020). Assessment seems to be main motivation and it would mostly involve the use of words to write essays. Sufficient knowledge of vocabulary is therefore crucial to their performance in assessed work (Dong et al., 2020; Mutalib et al, 2013).

CONCLUSION

This study was aimed at determining the VLS used by Year Five primary school students in two urban National Type Chinese schools in Sarawak, Malaysia to learn English language vocabulary. A total of 132 students from two schools participated in this study by completing a 25-item questionnaire. Four students participated in an interview. Data were analysed using descriptive statistics and reported based on means and standard deviation.

The findings from the questionnaire data revealed that the participants employed all five strategies moderately for vocabulary learning. In terms of category, the two strategies related to the consolidation category namely cognitive

and metacognitive were recorded as the two most used strategies which were moderately used. The least moderately used strategy is social strategies which are of both the consolidation and discovery categories. The interview data further supported the findings from the questionnaire as the students' responses indicated that they used all strategies with the least moderately used for social strategies.

The cognitive strategies consisting of mechanical approaches where the learners translate, circle, memorise, underline, and list words were reported as the moderately used strategies often used by these students. Such approaches were considered effective for purposes of memory retention. The lack of use of the social strategies suggested that they probably lacked the vocabulary to interact with their classmates or those from beyond their classroom to ask them the meaning of words they did not understand.

This study investigated VLS among Year Five primary school students from two schools using a questionnaire and interview. Future studies employing focus group interviews, implementing the questionnaire at a beginning and end point of vocabulary learning lessons, and using vocabulary tests could be employed to provide deeper insights into the various strategies ELLs use in the classroom.

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An Examination of Legislature-Executive Crisis under the APC Led Democratic Governance in Nigeria's Fourth Republic and Its Impact on Good Governance, 2015-2019

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ABSTRACT

This study examined the legislature-executive crisis in Nigeria under the APC- led democratic governance between 2015 and 2019. The objective was to understand the factors that animated the crisis and its implication on good governance. To achieve this, the study relied on the descriptive qualitative approach and the institutional theory of conflict to create linkage and consolidate the findings. It used mainly secondary data like textbooks, journal articles, legislature-executive documents, and the 1999 Nigerian Constitution. From the analysis, several factors emerged which included leadership interference and parliamentary oversight. Others were poor capacity building, corruption, and absence of enough communication. By implication, the result showed that between

1999 and 2015, the parliament passed 248 bills into law, but passed 213 bills between 2015 and 2019. However, information also appeared that the crisis impacted more negatively on the institutions' relations and the political system. It disrupted the democratic ethics of accountability, transparency, and equitable distribution of resources. Public policies like lawmaking, oversight and implementation suffered greatly. Unnecessarily delayed budget proposals increased poverty, economic deprivation, and instability. Positive changes promised by the APC government were

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lost in the crisis and these were all against democratic ethos. Based on the ongoing, the study concluded that democracy and good governance can be strengthened when the institutions collaborate better to execute their roles, respect their institutions and the 1999 Constitution. The study would benefit the institutions, the public and researchers. Further study is also needed on the judiciary-legislature pattern of relations under Nigeria's fourth republic democratic governance.

Keywords: Democracy, fourth republic, good governance, legislature-executive crisis, Nigeria

INTRODUCTION

In a presidential democracy, the place of the legislature and the executive cannot be overemphasized. They are instruments of good governance and democratic consolidation (Godsweath et al., 2016; Momodu, 2012; Momodu & Matudi, 2013; Oni, 2014; Osakede et al., 2017). In Nigeria, for instance, the return of presidential democracy in 1999 after many years of military rule, brought positive expectations to the people (Egbefo, 2015; Ogbo & Avidime, 2016; Oni, 2014; Yusuf, 2018). This was because it brought back civil rule, a multi-party system and the legislature as the mouthpiece of the public. Separation of powers and roles between the legislature, the executive as well as the judiciary were also defined. However, and important to note, after several decades of democratic experiment and the conduct of elections, the

authors added that the positive expectations of the citizens were dashed. They became affected by poor governance, corruption, institutional weakness, instability, and conflicts. According to Oni (2014), the political system has failed to be stable for good governance and democratic consolidation, and the pattern of legislature-executive relations remains most disturbing.

Accordingly, scholarly literature also argued that one of the foremost factors threatening democracy and good governance in Nigeria is the form of interaction between the executive and the legislature (Godsweath et al., 2016; Momodu & Matudi, 2013; Okon et al., 2013). In the 2015 general election that brought the APC government to power, for example, the party won both the presidency and the highest number of seats in the parliament (Ojibara, 2017; Okpe & Taya, 2018). On this ground, therefore, the Nigerians believed that the two institutions would interact better to facilitate public policies, consolidate democracy and good governance. Sadly, immediately after the new administration was inaugurated, the style of interaction between the executive, the legislature and the ruling party became enmeshed with crisis over the choice of leadership in the legislature (Ojibara, 2017). In fact, since the return of the fourth republic in 1999, the pattern of interaction between the organs remains more crisis-driven (Chima et al., 2018; Egwu et al., 2020; Igbokwe-Ibeto & Anazodo, 2015). The above views confirmed what has been the pattern of interaction between the institutions and were often influenced by

personal interests rather than public interest. Several studies have also been carried out in this regard and these include the works of Fashagba (2019), Baba (2019), Okpe and Taya (2018), but none concentrated on the crisis between the institutions under the APC- led government between 2015 and 2019. This study, therefore, filled the gap in the literature as the objective centered on unraveling the factors that led to the crisis between the institutions and its impact on good governance in Nigeria.

LITERATURE REVIEW

Legislature-Executive Relations

Considering the concepts of the legislature and the executive and their importance in a democratic government, Fashagba (2019) described the legislature as a key state political institution. It is an important constitutional unit that links the state and the people together through a legal structure known as the constitution (Muheeb, 2019). As Muheeb (2019) added, the parliament represents the symbol of popular representation and the most organized avenue for political actions and mobilization of public consents, while the executive, Heywood (2007) noted, is an irreducible arm of the government. In some democracies, Laski (1992) observed, it exists, first, to draft and take decisions on public bills for parliamentary endorsement, and second, to safeguard all public services, government MDAs and ensure their maximum operation as defined by the parliament. According to Baba (2019), these institutions (the legislature and the

executive) are critical in steering the state administration for good governance in a democracy. While the executive, he added, constitutionally makes public policies and execution, the legislature enacts laws and controls government activities. The control is often achieved through oversight for the essence of transparency and accountability, and to reduce public waste.

In addition to the above, Baba (2019) added, relations between institutions like the legislature and the executive are often dissected within a presidential democracy like Nigeria. This is because in military, monarchy or parliamentary administrations, the institutions, their powers, and functions are often fused. Therefore, in a presidential system, the institutions' relations usually involve the interaction that happens between them (Bassey, 2002, as cited in Okpe & Othman, 2020). This interaction, as revealed by Kopecký (2004), remains one of the important defining characteristics of any working democratic government. Also, the degree of constitutional powers entrusted to them is key to their interaction as they define their legal framework of relations (Lijphart, 2004). Considering the importance of the institutions, they represent the key to good governance in Nigeria. According to Holme (2007), Aiyede and Isumonah (2002), good communication between the institutions remains paramount as it would promote good governance, constitutional practice, and the rule of law. The above points to the importance of effective engagements between the institutions and are only achievable when they are active, functional

and interface in a pattern that consolidates citizens' confidence in the government.

In Nigeria, their powers and functions are defined in the 1999 Constitution due to their importance to the political system. However, Oni (2014) revealed, notwithstanding that Nigeria jettisoned the Westminster model it adopted in 1963, and the embracement of a presidential democratic governance in 1999, neither of the two succeeded in guaranteeing a stable political system needed for development and good governance in the country. Also, the pattern of interaction between the institutions has remained the most problematic (Okon et al., 2013; Oni, 2014). Since the emergence of the fourth republic (Momodu & Matudi, 2013), their pattern of relationship remains more of crisis and disagreements with more negative consequences on policy formulation, implementation, and good governance. What is more disturbing, they concluded, is that after several years of democratization, the politicians have refused to adjust from their tradition of impunity, deliberate disregard, and abuse of the rule of law introduced into the Nigerian politics by the military. The above showed that the institutions have not been more responsive to their roles and to the citizens due to their crisis pattern of interactions.

Legislature-Executive Crisis

To understand the concept of legislature-executive crisis, it is pertinent to explore the word "conflict". The word 'conflict' or crises emanates from a Latin concept known as "configure", and simply implies to strike

together (Albert, 2001; Barash & Webel, 2013). For instance, Momodu and Matudi (2013) observed that from time immemorial, the term remained as omnipresent and indispensable when it comes to social interaction in human societies. According to Wolff (2006), it refers to an occasion where two or more people, groups or institutions like the legislature and the executive, struggle for incompatible goals or interest. He concluded that crisis emerges in most cases due to struggle and interest over material gains or power and often between individuals or public leaders. Because of their vested interest, they often chose crisis over negotiation, and preferred violence over cooperation. Building on the above, Bassey (2002, as cited in Okpe & Othman, 2020) explained the executive-legislature crisis as a situation where the executive opposes the interest or actions of the legislature or vice versa. He added that it involves a state of absolute or partial incompatibility where either institution is in persistent affray with the other. He concluded that it often involves issues relating to public policy, their perception and pattern of understanding.

According to Momodu and Matudi (2013), a legislature-executive crisis connotes a situation in which both institutions strive for incompatible goals and interests. One arm sees the other as an enemy or makes efforts to block or frustrate its interests. In Nigeria, for instance, the pattern of interaction between the two institutions remains crisis-driven and problematic (Okon et al., 2013; Oni,

2014). Their crises often emerge during the public budget presentation, endorsement, implementation, and evaluation processes (Godswealt et al., 2016; Lewis, 2011). According to Okon et al. (2013), relations between government institutions often take diverse patterns of interactions and these involve crisis, negotiation, compromise, and coalition. For example, Okon et al. (2013) further revealed that under the Nigerian 1999 Constitution, the legislature enjoys the legal power to make laws, while the executive implements such laws for good governance. However, as revealed by Oni (2014), and Momodu and Matudi (2013), since the emergence of the fourth republic in 1999, amongst the key factors threatening Nigeria's democracy and good governance is the crisis pattern of interaction between the legislature and the executive. It has affected political stability and good governance. In fact, it is even against the principle of institutional relations for quality service delivery.

Legislature-Executive Crisis in the APC- led Government in Nigeria

From the legions of literature, cases of crisis between the legislature and the executive especially between 2015 and 2019 have emerged. Most of the crisis, as revealed by Ojibara (2017) and Okpe and Taya (2018), ranged from several factors which included executive interference in parliamentary leadership amongst other public policy issues. According to Ojibara (2017) a new political party (APC) which historically came into being through political alliance in 2013, defeated the governing Peoples

Democratic Party (PDP) in the 2015 general election. PDP was in power from 1999 until 2015 before it lost to APC. APC won the presidency and the majority seats in the parliament (Okpe & Taya, 2018). It was a new turnaround in the Nigerian political system.

With the above development, Nigerians believed that the two institutions would relate better. However, the case became different as after the inauguration of the new government in May 29, 2015, a crack in the new government became obvious. Crisis over who becomes the principal leaders of the parliament planted the first seed of discord between the executive, the ruling party, and the legislature (Ojibara, 2017; Okpe & Taya, 2018). The emergence of Senator Bukola Saraki as the President of the Senate and Yakubu Dogara as the House of Representatives' Speaker against the desire of the executive, led to a huge crisis between the institutions (Baba, 2019; Fashagba, 2019). Consequently, the unresolved disagreement which started in 2015, as Baba concluded, remained alive, so much so that in 2018 the President of the Senate and the House of Representatives' Speaker, went back to PDP, their former party. It was all crisis between the institutions throughout the period.

In addition to the above, the findings of Okpe and Taya (2018) which revealed the crisis between the institutions over the 2016 national budget, corroborated the result of Ojibara (2017). According to the authors, first, the crises were about inconsistencies in what the chief executive presented to

the parliament as the 2016 budget, and what the MDAs presented. Second, the suspected disappearance of the budget in the parliament after it was presented, and third, the likelihood that the executive laid varying budgets to the parliament. These crises over the 2016 budget, they concluded, reflected the absence of cordial relations between the organs as they affected the timely implementation of the budget. Similarly, Taiwo (2014) revealed that the executive and its agencies often refused to obey the parliamentary summons. He added that the lawmakers, on many occasions, summoned the heads of the executive MDAs, but they ignored such summons. For example, he concluded that in 2016, the Nigerian Senate summoned the Comptroller-General of the Nigerian Custom, the Secretary to the Federal Government (SGF), and the Inspector-General of the Nigerian Police (IGP), but they all ignored the summon. It led to a serious show of power before they later obeyed the summon (Ajakaye, 2018; Ogundipe, 2017). The entire actions of the executive MDAs violated the 1999 Constitution and the power of the legislature to query its activities.

Other crises, as revealed by literature, between the institutions were the legislature's rejection to confirm the executive nominee. On this case, Okpe and Taya (2018) explained that immediately the crises over the national budget, the constituency projects and the welfare programs between the institutions appeared to be over, a crisis on the issues of the executive appointment of nominees and the confirmation by

the parliament emerged. The executive nominated the head of the Economic and Financial Crimes Commission (EFCC) but the parliament rejected the confirmation. The above incident was also confirmed by Baba (2019), Fashagba (2019) and Okakwu (2018). They all agreed that notwithstanding that the confirmation of the EFCC Chairman was rejected by the legislature, the executive allowed the Chairman to remain in office throughout the tenure. It was a clear violation of the constitution and institutional authority. There was also another bone of contention on the Electoral Act amendment before the 2019 general election. Results showed that the parliament amended the Act severally before the 2019 elections and sent it for executive endorsement on three occasions, but the executive withdrew its endorsement (Peter & Peterside, 2019). According to DailyTrust ("Bills Buhari has refused", 2019), the action of the executive set the organs against one another due to their disagreement on the matter.

Accordingly, Muktar (2018) explained that when the 2019 general election came nearer, the political system became enmeshed with political intrigues which emanated from the crisis pattern of relations between the organs. On this note, Baba (2019) made it known that the unresolved leadership crisis in the legislature between the two institutions which started in 2015, became large that by 2018 both the Senate President and the House of Representatives' Speaker defected to PDP, the opposition party. He concluded that the change of party by the two leading leaders of the parliament

never went down well with the executive. Therefore, the executive plotted to impeach the principal leaders. As such, the executive besieged the National Assembly through its State Security Services (SSS). It was a disturbing issue because such a move by the executive was unwarranted. Based on the 1999 Constitution, the legislature is an independent institution with its own powers and functions for the benefit of good governance. Therefore, the role of the executive was an aberration on the legislature and a violation of the constitution and separation of their powers.

Democratic Governance and Good Governance in Nigeria

Under Nigeria's fourth republic in 1999, its presidential democracy and good governance continued to gather momentum amongst scholars. According to Isma'ila and Othman (2016), while democracy and governance remain interrelated, they are equally independently distinct and exceptional. They qualified democracy as a government and constitutional system where the citizens select or elect their representatives to carry out responsibilities involving the allocation of resources, values, and public welfare. The World Bank (2005, as cited in Isma'ila, 2016) noted that governance reflects a system where the constitutional powers of the state are used to manage her political and economic resources for development. It involves a process in which public powers are granted and used for the service of the people (Imobighe, 2013; Isma'ila & Othman,

2016). Democratic governance, therefore, as noted by Isma'ila (2016), reveals a process in which state institutions like the legislature and the executive operate in accordance with democratic processes. As they added, it encompasses exercising the teachings of democracy. Good governance, according to Elaigwu (2014), encompasses how citizens and leaders that enjoy the state authority make use of such processes to realize the needs of the people. It simply involves the delivery of welfare services to the people, preservation of law and the pursuit of peoples' interests.

According to Isma'ila (2016), democratic governance and good governance involve the exercise of democratic ethos that have to do with popular sovereignty and majority rule. This also includes public empowerment, rule of law, functional constitution, periodic credible elections, respect for human rights and freedom of speech. In the Nigerian context, he argued, the above democratic ethos is neither strong nor active enough to effect positive changes in the system. The absence of active operations in line with democratic principles by the state institutions like the legislature and the executive characterized the system. He believed that it is one thing to have democracy, but a different thing to have a democratic working- system. Therefore, the absence of a working democracy in a democratic system is tantamount to a failure of democratic governance. According to Ogbo and Avidime (2016), the return to democratic governance in 1999 was a welcome development amongst the

Nigerians, but the experiences remained problematic for the country. Positive achievements like uninterrupted democratic transitions, economic dividends, improved political and civil rights were witnessed, but the level of success connected to the democratic experiences appeared to be outshone by poor governance. The problems of industrialization, poverty, unemployment, decline of infrastructure, insecurity over lives and property, political corruption and weak public institutions remained obvious in the system. Consequently, the degree of citizens' trust in the democratic system, the institutions and their actors continued to decline.

Also, challenges of ethnic cleavages, electoral malpractices, insecurity and religious crisis continued to impact negatively on Nigeria's democracy and the fourth republic (Ogbonnaya et al., 2012). They added that institutions like political parties, the lawmaking organs and their oversight roles over the executive, and instruments of checks and balances could be seen, but inadequacy and weakness of these institutions remained the greatest obstacle to the delivery of goods and services. They concluded that the institutions had failed to secure public lives and property, ensure credible electoral processes, sanction corrupt public officers for their wrong activities, as well as the perpetrators of violence. All these indices contradicted the ethics of democratic governance. The above indices, Oni (2014) argued, were products of the persistent crisis between the legislature and the executive. To him, the Nigerian presidential democratic

governance under the fourth republic had failed to guarantee a stable political system and the persistent crisis between the legislature and the executive remained the most problematic. He concluded that the institutions interacted under mutual suspicion, animosity and political enmity largely orchestrated by political godfathers working with the executive. According to Momodu and Matudi (2013) the institutions dysfunctional crisis relations often deadlocked the processes of public-policy formulation and implementation, and thereby, ultimately negatively impacted good governance. The indices could not guarantee public interest, good governance, and democratic consolidation in Nigeria.

MATERIALS AND METHODS

This study was anchored in understanding the factors responsible for the legislature-executive crisis under the APC- led government in Nigeria between 2015 and 2019, and its implication on good governance. To realize the above, the study relied mainly on the descriptive qualitative research method. According to Creswell (2014), a research method has to do with the body of choices and processes a researcher engages to study and unveil a phenomenon of interest. The reason and validation behind the adoption of the method to understand the causative factors that led to the institutions' crisis in Nigeria, were because the legislature and the executive are social and democratic institutions. Also, the public often have opinions on how they relate, interact, and perform their

constitutional roles. As noted by Wright and McKeever (2000) qualitative research stands as a perfect research instrument in carrying out an investigation about a social phenomenon that involves hearing or gathering public opinion. Magilvy (2003) explained that the intention behind this research method is often entrusted to the researcher's effort to cast a deep thought and articulate proper descriptions of his subject of interest. Materially, only secondary data were used such as academic resources that share knowledge on institutional relations, political parties, good governance, and democracy. The materials included reports from the parliament, the executive, civil society organizations, political parties, and books. Books written by Omotoso and Oladeji (2019), Fashagba et al. (2019), Baba (2019), Fagbadebo and Ruffin (2019) were amongst others. Lastly, it also used the institutional theory of conflict (crisis) to support the secondary data for clarity, develop linkages and to arrive at acceptable conclusions.

Theoretical Framework

This study adopted the institutional theory of conflict to explain the causative factors that led to the legislature-executive crisis under the APC- led government between 2015 and 2019, and its implication on good governance. This theory, Garuba and Salawu (2020), and Osakede et al. (2017) observed, was developed by Schmidt (2006). According to Osakede et al. (2017), the theory creates room for an in-depth examination of the crisis between

government institutions. In fact, Garuba and Salawu (2020) further represented the theory as the best guide in assessing how crisis between the legislature and the executive under the APC government resulted in major political rivalries and as such, led to the poor formulation and implementation of public policies which gave room to bad governance in the country. The theory placed emphasis on the interactions between institutions, implementation of values, resources, and the way in which the pursuit of interests often led to crisis (Osakede et al., 2017). It believes that crisis emerges due to the incompatibility of goals, beliefs, objectives, roles, and interests between the state organs.

More importantly, crisis, as noted by Albert (2001), simply means to strike together. It is omnipresent (Momodu & Matudi, 2013) and remains indispensable in social communication (Barash & Webel, 2013; Osakede et al., 2017). It connotes disagreement, opposition, contest, or controversy amongst actors with opposing ideas, needs or beliefs (Andre, 1994; Fatile & Adejuwon, 2016). The theory views the state as a political platform of interest within which important actors like the legislature and the executive struggle over limited resources (Garuba & Salawu, 2020). In this context, Osakede et al. (2017) further observed that the two institutions often pursue an incompatible objective which makes crisis inevitable, especially when performing their constitutional roles.

According to Sears (2008), a legislature-executive crisis happens when the state's powers and resources are unevenly distributed

between the arms. It also manifests due to the incompatibility of roles and interference by one institution on another. According to Momodu and Matudi (2013), occasional crises between the institutions is predictable and unavoidable, but if well managed, can be healthy for the progress of democracy and good governance. In Nigeria however, the crisis between the institutions is seen as the most problematic to democracy and good governance (Oni, 2014; Osakede et al., 2017). In fact, the institutions have refused to learn and change from their impunity (Momodu & Matudi, 2013). For instance, Okpeh (2014) argued that in the US, such crisis is perceived as necessary for the consolidation of democratic experience but is entirely different in Nigeria as results from policy formulation and implementation remain largely elusive. This infers that their constant crisis remains a bane for good governance. As noted by Egobueze et al. (2020), the Nigerian political class intentionally made the institutions to be weak to exercise control over public resources. Based on this, therefore, the application of the theory to explain the causative factors that incited crisis between the legislature and the executive under the APC government in 2015-2019 cannot be overemphasized. It enables the crisis causative factors to be well understood.

RESULTS AND DISCUSSION

From the body of literature reviewed, several factors responsible for the crisis between the legislature and the executive under the APC -led government in 2015-2019 emerged. These factors included

leadership interference and legislative oversight amongst others. They are analyzed and explained below.

Leadership Interference

This factor, as revealed by literature, often emanated from the executive and was responsible for almost all the crises between the institutions under the APC- led government. On this matter, Baba (2019) and Oni (2013) made it clear that while the Nigerian 1999 Constitution in Section (47) and Section (4) recognized the legal powers and roles of the National Assembly, Section (130) and Section (5) of the same constitution also established the functions and powers of the executive. However, as they both further revealed, the exercise of these constitutional provisions led to several crises between the institutions and often emanated from executive interference and intention to dominate parliamentary leadership and businesses. For instance, Baba (2019) observed that executive interference in the leadership of the National Assembly continued in 2015 after the general election and the inauguration of the new government. He observed that despite the expectation that the alternation in power which resulted in the defeat of PDP and the emergence of the APC government and that the legislature and the executive would improve their relations, the institutions' acrimony remained a major challenge in the system. The emergence of the APC government and the defeat of PDP refused to change the power tussle that often characterizes the decision of who becomes the principal leaders of the parliament.

According to Ojibara (2017) after the inauguration of the new government in 2015, the next procedure was to elect lawmakers who would serve as the principal leaders of the parliament. In that election, he added, the executive and the ruling party anointed Senator Ahmad Lawal and Honorable Femi Gbajabiamila as their favorite candidates for Senate President and Speaker of the House of Representatives. The two houses perceived the executive and the ruling party as interfering in the legislature's constitutional right to freely elect their principal leaders. The lawmakers did not only turn down the two candidates proposed by the executive and the ruling party, but they also went ahead and elected Senator Saraki as the Senate President and Honorable Dogara as their Speaker (Baba, 2019). According to Baba (2019), the emergence of Senator Bukola Saraki as the Senate President and Honorable Dogara as the Speaker of the House of Representatives immediately after the general election in 2015 against the executive's choice, crippled their high chances for better interaction and teamwork. The unresolved leadership crisis which started in 2015 between the institutions, grew so wide that the President of the Senate as well as the House of Representatives' Speaker, returned to their original party, PDP (Fashagba, 2019). This was responsible for various crises and instabilities in the parliament and throughout the administration. Executive interference and crisis between the institutions were often based on personal interest. This also confirmed the submission of the

institutional theory of conflict and was against democratic consolidation. The parliamentarians, ordinarily, have the legal rights to elect their leaders without external interference.

Legislative Oversight

Notwithstanding executive interference on the constitutional independence of the legislature, an oversight function of the legislature over the executive was another factor that led to conflict between the two organs. As noted by Pelizzo and Stapenhurst (2013) this legislature's oversight function encompassed constitutional roles built around the formulation and assessment of public policies. It was centered on public expenditure, assent to public bills such as the national budget, approval of executive nominees, summoning of its MDAs and seeking explanation on the execution of several activities within their disposal. Regarding the above, it is important to note that the exercise of these constitutional duties by the parliament led to several crises between the institutions.

The crises were obvious in the 2016 national budget, the illegal withdrawal of \$1billion by the executive from the public treasury against parliamentary sanction, parliament's refusal to confirm the executive nominee (the EFCC Chairman) and his persistent stay in the office against the provision of the constitution. Others were crises over the refusal to obey parliamentary summons by Hameed Ali, (the Nigerian Custom Director-General) and Ibrahim Kpoti (Inspector-General of Police) amongst

others (Ojibara, 2017; Okpe & Taya, 2018). According to Baba (2019), these crises dented their spirit of partnership. In fact, as he concluded, the strained pattern of interaction between the arms prolonged the 2016 budget and its timely implementation. The crises were not healthy for good governance as they often had their roots in crises of personal interest rather than public interest. They affirmed the submission of the institutional conflict theory, and could not build democracy.

Lack of Capacity Building and Poor Experience

This simply involves the ability of the lawmakers and the executive organ to carry out their constitutional powers and roles with knowledge and expertise. However, Eme and Asadu (2017) observed that inadequate competence affected good interaction between the institutions in Nigeria. Many of the public office- holders, they added, instead of using funds budgeted for their capacity development through further training to enhance their working knowledge, often diverted such funds for their personal use. Consequently, as they concluded, they ended up neither having the required knowledge in their field or the technical know-how to improve their relations. Also, results emerged that to castigate some of the legislators who were seen to be stubborn towards the executive, the executive often ensured that such lawmakers lost their seats in the next election (Jombo, 2019). He concluded that this move by the executive against such

lawmakers negatively affected the degree of vital parliamentary experience which was supposed to aid their capacity in relating with the executive. This incident is not rare in Nigerian politics and it explains why some of the lawmakers' defect to different parties that can serve their interests especially when elections are approaching. They all involve crisis of goals and interest.

Personal Interest and Corruption

Politics of corruption and personal interest cannot be overruled in any political setting. In Nigeria, for instance, results emerged that constant drive by politicians and other public office- holders like the legislature and the executive to personalize public office, is often a common factor in examining crises between the institutions (Oni, 2013). According to Fagbadebo (2016) the general perception of Nigerians with regards to politicians is that they usually go into public office not basically for the public interest. Along the same line, Eme and Asadu (2017) noted two types of corruption that often caused crises between the institutions. One type involved legislature- and executive-induced corruptions which often led to crises of confidence and trust between the institutions. For instance, they concluded that Obasanjo's alleged bribery to some parliamentarians in 2003 to impeach their Speaker, was an executive-induced corruption which led to a crisis between the institutions. Conversely, the bribery allegation against the President of the Senate, who served in 2003-2005, was a legislature-induced corruption. Furthermore, Nwagwu

(2014) observed that some parliamentarians often see their oversight responsibility as a quick way to become wealthy. They engage in all degrees of tactics and influence to join a committee in the legislature, which is often engineered for personal interest. They extort, intimidate, and humiliate their prey (executive MDAs) and force them to carry out their interests (Omotoso & Oladeji, 2019). Their attitudes contradict democracy, rule of law and good governance as everything appears on personal pursuit.

Communication Gap and Poor Lobby

These issues were among the factors responsible for the institution crisis under the APC- led government. Eme and Asadu (2017) revealed that beyond their interface and interaction- session during their national budget presentation and defense by the executive MDAs, they hardly exploited other avenues for joint interaction. They hardly consulted each other to deliberate on their relations and public policies. Under the APC government, results showed that the parliament often accused the executive of not lobbying the institution for quick passage of bills, the national budget, anti-corruption war and confirmation of nominees (Ojibara, 2017). However, as Ojibara concluded, lobbying amongst Nigerian parliamentarians is often about the distribution of patronages and brown envelopes. The parliamentarians often want President Buhari to maintain the culture of sharing money and patronages in return for their support. It is all about selfish interest and not about the public. It could explain the reason for their constant crisis.

Implication of Legislature-Executive Conflict to Good Governance in Nigeria

Generally, as noted by Okpe and Othman (2020), the pattern of interaction between two state institutions, by implication, can either produce negative or positive impacts to democracy and good governance. On this, Eme and Asadu (2017) asserted that the crisis between the organs could not only represent an important instrument in controlling government excesses but could also serve as a gridlock over important public policies. They concluded that it could affect good governance and render the early delivery of democratic dividends futile. According to Muheeb (2019) the parliament between 1999 and 2015, before the emergence of the APC government, passed a total of 248 bills into law, but from June 9, 2015 to July 2018, it passed 213 bills into law (Oni et al., 2019; Umoru, 2018). This was notwithstanding the crisis between the two institutions. As further revealed by Muheeb (2019) aside these achievements, politics of personal interest had a serious negative impact on the much-anticipated active relationship between the institutions for good governance. The chaotic pattern of interaction (Baba, 2019) succeeded in disrupting the achievement of the key democratic values of accountability, probity, transparency, and equitable management of public resources. Public policy issues such as lawmaking and parliamentary oversight in the said period were hardly agreed upon. Budget proposals, as he concluded, were unreasonably delayed and non-implementation of budgets was barely

sanctioned by the parliament, which affected good governance. According to Fashagba (2019), the change to a good life that the APC administration pledged to the Nigerians was lost in the crisis between the institutions. Consequently, it led to poverty, hardship, and economic deprivation in the country. The whole conflict was against the interest of the people as it brought more negative consequences with less benefit to the masses. They were all driven by crises of personal interest against the public interest.

CONCLUSION

In most institutional relations such as in a presidential democracy like Nigeria, a crisis is inevitable between the executive and the legislature. However, a healthy interaction for public interest and good governance cannot be overemphasized. According to Okpe and Othman (2020), these institutions perform important duties in aiding an active political system, providing better goods and services through good governance, as well as consolidating democracy. With respect to the above, this study aimed to unravel the factors that led to the legislature-executive crisis in Nigeria's fourth republic democratic governance, especially under the APC- led government in 2015-2019. To achieve the above aim, the study relied mainly on the descriptive qualitative research approach as well as secondary data. From the analysis, factors responsible for the crisis emerged and this included executive interference in parliamentary leadership. Other factors were the legislature's oversight, lack of capacity building and experience, personal interest,

corruption, communication gap and poor lobby, and inability to resolve their interest within their party.

By implication, the results also showed that in 1999-2015, the parliament was able to pass 248 bills into law (Muheeb, 2019), but in 2015-2019, it passed 213 bills. It showed a greater performance (Oni et al., 2019; Umoru, 2018). However, Muheeb (2019) added that aside the above achievements, politics of personality which emanated from the crisis impacted more negatively on the political system. It disrupted accountability, transparency, and fair management of public resources. Budget proposals were unfairly delayed, poor implementation of policies, lawmaking and inadequate oversight led to poverty and poor governance. According to Fashagba (2019) all positive changes the APC government pledged to the Nigerians were lost in the crisis. The above are similar to the findings of Okpe and Othman (2020), Ojibara (2017), Okpe and Taya (2018), and Egwu (2020). All these were against the interest of the public and the political system. Therefore, there is need for synergy between the institutions for the purpose of public interest. They must obey their institutional independence and promote collaboration for public interest. They must respect the constitution, its provisions, and the rule of law to ensure democratic consolidation. Finally, the study would be of benefit to the institutions, researchers, and the people. Further studies can examine the legislature-judiciary pattern of relations under the fourth republic in Nigeria.

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Male Dominant Sport: The Challenges of Esports Female Athletes

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ABSTRACT

This article discusses the challenges experienced by female athletes in esports. Esports is categorized as a male-dominated sport. Since most of the players are male, female athletes struggle to sustain their careers. A qualitative approach was used where ten women who were actively involved in esports were interviewed. The respondents selected through the purposive sampling method were active in esports, representing esports team/club, and involved in massively multiple online role-playing games (MMORPG). Data were analyzed using thematic analysis and presented descriptively and narratively. The findings indicated gender stereotyping women as not competitive at MMORPG, sexually explicit comments from male opponents, communication issues, especially with male players, and

the perception that women are not suitable to play the extreme, aggressive and masculine type of online games. The game features are more significant to men compared to women, who are often associated with femininity. Indirectly, such impressions hamper the opportunity for women to be more active and progressive in esports.

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INTRODUCTION

The advancement in information technology has led to the growing usage of the internet among users for various purposes globally. Apart from the emerging social media applications that facilitate the communication process (Salleh et al., 2019), technological and digital developments also made a difference in the sports world. Online video games on computers and smartphones attracted children, teenagers, and adults. In the past, online video games were not considered to be beneficial to players.

Esports is a computer-based sport played by professional players or gamers in formal competition between teams via an electronic system (Edward, 2013). Many popular video game genres were contested, for instance, Strategy Base Game, First Person Shooter (FPS), Multiplayer Online Battle Arena (MOBA), and Player Unknown's Battlegrounds (PUBG). In Malaysia, strategy-based computer games such as Defense of the Ancients 2 (DOTA2) and League of Legends (LOL) are of interest among adults. These two games are based on the online battlefield strategy involving several players battling using powerful units known as heroes and assisted by their allies. The revolution of computer gaming technology has changed the context of the digital game itself owing to its highly interactive features that connect virtual players seamlessly across national borders, where players can interact and create a virtual community of young people (Yusoff, 2020). Moreover, online games provide the players with space and power

to express themselves (Salleh & Ilham, 2017) through the skills and techniques of the games they play. In 2017, Mineski Events Team (MET) President Kenchi Yap announced the national esports competition, the Malaysian Esports League (MESL), which was the largest DOTA 2 competition to date in Malaysia with a cash prize of up to RM500,000 to encourage the country's youth and overseas players to participate (Hayes, 2007). The significant amount of prizes is one of the major attractions in this sport (Yusoff et al., 2020).

Malaysian esports icons include 'Mushi' Chai Yee Fung, 'Ohaiyo' Khoo Chong Xin, 'MidOne' Cheng Yeik Nai, and 'Ah Fu' Tue Soon Chuan, who have successfully raised the country's name in the international arena (Lee & Schoenstedt, 2011). Esports are monopolized by young people around the age of 16 to 30. On May 1, 2015, the Malaysian Electronic Sports Association was officially launched to focus on electronic games competition and related promotional activities. The association was registered with the Malaysian Sports Commission. Men still monopolize the majority of esports players both in Malaysia and abroad. As such, esports is conceptualized as a male-dominated industry. There is no doubt that a small number of women have successfully ventured into the esports industry, especially in Malaysia. However, this number is still relatively small compared to male players. This article aims to discuss the factors that influenced female athletes who joined esports and their challenges.

LITERATURE REVIEW

Evolution of Esports

Esports may be a newly introduced concept. However, 'virtual sports' has been around since the computer was invented and game consoles were introduced (Chikhani, 2015). Tennis for Two was the first virtual sport introduced to viewers in 1958 (Lynch, 2016). Tennis for Two was created by displaying an image of a tennis court on a computer, and the player must move the tennis ball by touching the screen, much like today's online games. In 1967, Ralph Baer created a game known as Brown Box, the first online game that used a button console to control the game, and it also appeared on television sets (Bradmore & Magus, 2016).

The first online game started around the 1980s and was known as the Space Invaders Tournament (Edwards, 2013). The competition drew more than ten thousand entries and paved the way for esports. Nevertheless, the great start to the esports industry began in 1998 when the StarCraft game was introduced. The game uses a 'matching' game method that allows players to play with anonymous players (Lynch, 2016). Strategy and technique are fundamental to play the StarCraft game, becoming a phenomenon in many countries. In 2012, League of Legends (LOL) took over as the world's leading online game. The game was estimated to have over 100 million players (Milne & McDonald, 1999) worldwide. Shortly after LOL, MOBA was introduced and triggered global attention. MOBA focused more on teamwork, especially team communication,

to formulate success strategies (Everson, 2013). Nowadays, more games in esports are being introduced and not only focused on action and multiple roles. Games like football are also included in esports or better known as FIFA 20.

Differences Between Male and Female Esports Athletes

Women often become subordinates in conventional sports where their capabilities and achievements were compared to male athletes (Shen et al., 2016). A similar observation was noted in the virtual sports industry. Although esports do not involve physical contact with players, they are quite synonymous with being aggressive and violent. Hamari and Sjöblom (2017) provide an example of an online game, Counter-Strike: The Global Offensive, which requires players to shoot their opponents to win the match. Also, the enjoyment of playing an online game and the excitement of winning a game or stepping into a higher ranking were reported to be more exciting for male than female players (Ray, 2004). Winning a match was stated to be the biggest goal for most esports male players (Bettencourt & Miller, 1996), while female players were less concerned about winning or losing a game (Ray, 2004). This was attributed to openness to defeat and victory in a game by the female players (Shen et al., 2016). Most of the online games were designed to attract male over female players. Games such as MOBA, LOL, and StarCraft are based on war, action, and interspersed with violent elements, which are more suitable for male players (Hamari, 2013).

These features represent more of the masculine image than the feminine. Indirectly, it answers the question of why more men are interested in esports than women. Female players were regarded incapable compared to male, and in some situations, female players were unsure of their skills (Shen et al., 2016). This issue was ascribed to female players' learning techniques and methods used in esports games (Blumberg & Sokol, 2004). According to Bonanno and Kommers (2008), the longer time spent for esports training by the male players was the key for their good performance compared to the female players, especially for multiple online role-playing games (MMORPGs). Besides that, a lack of confidence among female players is another factor for their poor performance in esports games (Chan, 2008). Women tend to believe that men are more apt to be actively involved as role players as most of the esports involve science, math, engineering, and technology. Apart from that, the prizes offered were also different for male and female players. Ruvalcaba et al. (2018) stated that male players were often paid higher wages for their good skills and technical ability than female players. Female players play a passive role as supporting players in esports (Shen et al., 2016). Overall, the abovementioned factors resulted in biases in the player's position and pay scale.

Female Athletes and Their Challenges in Esports

Involvement in the male-dominated and

behind-the-scenes sports industry has indirectly led to the emergence of a gender stereotype, especially to female players. Women are a minority in the esports industry. Yee (2006) mentioned that 86% of MMORPG players were male, and 14% were female. Women involved in esports are sometimes confronted with sexism and sexual harassment (Ruvalcaba et al., 2018). Women images in games such as Mobile Legends, PUBG, and Dead or Alive were portrayed dressed in swimsuits or undergarments and some cases, with images of women's body parts exposed. Although the images were animated, they provide the stigma and perspective that a woman is deeply related to sexual elements but not ability, skills, and techniques.

In most online games, female characters are usually supporting roles, while the main characters are male (Beasley & Collins, 2002), which caused female players to stand out as men. Reaching a higher rank or leaving the supporting role is the dilemma for female players. Moreover, most of the multiple-player online role-playing games like DOTA, PUBG, and Mobile Legends are aggressive and violent. A study conducted by Nielsen (2009) found that female players were more likely to choose online games that are less aggressive and violent. Shooting and multiple roles games attracted more male players than female players.

The capabilities of female players are often underestimated. For most male players, female players are not efficient and do not have a good game-playing technique (Witkowski, 2014). As a result, some female

players deliberately hide their gender in an online game (Witkowski, 2014) and prefer to use male names to avoid gender stereotyping. In a team game such as the massively multiple online role-playing games (MMORPG), most teams consist of only one gender. However, some teams have a mixture of male and female players. In a team where there are both genders as players, the female players often feel depressed, especially when their team is losing. Being the victims of gender stereotyping, female players were regarded to affect their team's performance (Kaye & Pennington, 2016) due to their incompetency and lack of skills (Gray, 2012), leading to the team's losses. Thus, female players prefer to form groups of females to prevent negative comments that could affect their emotions. The stigma and gender role stereotyping begin from the socialization process in their early upbringing.

Effects of the Challenges on Female Esports Athletes Performance

Sexual harassment can affect female athletes both emotionally and physically, not only in traditional sports but also in esports. It can indirectly cause emotional stress (Koss, 1991), low self-esteem, anger, and frustration (Brackenridge, 2002). Besides, the stigma that female players cannot perform as well as male players in online games has prevented female players from moving forward and being successful in the esports industry (Fox & Tang, 2014). Furthermore, in some situations, female players were removed from the game or

replaced with a male player due to gender stereotyping, which caused female players to work harder to be in the highest rank (Lowrie & Jorgensen, 2011) in an online game. Besides, the pay and prizes were also inconsistent between female and male players. On average, female players earned USD 3,331.18 compared to the average winning amount collected by male players, which was USD 443,276.80, according to a study conducted by the Entertainment Software Association (ESA) with a difference of 751% (Shaw, 2012).

Based on the literature review that has been highlighted, esports itself has a new area and therefore not many studies have been conducted especially in the sociology field. Many researches on esports more focused on the evolution of esports, factors involving in esports and the effects of involving in esports. While there is not much research highlighted on gender differentiate among esports athletes. Statistics showed that esports are nominated by male athletes compare to female. This statistic is interesting to study why it happens. Gender role theory may influence the numbers of female participation in esports. According to gender theory, gender socialization since baby has determined what type of clothes, toys, sport, and job that can be done by male or female. Challenges faced by female athletes said by previous research including the challenges to be in the main team, played the main role, often being underestimated of their capabilities and sometimes they were faced-sexual harassment. The lack of the existing research is they do not explore more

on how the female's athlete overcome their challenges or to what extend the challenges affect their confidence and career in esports. Apart from that, many researches that have been done were used a quantitative approach and all the research were conducted outside of Malaysia. Malaysia is one of the countries that really take serious on esports and through the Ministry of Youth and Sports Malaysia, the blueprint of esports has been introduced and Malaysia targeted to be the numbers one hub of esports in Asia within five years. Therefore, a study on Malaysia setting need to be done because, the differences between culture, locality and esports management also will lead to the different outcome. Thus, this study tries to fill the gaps from the previous researches.

METHODOLOGY

This study used a qualitative approach to obtain data and information from esports athletes. As this study focused on the gender stereotype issue, a qualitative method was viewed as one of the most practical approaches where researchers have the flexibility in questioning the respondents. An in-depth interview was conducted with ten respondents.

The respondents were selected using a non-probability sampling method, that is, intended sampling. For this study, the respondents' inclusion criteria were the respondents should be female, an esports player, aged between 18 to 30 years, and registered with an esports club. The justification for selecting respondents in the mentioned age range is most esports

players are made up of this age group. The importance of selecting a registered respondent with an esports club is due to the esports concept itself, where players represent a team/club in a single match. Additionally, data from secondary sources were also referred to for more information. This study's results were analyzed using a thematic method, where the author compiled the interview session results with several pre-defined themes. All the themes were explicitly designed to address the research issues. Data were presented descriptively and narratively.

RESULTS AND DISCUSSION

Profile of Esports Female Respondents

Seven respondents were interviewed in this study, and their details are as follows.

Table 1 shows the informants were in the age range between 19 and 22 years old and were registered under three esports clubs, namely NED Esports, Weak Esports, and Girls Power. Informant D, G, and J were with the least experience in esports with one-year of experience of being professional female players. Meanwhile, Informants A, C, E, H, and I, were involved in esports for two years. The most experienced players in this study were Informants F and B, who have been in the Malaysian esports industry for three years. Although the professional involvement period in esports was relatively short, ranging from one to three years, the informants were actively involved and exposed to video games for a long time. Nevertheless, their tenures as professional gamers were classified as a new level.

Table 1

Profile of respondents

Informants	Age (years)	Duration involved in Esports (years)
A	21	2
B	20	3
C	21	2
D	19	1
E	22	2
F	20	3
G	19	1
H	22	2
I	19	2
J	20	1

Factors Affecting Involvement of Female Athletes in Esports

Most respondents stated that they were interested in playing video games since they were in high school, where they found that was the motivation in choosing esports as a career. Informant D, the youngest respondent in this study, added:

I do have a passion for video games, but I just play for fun to reduce my stress and to spend my leisure time. Never once I thought I would end up being a professional gamer, and I do see that one can make money within this industry (Informant D).

The situation shows that playing video games is no longer considered a negative habit. Previous studies linked involvement in video games becomes an addiction (Gentile et al., 2011; Ozlan & Buzlu, 2007), educational neglect (Griffiths, 2010),

motivates players to be aggressive and violent (Lehenbauer-Baum & Fohringer, 2015) and can also cause health problems (Young, 2009). Video games can also offer many benefits to players. One of the benefits includes the lucrative returns of a professional player's salary or the tournaments' prizes.

Apart from interest or hobby, another factor that encouraged the respondents' engagement in esports is peer influence. Peers are important socializing agents who can be a catalyst for another person's behavior. According to Informant B:

I was not good at video games previously. I play very simple games such as candy crush and arcade. But, I have a few friends who are good at games. Especially strategic games like MOBA and Headstone. I did not understand the games initially but after I watched my friends playing and they won, I was excited and asked

my friends to teach me to play those strategic games (Informant B).

Informant B added that close friends play an important role in teaching how to play MMORPG. At first, it was fun to play video games, but realizing that the MMORPG requires strategy and skills, eventually sparked interest in learning the game. Informant G also agreed with Informant's B statement, and she added:

Multiple Role Player such as PUBG, MOBA or DOTA are kind of difficult games. The tricky part is that you must understand how to play the game, then you have to come out with the strategy of how to win the game. Communication with team members is important. Because MMORPG is a team-based game. If you don't have communication with your team members, for sure you cannot win the game (Informant G).

Communication with team members is crucial in winning a game, especially in a team-based game such as MMORPG. Each player has a specific role in ensuring that the team wins (Yee, 2006). Team members are considered friends. Besides the communication aspect, trust among team members is very important to win the game (Huang et al., 2013).

Apart from personal interest, peer influence, and communication skills, social media also influenced female players' involvement in esports. Social media's

role is significant, where more interactions occur via social media than face-to-face communications. Respondents also stated that online games live advertisements that appear while using Facebook and YouTube could also initiate the interest to become a professional esports player. According to Informant D:

I play video games for quite long but just for fun or to compete with my friends. I have never thought of being a professional online game player as many female players I came across were not professional players. Once when I was using YouTube, I found out some female gamers actively streaming their live games. Then, I started to follow them, and it is very interesting as you can do whatever you like, and you will be paid for your hobby you are passionate about (Informant D).

YouTube is an excellent platform for streaming live online games, which means that a player's game will be watched by hundreds of thousands of people online. Viewers can comment when a player plays, and the player can interact with the audience (Webster, 2013). This phenomenon attracts informal gamers to venture into the esports industry as professional players. Informant D mentioned that the live streaming method could generate huge revenue depending on how many viewers are watching and how long a player can survive the game.

The Challenges Faced by the Informants

As mentioned earlier, the esports industry is pioneered by men. While some female players have made it through the industry, it has not been an easy journey. All the informants acknowledged that they faced several challenges throughout their careers. The gender stereotyping issue has been the biggest challenge they experienced. Although all informants have one to three years of experience in the industry, they still face gender stereotyping. The informants who participated in this study agreed that the main reason for poor involvement by female players' in esports is due to gender inequality (Ferrante, 2011). Gender equality is a major agenda promoted by the United Nations through the Sustainable Development Goals. Eliminating discrimination against girls and women is important in all areas, including sports institutions (Department of Economic and Social Affairs, n.d.). Gender equality will not be achieved if gender role stereotype still occurs. Through socialization, society has determined what a woman and a man can do in terms of clothes, toys, behavior, and career choices. This situation has indirectly influenced the belief that gender roles cannot be changed even though they are flexible and can change over time, culture, and locality.

You know that online games are dominated by men, so when female like me decided to be a professional player, there is always someone talking bad about it. I had an experience with

one male player where he asked female can play online games? Better you go home, stay in the kitchen and learn how to cook. That is more appropriate (Informant E).

Classification of what a woman can and cannot do caused the respondents to experience the stigma. The male players often feel it is inappropriate for women to play video games. One of the main reasons this happen because the culture in Malaysia specifically not allowed female to spend much time in front of smartphones or computer. Parents normally have many list to do for their daughters and most of them are house chores. While for male, they always get some 'approval' spending their time playing video games. According to Informant H:

"I used to be stigmatized by male players. Once when I signed up for a competition, my rival was a male and asked do you know how to play?" (Informant H).

The situation shows that the opponent player underestimated the ability of the respondent in the competition. This study's results were in line with those found by Beasley and Collins (2002), who stated that female esports athletes are often doubted for their ability to play against their opponents. Furthermore, Hartmann and Klimmt (2006) added that sometimes opponents underestimate female players assuming they can play with ease. When their scores were interrupted by female

players, the male players will play on gender sentiment to provoke opponents to lose focus on the game. The respondents also stated they did not receive the same respect as the male players. However, they feel that they can play alongside men but being in the industry is difficult.

I join this industry more than three years ago. I have participated in many competitions and I won several times and achieved top rank. However, I still did not get any attention and respect from the others especially the male players (Informant G).

Although the respondents were successful in the competition, they still feel that they did not receive the same recognition and respect as the men. At times, there were cynical remarks stating that the respondents' victory was merely a stroke of luck. Female players also face communication issues, especially when they are in a team of male players. As Informant A said:

“Before I joined my current team, I used to be with a team where I was the only female athlete and faced communication problem” (Informant A).

Previously, she was the only female player in a team that consisted of male players. Communication between team members is crucial in MMORPG games. Strategies need to be carefully crafted; players need to know their roles and decide who plays the main role and hold the

supporting role. Since Mojo is a young woman, her valuable suggestions were sometimes not accepted by others. They seem to think that men are better at playing MMORPG games than women. Thus, Mojo chose to leave her old team and be a member of her current team, comprising female players only. Communication problem sometimes because of gender differences while the man tends to show their masculinity.

Being in the same group as her gender, she felt that the stresses being in the team had diminished. Communication is smooth and can work with other team members to develop strategies to ensure success in competitions. They also focus on participating in tournaments that focus on women's esports. It is more fun as there is no stereotyping or gender discrimination in competitions dedicated to female players.

Informants also mentioned that they were usually given supporting roles in the competition that involved both female and male players. Male players dominate the main character due to the stigma women are not good game players. Thus, men are always given the leading role (Ivory, 2006). Despite being with the team for a long time and the management team was aware of their development and ability, they still failed to be the lead player, doubting their ability to win a game. There were cases where male players were selected as the main character in a match but could not perform well yet could still play as the main character in the next game. Female players remain as the supporting role in a game.

This situation has directly hindered the opportunity and space for female players to develop their potential in games and competitions, reducing their confidence level in their ability to perform equally as men. If this situation continues, many female players cannot undertake the online gamer profession in the future. Gender inequality exists in esports as in other fields. Respondents mentioned that female players' abilities were sometimes overlooked because of gender stereotyping. Informant D added:

Even though you did not wear a sexy attire during the tournament since you wear team attire, which is normally a T-shirt and jeans, yet we received some sexism comments from other opponents. For instance, a question like your avatar is very sexy are you the same as this avatar? (Informant D).

Female players were often given the supporting role, a weak female animation character or avatar, and they need to be rescued by the team members. The animated women's images were usually sexy with their exposed bodies and skin (Fox & Tang, 2016). Some male players assumed that the character's appearance in the game played by the respondents reflects their image in real life. Sometimes respondents were given sexist comments even though they are not sexy in real life. The images influenced the opponents to express such views. As such, female players should be allowed to hold the helm for a long time because they want to avoid this kind of situation. These sexually explicit comments can eventually be categorized as sexual harassment against female players (Fox et al., 2015).

I agree, that is why when I first became a professional player, I did not use a nickname that represents a female player. It is because I want to avoid receiving sexism comments and do not want to be stigmatized just because I am a female (Informant C).

To avoid being labeled and receiving sexist comments, the respondents avoided using female nicknames. When Wenny decided to become a professional esports player, she decided not to use a nickname to indicate her as a female. Names like Kingston and Richminds were the names that Wenny used before she joined the female clubs. No comments on gender stereotypes were made against her when she used those names. The respondents also stated that they were excluded from participating in big tournaments due to gender stereotyping. The esports competition has many levels, from league to international level, reflecting different types and prizes to be won. In international matches, the prizes are usually paid in US dollars. According to Informant B:

"In this industry, we the female players have very little chance to represent the country, especially in the international tournaments. Although you are good in playing the games yet comparison will be made with the male players" (Informant B).

Female players need to be good in the game if they want to be selected for international competitions representing the

country. Male players dominate the industry and usually win competitions at national and international levels. The respondents stated that the opportunities given to male players were regarded too challenging for the female players in the esports industry. To achieve equality on gender, female should not be underestimated of their capabilities and they should give more chances to participate and grow in esports career. The older thought of women cannot be an esports athlete because this sport is not suitable for them, need to be changed. Living with the world of technologies, the setting of sport and job also has changed. Being an esports player shows that women are ready to take a chance to explore the new area and breaking the nomination of male in industries. Although for some people, esports is not a guaranteed career but with the strong will, hard work and motivation to excel surely the female can succeed if they get their opportunity and treated equally as male athletes.

CONCLUSION

Malaysia aspires to become the hub for Asian esports. Numerous exposures and tournaments have been organized. An injection of funds by the Ministry of Youth and Sports also shows its commitment to achieving this goal. However, all these efforts are impossible if gender stereotyping issues still prevail in Malaysia's esports industry. While the ministry, the competition organizers, and the esports clubs' welcome women's entry into this industry, it is not easy as expected. Female esports players had to deal with various challenges related

to gender stereotype issues before and after choosing to be a part of esports.

It is undeniable that female esports players have their strengths and capabilities. Successful female esports players must face many challenges. Authorities such as the Ministry of Youth and Sports, the Esports Association of Malaysia (ESM), and the management of esports clubs should be aware of the issues related to gender stereotypes. Opportunities for female esports players should not be compromised. The number of women participating in esports will diminish as these groups will not be able to handle the gender stereotyping issues. In conclusion, despite the gender stereotyping issues faced by the female players, they remain in the industry for their intense interest in video games. Nonetheless, this interest could also fade if gender inequality in the industry prevails.

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Review Article

Veganism Sentiments and Preferences among Muslims

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ABSTRACT

Veganism has become a significant lifestyle which is being religiously practiced by people from across the globe as their routine. To date, the Muslims also followed suit with the trend of veganism in the quest of practicing a healthy lifestyle. Nonetheless, concerns arise on the degree of acknowledgement by the Islamic teachings on such diets which advocate for omitting animal products in one's daily meal. Therefore, this paperwork seeks to identify the elements of veganism from the viewpoints of various perspectives of Muslims, based on their sentiments and personal preferences in order to examine the

relevance of veganism as a lifestyle to be exercised by Muslims. Research data were collected from secondary sources which includes journals, books, papers and internet resources to retrieve information on veganism, vegetarianism and the Islamic theme regarding the issue. This research is important because it will resolve the existing conflict to understand whether the practice of veganism is present in Islam or otherwise. Two elements of veganism are animal rights and vegan diet. The concept of veganism is not existed in Islamic tradition but Islam has its own concept and practices

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on animal rights. Meanwhile, vegan diet is accepted to be practiced by Muslims as long as according to Islamic rulings.

Keywords: Animal right, Islamic theme, Muslim vegan, vegan diet, veganism

INTRODUCTION

Globally, veganism has become an emerging trend followed by many people. According to Beachy (2014, as cited in Dietrich et al., 2016), the number of people who adopt vegetarian, vegan and flexitarian lifestyles are rising continually. Vegans practice full abstinence from consuming any animal product in diet or any other usage at all. People following the vegan lifestyle abstain from consuming meat or meat-derived products and exclude eggs and dairy products as well (Cramer et al., 2017). Animal by-products such as gelatine or animal rennet are also avoided. Honey, silk, and other insect products may also be considered unacceptable for consumption (Conway, 2019). The attention that was given towards veganism from around the world should not be neglected but needed to be thoroughly discussed, especially from the Muslims point of view. Veganism is not a common culture in Muslims' dietary since Muslims practice Halal dietary concept. Muslims do not have to follow vegan dietary since they are obliged to follow Halal dietary instead. Therefore, this research identifies the important elements of veganism and since there are numerous Muslims adopting the veganism lifestyle, it is important to review works of literature that have

addressed the elements of veganism in order to discuss the relevance of Muslims applying veganism in their lifestyle. This research will also discuss knowledge on the Islamic theme which benefit vegan and non-vegan Muslims. The review starts with an overview of veganism practice among Muslims.

Overview of Veganism Practice among Muslims

As veganism grows bigger in multiple countries such as the United States, Canada, the United Kingdom and many other countries (Christopher et al., 2018; Flanagan, 2018; Gorman, 2016; Lane, 2019), it has influenced the Muslims too. There are numbers of Muslims who have started practicing veganism as a diet as well as their lifestyle. The Daily Vox reported several Muslim vegans throughout the world choose to not practicing *Qurban* (animal sacrifice tradition) on *Eid Adha* but instead employ vegan approach (Smith, 2018). Instead of practicing animal sacrifice, they donated vegan groceries to the local community and money to charity organizations. Elysia Ward, one of many Muslims who adopted a vegan lifestyle shared her reason for becoming a vegan. "It is not only about the cruel treatment of animals but also about the environment and our health" (Barrie, 2018, para. 4). In the interview, she pointed out that there is nowhere in the Quran that obliges Muslims to consume meat or animals. It is not a must for Muslims to consume meat but if they do want to eat meat, it is a compulsory for Muslims to consume Halal meat only.

So, eat (the flesh) of that (animal) upon which the name of Allah has been invoked (when slaughtering), if you do believe in His verses (Al-An'am (6): 118).

Besides Elysia, a Malaysian, Nur Diyana Abdul Rahim, has written multiple articles and also made videos to share her experience as a vegan and a Muslim on her website, *Diyana* ("Thoughts on being a female", 2020).

According to Mcleod (2018), multiple types of social media platforms used by Muslim vegans shared about their experiences in conversion to vegan diet and further debates on how Islam and veganism warrant each other. Facebook groups are one of the platforms used by Muslim vegans to connect with one another, such as *Vegan Muslim Community*, *Muslim Vegans*, *Australian Vegan Muslims*, *Muslim Vegans for Healthy World*, *Muslim Vegans Vegetarians and their guests*, *Raw Vegan Muslims* and *SG Veg Muslims* as well as Facebook pages such as *Muslim Vegans of Singapore*, *The Black Muslim Vegan*, *Vegan Muslim Initiative*, *Vegan Muslim*, and *Veganism and Islam*.

Moreover, these groups and pages provide the platform and chance for the Muslims who are interested in veganism and Islam to share their personal stories, questions and opinions, recipes, as well as any other information related to veganism in the health aspect or environmental aspect. However, it could be anyone who is interested to be in these groups and has followed the Facebook pages including non-

Muslims too. The researchers for this article have collected the number of accounts that have followed these Facebook groups and Facebook pages. Refer to Table 1 and Table 2.

Table 1 and Table 2 show the Facebook groups and pages that combined two words - 'vegan' and 'Muslim' - that explicitly portray the interest discussion of those groups and pages which are mainly about vegan practice for Muslims. *Vegan Muslim Community* has the largest number of members.

According to Elysia Ward, the consumption of meat during festivities especially during *Eid Fitr* and *Eid Adha* is a critical topic of discussion in the group (Barrie, 2018). Other than that, people usually share their knowledge and experiences. There are also vegan groups that do not directly refer to Muslim but the name of countries with a large population of Muslims (Pew Research Center, 2011; Sen Nag, 2019) such as *Moroccan Vegans* (n.d.), *Pakistan Initiative for Veganism* (n.d.), and *Saudi Vegan* (n.d.).

Despite that, the topic of veganism is a rare discussion among Muslim scholars although some have written articles and chapters in books related to veganism and vegan diet (Ali, 2015; Masri, 2007; Mcleod, 2018; Riaz & Chaudry, 2004).

Terminology

Indeed, the discussion of veganism within the Islamic tradition is not a topic that has never been discussed. Perhaps the usage of vegan term was not as popular as

Table 1

Members of Muslim vegans' Facebook groups

Facebook groups	Groups created (date)	Total number of group members (account) on 17/9/2019	Last updated discussion in the groups on 17/9/2019 (date)
Vegan Muslim Community (n.d.)	6/6/2013	5134	17/9/2019
Muslim Vegans (n.d.)	8/7/2014	1446	16/9/2019
Raw Vegan Muslims (n.d.)	3/6/2016	731	13/9/2019
Muslim Vegans for Healthy World (n.d.)	12/12/2015	318	8/8/2019
Muslim Vegans Vegetarians and their guests (n.d.)	10/10/2018	147	10/9/2019
Australian Vegan Muslims (n.d.)	2/7/2015	38	No access
SG Veg Muslims (n.d.)	3/7/2017	181	17/9/2019

Table 2

Followers of Muslim vegans' Facebook pages

Facebook Pages	Page created (date)	Total number of accounts followed the pages on 17/9/2019 (account)	Last updated post on the pages by admin of the pages on 17/9/2019 (date)
The Vegan Muslim Initiative (n.d.)	6/10/2016	4460	22/8/2019
Veganism and Islam (n.d.)	3/4/2017	4074	16/9/2019
Muslim Vegans of Singapore (n.d.)	2/4/2018	728	12/9/2019
Vegan Muslim (n.d.)	2/11/2015	214	2/9/2017
The Black Muslim Vegan (n.d.)	28/7/2017	115	15/9/2019

vegetarian which was more prominent in Islamic theme academic discussion. Most scholars highlighted the ‘vegetarian’ term rather than ‘vegan’. Basheer Ahmad Masri is one of the earliest Muslim scholars who has discussed vegetarianism in his book. He wrote a chapter named “*Vegetarianism v/s Meatarianism*” in *Animal Welfare in Islam* (2007), which was first published in 1988 (Haleem, 2007). He did mention about ‘vegan’ seven times in this chapter, but he focused more on the term ‘vegetarian’ as mentioned the word 47 times. Richard C. Foltz, in his article, *Is Vegetarianism is Un-Islamic?* (2001) mentioned ‘vegetarian’ 33 times. He did not mention any ‘vegan’ term in his article.

Furthermore, in a book entitled *Halal Food Production*, ‘vegetarian’ term was mentioned 37 times while ‘vegan’ term was only mentioned 11 times in the chapter of *Comparison of Kosher, Halal, and Vegetarian* (Riaz & Chaudry, 2004). Kecia Ali mentioned 47 times the word ‘vegetarian’ in her article *Muslims and Meat-Eating: Vegetarianism, Gender, and Identity* (2015). However, she only mentioned ‘vegan’ once in the article. On the other hand, Duke Mcleod focused on the ‘vegan’ term. In his dissertation entitled *A Path of Justice and Compassion: About Vegan Muslims and Islamic Veganism* (2018), he mentioned 379 times the ‘vegan’ term, while only mentioned ‘vegetarian’ for 31 times in the discussion. Table 3 shows the frequency on usage of ‘vegetarian’ and ‘vegan’ term between *Vegetarianism v/s Meatarianism* which is a chapter discussing

on vegetarian in *Animal Welfare in Islam* (2007), *Is Vegetarianism is Un-Islamic?* (2001), *Comparison of Kosher, Halal, and Vegetarian* which is a chapter discussing on vegetarian in *Halal Food Production* (2004), *Muslims and Meat-Eating: Vegetarianism, Gender, and Identity* (2015) and *A Path of Justice and Compassion: About Vegan Muslims and Islamic Veganism* (2018).

Particularly, these writings are selected for comparison as these writings’ natures are directly related to Islamic theme and either vegan or vegetarian. In the literature, Foltz (2001) used the term ‘vegetarian’ as a general term for the exclusion of meat in dietary. Some other scholars (Ali, 2015; Masri, 2007; Riaz & Chaudry, 2004) used the word ‘vegetarian’ to refer to the reduction of meat consumption while ‘vegan’ as an extension of vegetarian, which is a total exclusion of meat consumption. Thus, they chose to focus on ‘vegetarian’ instead of ‘vegan’ in their discussions because the term ‘vegetarian’ is more general. Meanwhile, Mcleod (2018) used the term ‘vegan’ in his dissertation to discuss ethical veganism as well as Islamic Veganism concepts. However, the ‘vegetarian’ term was more frequently used than ‘vegan’ term in the discussion by Muslim scholars, thus, Mcleod mentioned the ‘vegetarian’ term to cite previous literature in his dissertation.

It should be noted that veganism is not vegetarianism. However, some literature works describe veganism as a part of vegetarianism despite there are differences that are not only in the diet practice (Rosenfeld & Burrow, 2017) and

Table 3
Frequency on usage of 'Vegetarian' and 'Vegan' term

Article/ book chapter/ dissertation	Frequency	
	Vegetarian	Vegan
Vegetarianism v/s meatarianism (2007)	47 87%	7 13%
Is vegetarianism un-Islamic? (2001)	33 100%	0 0%
Comparison of kosher, <i>halal</i> , and vegetarian (2004)	37 77%	11 33%
Muslims and meat-eating: Vegetarianism, gender, and identity (2015)	47 99%	1 1%
A path of justice and compassion: About vegan Muslims and Islamic veganism (2018)	31 8%	379 92%

it involves their lifestyle and belief as well. Vegetarianism has many types which some of the definitions are strict in avoiding animal consumption, and some others are lenient (Altas, 2017). Vegetarianism is a concept that promotes a type of diet that may involve the consumption of animal meat or animal-derived products in limited quantities or none at all (Tunçay, 2016). In similarity, vegetarians and vegans avoid consuming animal products, but the biggest difference is to what extent animal products cannot be consumed (Ruby, 2012). It is more accurate to define veganism and vegetarianism separately because vegans criticize vegetarians for consuming animal products in certain terms while vegans do not consume any animal products at all (Tunçay, 2016). Veganism that has been practiced by Muslims as discussed before

indicated that they do not consume any animal at all therefore, vegan term is the accurate term compared to vegetarian, because vegetarian can consume animal products such as eggs and milk. However, the usage of 'vegetarian' term in writings by scholars (Ali, 2015; Foltz, 2001; Masri, 2007; Riaz & Chaudry, 2004) is relatable to the discussion in veganism. According to their usage of vegetarian term in their writing, they assumed vegetarian and vegan terms have the same meaning. Thus, in this article, past discussions related to vegetarianism from perspective of Muslims are accepted as sources even though the main discussion is on veganism.

MATERIALS AND METHODS

This research is a narrative review explaining the existing knowledge on a topic based on all

the published research available on the topic. This qualitative research was conducted to explore and identify the elements of veganism and then each element of veganism is discussed and analysed through the viewpoints of various perspectives of (practicing and non-practicing) Muslims, based on their sentiments and personal preferences. Data were gathered through library research utilizing secondary data obtained from journals, books, seminars, papers, and internet resources on veganism, vegetarianism and Muslims' writing that closely related to veganism and vegetarianism. The researchers reviewed existing articles from scholars that have

discussed issues related to veganism to explore the elements of veganism sentiments and preferences among Muslims. Primary data collected from the Quran and Hadeeth are used to support secondary data. However, the views of references used, did not indicate specific sources of information that truly are from the sources of authentic Hadeeths and have direct traceability of linkages from the Narrators of Hadeeth, that explain related Quranic verses. The following Figure 1 shows the flow of this research starting with finding the elements of veganism and followed by the discussion of the elements from the Muslims' perspective.

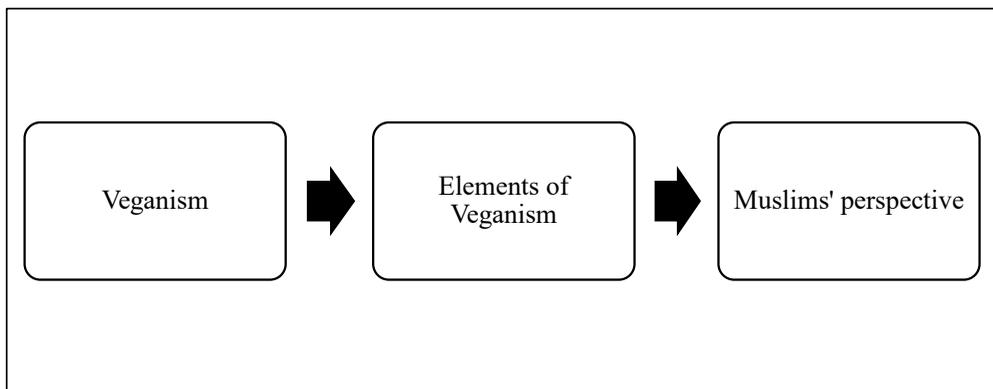


Figure 1. Flow of research

RESULTS AND DISCUSSIONS

Fundamental of Veganism

In order to understand the elements of veganism from Muslims' perspective, this article demands understanding on veganism purposes and practices. Any

practice would be fine as long as the purpose of veganism is achieved. However, it is significant to understand that the purposes of people practicing veganism are not necessarily the purpose of veganism itself. People who are following veganism and practicing a vegan diet may choose to do

so for multiple reasons, which in turn, may affect their food consumption and lifestyle choices (Dyett et al., 2013). “These reasons include health, animal rights (ethics), environmental concern, the influence of others, and sensory disgust, with health and ethical considerations emerging as the most often cited reasons” (Radnitz et al., 2015, p. 32).

According to The Vegan Society, veganism is a way of life that seeks to exclude, as far as it is possible and implementable, in any form of exploitation of, as well as cruelty to, animals for food consumption, clothing or any other purpose (Altas, 2017). From this definition, it can be understood that the most vital element of veganism is animal rights. This can be seen through the history of The Vegan Society. Before forming The Vegan Society, a few years before 1944, some members of the Vegetarian Society in London had been continuously proposing the idea of a non-dairy vegetarian diet (Mann, 2014). They argued that much harm came to animals as a consequence of dairy production and egg farming. Thus, The Vegan Society formed in 1944 initially opposed the use of eggs and animal dairy as food, and was later developed to prevent harm to living creatures. According to Mann (2014), veganism is no longer simply a diet but a lifestyle in which it eradicates the exploitation of animals to defend animal rights.

Besides, the exclusion of animals in food consumption is one of the important practices in the implementation of veganism. Despite

any eradication of animal exploitation and consumption would be considered as an act of veganism, vegan as a diet is still essential in veganism. As mentioned before, the initial concern of The Vegan Society was to remove dairy and egg consumption in the vegetarian diet and this concept of diet is known as vegan diet (Mann, 2014). People who practice vegetarian diet may not be contributing towards the purpose of veganism since vegetarian diet is not totally excluding animal consumption. However, people who practice a vegan diet may have different motivations (Radnitz et al., 2015) but the practice of vegan diet itself contributes to the purpose of veganism. Therefore, vegan diet is another significant element of veganism. Epistemologically, according to the definition of veganism by The Vegan Society (Altas, 2017), the foundation elements of veganism are animal rights and vegan diet.

Veganism Sentiments and Preferences among Muslims

Undoubtedly, two elements created veganism - animal rights and vegan diet. Without these, veganism cannot be fully defined. In order to look deeper into veganism from Muslims' perspective, it is more efficient to discuss these elements separately and find literature from Islamic theme, which is closely related to every fundamental element.

Animal Rights. According to Fakhar-i-Abbas (2009), the concept of animal rights in Islam is different from the concept of human

rights in Islam. He argued that even though animals can experience pain as humans can, rights are derived from the capacity to reason and therefore humans have rights and animals do not. His description on the matter implied that rights are equivalent to responsibilities. In his elaboration, humankind is held responsible for any injustice done to any of God's creatures that includes animals and plants. This is because animals, too, have functions in the community. The Quran has specified that all living creatures are connected in this world and each of them is the creation of God as human beings are.

And there is no **animal** that walks upon the earth nor a bird that flies with its two wings but (they are) genera like yourselves; We have not neglected anything in the Book, then to their Lord shall they be gathered (Al-An'am (6): 38).

And it is He who sends the winds as good tidings before His mercy, and We send down from the sky pure water. That We may bring to life thereby a dead land and give it as drink to those We created of numerous **livestock** and men (Al-Furqan (25): 48-49).

On the other hand, Basheer Ahmad Masri (2007) has an in-depth explanation of human dominion over the animal compared to Fakhar-i-Abbas. Islam declares mankind as the best of God's creation and designed as vicegerent on earth. Human beings are not superior over the animals in terms of physics but they have the ability to differentiate

between evil and virtue as well as to exercise freedom of choice. He added that even science has claimed that humans are the apex of creation based on the physiological superiority of them over the rest of the creations. Undoubtedly, the Quran makes it clear that human's viceregency is a liability that comes with responsibilities.

We have certainly created man in the best of stature; Then We return him to the lowest of the low, Except for those who believe and do righteous deeds, for they will have a reward uninterrupted (At-Tin (95): 4-6).

Nonetheless, Tlili (2018) critically disagrees with Masri's claim that humans are given dominion over other animals in Islam. The main reason for this disagreement is that, according to her, no verse in the Quran directly gives man dominion over other creatures. In her discussion, God has given mankind ownership in the land and has endowed them with power, but not necessarily the power or authority over other creatures. She describes a few other articles discussing the interpretation and translation of the Quranic verses on this issue.

In spite of that, Masri also states that each species of animals has its birth-right, which is a share in all-natural resources. Animals are capable of satiating their hunger and of procuring their necessities, if only they can do so without any interference from human beings. The Quran has mentioned that food and other resources of nature should be shared equitably with other creatures.

Then let mankind look at his food: How We poured down water in torrents, Then We broke open the earth, splitting [it with sprouts], and caused to grow within it grain; and grapes and herbage; and olive and palm trees; and gardens of dense shrubbery; and fruit and grass, [As] enjoyment for you and your grazing livestock ('Abasa (80): 24-32).

Both Fakhar-i-Abbas (2009) and Masri (2007) agreed that the essence of the Islamic teachings on animal rights is depriving animals of their fair share in the nature's resources. This is a serious sin in Islam. There is an incident from the past mentioned in the Quran many times in different contexts which is the story of the people of Thamud. According to Masri (2007):

The people of Thamud demanded that the Prophet Salih show them some sign to prove that he was a prophet of God. At that time the tribe was experiencing a dearth of food and water and was, therefore, neglecting its livestock. It was revealed to the Prophet Salih to single out a she-camel as a symbol and ask his people to give her a fair share of water and fodder. The people of Thamud promised to do that but, later, killed the camel. As retribution, the tribe was annihilated (p. 25).

According to Amanullah (2012), "Right in Islam is what is established in the Shariah in favour of Allah, human beings, collective entity, or animals on others as individuals, groups or community" (p. 66). Amanullah in his writing, has discussed on the definition

of rights in Islam, based on the discussion by Ahmad Fahmi Abu Sunnah, Basheer Ahmad Masri, Reza Gharebaghi, Fakhar-i-Abbas, Zakir Naik, Nilofar Ahmed and Huda. Some of these scholars have not include animal in the definition of right in Islam, while some of the others have include it in the definition. The rights of the animals are well established in Islam. Hence, the definition of right should include the rights of animals, and words of 'animal' are supposed to be added to this definition (Amanullah, 2012).

Unquestionably, animals in Islam are important creatures of Allah. Several numbers of chapters in the Quran are named with animals, such as *al-Baqarah* (the Cow), *al-Nahl* (the Bee), *al-Naml* (the Ants), *al-'Ankabut* (the Spider); *al-Fil* (the Elephant) (Amanullah, 2012). Despite animals being created to worship God, humans are also allowed to use animals for multiple reasons as long as in accordance with Islamic law (Al-Qaradawi, 2007; Nurdeng, 2009). Humans have always used animals for necessary labour, similar to how they depend on each other in services. Nevertheless, unlike humans, animals are not capable of protecting their rights as human labour could do. Masri (2007) describes that animal rights protection is left mainly to human conscience, social criticism and the government legislation. Although there are many laws in scriptures (from all religions), human needs and social conditions are continuously changing, thus, affecting their social and moral values according to the demand from the current social lifestyles.

In fact, Islam prohibits cruelty to animals (Al-Qaradawi, 2007). Amanullah (2012), has provided multiple ethics specifically for treating animals based on the verses in the Quran as well as the Hadeeths. One of the examples given by Abdul Rahman (2017), “a good deed done to an animal is as meritorious as a good deed done to a human being, while an act of cruelty to an animal is as bad as an act of cruelty to a human being” (Sahih al-Bukhari). Prophet Muhammad was clear in his disapproval of the cruelty to animals. Prophet Muhammad says: “... Whatever cut off from an animal while it is alive is considered to be dead, it should not be eaten” (Al-Tirmidhi, Abu Dawud) (Amanullah, 2012, p. 64). Despite Islam allows Muslims to slaughter animals for consumption, Islam insists that the manner of slaughter should be the least painful for the animals (Al-Qaradawi, 2007).

Additionally, Sarra Tlili (2018) in her article, aims to assess the current debate on animal ethics in Islamic tradition. She discusses the matter of animal rights in Islam in a more complex and realistic manner. Muslims insisted that their tradition is highly attentive to the wellbeing of animals and other creatures. Despite that, modern assessments have reflected that Islamic tradition is not as animal-friendly as it was previously assumed, whereas at the empirical level, Muslims’ treatment of animals has deteriorated. As an example, Kristen Stilt (2017, as cited in Tlili, 2018) states that Egypt, a Muslim-majority country, receiving an ‘F’ (very poorly) on an ‘A’ to ‘G’ grading scale in world surveys

of animal welfare from the organization, World Animal Protection, in 2014. However, Tlili poses her wonder in the article, “*what kind of criteria are adopted in assigning Egypt an ‘F’ grade for its treatment of animals?*” Multiple reasons could be the factors for this result of the evaluation on Muslims’ treatment on animals. It might be true that Muslims’ attitudes toward animals have deteriorated and it might be that the framework of the tradition evaluated is no longer the same (Tlili, 2018). This is because this was observed from the perspective of animal rights advocacy, in which cultural, ideological, and political sensitivities play a major part in shaping this debate (Tlili, 2018).

Vegan Diet. As mentioned by Izzi Dien (2000, as cited in Foltz, 2001), there is no argument in Islamic law that animals should not be killed for food. The Islamic legal opinion on this issue is based on clear verses of the Quran. He adds, Muslims are not only prohibited from eating certain food, but also may not choose to prohibit themselves from consuming food that is allowed by Islam. In relation to vegetarianism, Izzi Dien states that it is not allowed under the pretext of prioritizing the interest of animals because such decisions belong to God unless it is for medical necessity or the only option given for consumption. There are few verses in the Quran allowing Muslims to eat animals. Allah says:

O you who have believed, fulfill the obligations. The Cattle quadrupeds are allowed to you except that which

is recited to you [in this Quran], not violating the prohibition against game when you are entering upon the performance of the pilgrimage: Surely Allah orders what he desires (Al-Ma'idah (5): 1).

Say, "I do not find within that which has been revealed to me anything forbidden for an eater to eat of except that it be what has died of itself or blood poured forth, or flesh of swine - for that surely is unclean—or that which is a transgression, other than (the name of) Allah having been invoked on it; but whoever is driven to necessary, not desiring nor exceeding the limit, then surely your your Lord is Forgiving and Merciful" (Al-An'am (6): 145).

It is Allah who made for you the grazing animals upon which you ride, and some of them you eat (Ghafir (40): 79).

Besides, Mcleod, one of the Muslims who are practicing veganism, in his dissertation (2018), points out few statements in regard to some Muslims who refused to consume meat. The act of refusing to eat animals could be understood as ingratitude for God's gifts bestowed on humanity in which cannot be described as Islamic. Zakir Naik, on the other hand, states that vegetarianism is permissible on a personal level but unreasonable, due to the Quran allowing meat consumption, and plants are alive and feel pain too (Mcleod, 2018). However, Foltz, as cited by Mcleod (2018) states that the idea of 'refusing to eat meat equals disobedience to God since God had allowed

humans to eat meat' is not necessarily correct. He not only argues vegetarianism is permissible but also argued that meat-eating culture in Muslim communities is against two core themes of the Quran, which are compassion and social justice, citing issues such as animal abuse, environmental destruction and human malnutrition in his elaboration. Foltz continued his discussion on vegetarianism in his 2006 book, *Animals in Islamic Tradition and Muslim Cultures* (Mcleod, 2018). Meat-eating should be seen as a practicability approach found in the Quran and not as a compulsory practice. This is because, according to Foltz, meat-eating is only allowed in the Quran since the nomadic Arabs could not face starvation in extreme conditions if they solely rely on a vegetarian diet. Thus, from this perspective (Foltz, 2006), it can be deduced that meat-eating practice was tolerated rather than endorsed towards Muslims (Mcleod, 2018).

Undeniably, Islam is neutral and has given individuals the choice either to be a vegetarian or a meat eater because there is no suggestion in the Quran nor in any other Islamic sources that eating meat is good for physical or spiritual health (Masri, 2007). Eating meat is not an obligation for Muslims even though it is permissible (Mcleod, 2018). It simply means that meat could be eaten. According to Masri (2007), there are many other things that have not been forbidden by Islam, particularly in food, but Muslims have stopped eating them because there are better alternatives to be consumed. In this case, information about balanced nutrition found in vegetables was not available then,

but can be identified in the modern era. However, Masri acknowledges that it is difficult to change over to vegetarian since his body got so used to meat consumption. It would be an ideal situation from the humanitarian perspective if all of the people in the world are vegetarian and all the animals are allowed to live their natural lives (Masri, 2007).

Unlike the other scholars, Hamza Yusuf is not interested to discuss the permissibility of vegetarian diet or meat consumption in Islam, but he is more concerned on the overconsumption of meat among the communities (Yusuf, 2011). In his speech, he states that Prophet Muhammad was a 'semi-vegetarian' and did not consumed many portions of meat (Ali, 2015; Yusuf, 2011). According to the definition, semi-vegetarians or demi-vegetarians, or some known as flexitarians, is a group of people who practice a plant-based diet but occasionally eat meat (slaughtered flesh), poultry and fish (Le & Sabaté, 2014; Phillips, 2005). Yusuf added that 'Umar Al-Khattab said, "*beware of meat, because it has an addiction like the addiction of wine*". Meat is allowed in Islam but it is not a necessary for consumption, but in fact, Muslims have consumed meat excessively. Subsequently, there is a concern by Muslim scholars on this issue. However, the concern on meat consumption is not necessarily the only reason Muslims reduce meat consumption. Kecia Ali (2015) in her article, states that thinkers and activists often discuss reducing meat consumption, either because of the increased price of ethical or organic meat,

or because of meat production's impact on ecology, health, or animal welfare.

Apart from that, there were already many Muslims, practicing vegetarianism in their lifestyle since early times. According to Foltz (2001), throughout the history of Muslims, many of them practiced vegetarianism including South Asian Sufis, the Suhrawardi saint Hamid al-din Nagori, and others. It is also reported that, there are some areas in Muslim-majorities countries such as Turkey, Iran and Tehran that have vegetarian organizations. Foltz describes in his writing that there were Sufis who aimed to purify their body with abstention from meat consumption, apart from health purposes. Whilst some others have incorporated abstention from meat consumption as nourishing the 'animal soul'. It is clear that some Muslim Sufis believed that vegetarian diet is good for both physical and spiritual benefits.

In Malaysia, the Mufti of Federal Territory has already provided a fatwa on the practice of vegetarian diet in 2017. The fatwa on the practice of vegetarian diet is based on the understanding of the meaning of vegetarian, which is "a person who does not eat meat, fish and others, but only consume vegetables for personal, religious or other reasons" (Al-Bakri, 2017). Muslim are allowed to practice vegetarian diet because of personal reasons such as for nutritional benefits and protecting ecosystem or to control meat-eating consumption because food dietary is a personal choice. Sahih al-Bukhari (5216) from Ibn Umar R. Anhuma, the Prophet Muhammad PBUH

said: "I do not eat mastigure, but I do not prohibit its eating" (Al-Bakri, 2017, p. 1). However, if a Muslim chooses to become a vegetarian because of religious beliefs such as the belief in other religions that prohibit the eating of cow meat, or totally prohibit on the consumption of meat, or the denial in *Eid Adha* of the sanctioning of *Qurban* (sacrifice) and the sunnah of eating the meat of sacrificial animals, then Islam prohibits it (Al-Bakri, 2017).

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, this article describes several debates on the elements of veganism from the Islamic perspective in response to a number of Muslims practicing veganism as a lifestyle, particularly in their diet. From the Islamic worldview, Muslims are allowed to consume some animals, while according to veganism, humans should not consume any part of animals. Some Muslim scholars argued that humans are the best creation and have rights over other creations, while veganism votes for equal rights for animals to be protected without being used by humans. The concept of veganism is not existed in Islamic tradition but Islam has its own concept and practices on animal rights. It is hard to provide an absolute middle ground understanding in term of permissibility of animal consumption between Islamic worldview and veganism but it is not impossible for a Muslim to practice vegan diet given that Muslims have been practicing vegetarian diet since a long time ago for multiple reasons,

physically and spiritually. Consuming animals is permissible in Islam, but it is not compulsory for Muslims to consume it. Some Muslims as discussed, are practicing vegan diet due to the influence communities' culture and habits as example some Muslim Sufis were practicing vegan diet. While some of the others are practicing it because of personal choice due to health concerns or environmental causes.

The discussion of veganism and vegan diet should not be limited to only within the permissibility of animal consumption. Other than that, this topic could be explored on its relevance to be practiced by Muslims. As an example, research on the factors of vegan diet practice among Muslims in certain areas in Malaysia is vital, to identify the reason for their choice and also the resources of information accepted by them to make their decision to be a part of veganism community. This information will help to determine their perspective and assumption towards Islamic tradition itself, particularly in relation to animal consumption.

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Kesusasteraan Melayu dan Persuratan Baru: Satu Pengamatan Kritis Tentang Sambutan Kesarjanaan

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ABSTRAK

Kajian ini bertitik tolak daripada sorotan literatur yang mendapati adanya dua kutub pandangan umum tentang gagasan Persuratan Baru cetusan Mohd. Affandi Hassan. Kutub yang pertama cenderung menerima Persuratan Baru sebagai sebuah gagasan pemikiran sastera yang berasaskan Islam. Manakala, kutub yang kedua pula dilihat kurang menyenangkan Persuratan Baru kerana terlalu keras dalam mengkritik kesusasteraan Melayu moden. Walau bagaimanapun kedua-dua kutub pandangan ini lebih bersifat umum dan diasaskan pada pendapat serta pengalaman peribadi. Hal ini mengundang penelitian ilmiah terhadap “sambutan kesarjanaan”, iaitu penemuan dan penilaian yang diberikan oleh para sarjana serta pengkaji dalam bentuk tulisan-tulisan ilmiah terhadap Persuratan Baru. Lanjutan permasalahan di atas, kajian ini menggariskan tiga objektif untuk dicapai. Pertama, mengenalpasti idea-idea utama berkaitan Persuratan Baru yang dibincangkan dalam kajian-kajian ilmiah yang dikaji. Kedua, mengorganisasi kajian-kajian ilmiah yang dikaji berdasarkan fokus perbahasannya. Ketiga, merumuskan pencapaian Persuratan Baru sebagai sebuah gagasan pemikiran sastera berdasarkan sambutan kesarjanaan yang

diberikan oleh para sarjana dan pengkaji. Kajian ini menerapkan pendekatan analisis teks bagi meneliti sembilan buah kajian ilmiah mengenai Persuratan Baru. Hasil analisis mendapati bahawa Persuratan Baru menerima sambutan kesarjanaan yang meliputi pengenalannya sebagai sebuah gagasan pemikiran, perbincangan mengenai sumbangannya dalam konteks sejarah dan tradisi sastera Melayu moden, perbincangan mengenainya sebagai kerangka analisis

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teks sastera, dan perbandingannya dengan tradisi sastera yang lain. Sambutan kesarjanaan ini dengan sendirinya memantapkan lagi korpus kesarjanaan mengenai Persuratan Baru, khususnya memperluaskan lagi sempadan bagi usaha-usaha penyelidikan dan kesarjanaan yang selanjutnya.

Kata kunci: Kesusasteraan Melayu moden, Mohd. Affandi Hassan, Persuratan Baru, sejarah dan tradisi sastera, tradisi persuratan Melayu

Malay Literature and Persuratan Baru (Genuine Literature): A Critical Observation on Scholarly Reception

ABSTRACT

This article stems from a literature review that discovers two different views on Persuratan Baru (“Genuine Literature”) by Mohd. Affandi Hassan. The first view is inclined to accept Persuratan Baru as a literary notion based on Islam. While the second view does not favor Persuratan Baru as it is said to be too critical in criticizing modern Malay literature. However, these two different views are superficial and based on personal opinions and experiences. This invites an academic study on the “scholarly reception” which refers to the findings and evaluation by scholars and researchers in the form of academic writings on Persuratan Baru. Thus, this article is structured to achieve three objectives. First, to identify the key ideas of Persuratan Baru as discussed in the studied academic writings. Second, to organise these academic writings according to the focus of their discussions. Third, to conclude the achievements of Persuratan Baru as a literary thought based on the scholarly reception given by scholars and researchers. This article applies textual analysis to study nine academic writings on Persuratan Baru. The results of the analysis found that Persuratan Baru received scholarly reception in various ways, including introducing it as a literary notion, discussing its contribution in the context of the history and tradition of Malay literature, discussing its ability as a framework for literary textual analyses, and comparing it with other literary traditions. These scholarly receptions further strengthen the research corpus on Persuratan Baru, particularly expanding the boundaries for further research and scholarships.

Keywords: Literary history and tradition, modern Malay literature, Mohd. Affandi Hassan, Persuratan Baru (Genuine Literature), tradition of Malay letters

PENGENALAN

Dalam kesarjanaan kesusasteraan Melayu, dekad 1990-an menyaksikan timbulnya kesedaran dalam kalangan sarjana dan pengkritik sastera untuk melahirkan

pemikiran atau teori sastera sendiri. Kesedaran ini lahir daripada pendirian bahawa kegiatan sastera Melayu moden begitu condong kepada pemikiran serta teori-teori Barat yang dianggap tidak

dapat berlaku adil terhadap karya-karya sastra Melayu¹. Dalam konteks suasana ilmiah tersebut, lahirnya pemikiran serta teori sastra Melayu, antaranya “Puitika Sastra Melayu” oleh Muhammad Haji Salleh, “Pengkaedahan Melayu” oleh Hashim Awang, “Takmilah” oleh Shafie Abu Bakar, dan gagasan “Persuratan Baru” (PB) oleh Mohd. Affandi Hassan (Mohd. Affandi). Merujuk kepada PB, gagasan yang lahir pada awal 1990-an ini kemudiannya mendapat reaksi serta sambutan yang meluas daripada sarjana serta pengkritik sastra, sebagaimana yang akan diperlihatkan nanti.

PB dicetuskan oleh Mohd. Affandi, seorang penulis kreatif dan pengkritik sastra yang tidak asing lagi di persada kesusasteraan Melayu masa kini. Sebagai penulis kreatif, Mohd. Affandi menghasilkan pelbagai genre seperti novel, cerpen dan puisi, selain mencipta beberapa genre baharu seperti “espen” (singkatan “esei” dan “cerpen”), “novel persuratan” (karya yang menjadikan perutusan/wacana sebagai pengisian utama) dan “maqamat” (cerita pendek yang mengutamakan wacana di atas cerita). Malah, novel *Pujangga Melayu* oleh Mohd. Affandi (1997) dianggap oleh kebanyakan pengkritik sebagai manifestasi PB dalam bentuk karya kreatif.

¹ Bagi mendapatkan gambaran tentang kecondongan sastra Melayu moden terhadap pemikiran dan teori Barat, sila rujuk antaranya *Puitika Sastra Melayu* (1992) oleh Muhammad Haji Salleh, *Reading Approaches in Modern Malay Literature* (2010) oleh Zawiah Yahya, serta *Kritikan Sastra Melayu: Antara Cerita dengan Ilmu* (2012) dan *Dinamika Pemikiran Sastra Melayu* (2009) oleh Ungku Maimunah Mohd. Tahir.

Idea-idea awal PB mula kedengaran dalam tulisan Mohd. Affandi berjudul “Pemikiran dan Pendekatan dalam Kritikan Sastra Melayu Moden”, terbit dalam buku *Kesusasteraan Melayu: Mitos dan Realiti* (1989) yang memenangi Hadiah Sastra Malaysia 1988/1989. Dalam artikel ini, Mohd. Affandi (1989) pada awalnya menamakan ideanya sebagai “Estetis-Intelektual”, yang memberikan penekanan tentang pentingnya karya sastra dimanfaatkan sebagai medan dalam menyampaikan idea-idea intelektual. Idea ini kemudiannya dimantapkan dalam buku beliau bertajuk *Pendidikan Estetika Daripada Pendekatan Tauhid* (1992). Pemantapan ini jelas apabila idea awal tersebut diperhalusi dengan takrifan baharu yang didasarkan kepada ajaran Tauhid yang menjadi teras dalam pandangan-hidup Islam (Mohd. Affandi, 1992). Dengan itu, pengertian “intelektual” dan “estetika” ditakrifkan semula berdasarkan al-Quran dan as-Sunnah iaitu dua sumber ilmu yang mutlak di sisi Islam. Buku Mohd. Affandi berjudul *Medan-Medan dalam Sistem Persuratan Melayu* (1994), jelas memantapkan lagi penghujahan beliau, terutamanya soal kecemerlangan pencapaian kegiatan persuratan Melayu pada abad ke-16 dan ke-17 Masihi, yang dianggap sebagai zaman kemuncak (*par-excellence*) kegemilangan Islam di Alam Melayu (Mohd. Affandi, 1994a). Pada tahun yang sama juga, Mohd. Affandi menerbitkan artikel berjudul “Mengapa Saya Menulis Aligupit” (1994) yang secara jelas menyatakan istilah

“Persuratan Baru” bagi merujuk kepada gagasan pemikirannya (Mohd. Affandi, 1994b).

Pada tahun 1998, Mohd. Affandi menghasilkan sebuah esei panjang bertajuk “Persuratan Baru dan Cabaran Intelektual: Menilai Kembali Kegiatan Kreatif dan Kritikan” yang membahaskan secara kritis tentang permasalahan yang melanda kegiatan sastra Melayu moden yang dianggapnya bukan sahaja lesu dari segi intelektual, bahkan memperagakan nilai-nilai yang keliru di sisi Islam. Sebagaimana yang jelas diperikan pada judulnya, esei panjang ini turut menggunakan istilah “Persuratan Baru”. Penggunaan ini memperlihatkan bahawa nama PB telah digunakan secara konsisten. Nama “Persuratan Baru” dipilih bagi menggambarkan keazaman Mohd. Affandi dalam menghidupkan semula tradisi persuratan Melayu abad ke-16 dan ke-17 Masihi dalam kegiatan sastra Melayu masa kini. Pada tahun 2008, terbit pula buku *Gagasan Persuratan Baru: Pengenalan dan Penerapan* yang juga secara eksplisit menggunakan istilah “Persuratan Baru” sebagai judul buku. Buku ini turut menghimpunkan artikel-artikel oleh Ungku Maimunah Mohd. Tahir dan Mohd. Zariat Abdul Rani yang memanasikan penerapan PB sebagai kerangka analisis dalam pengkajian teks-teks sastra Melayu.

SOROTAN LITERATUR

Perbincangan pada tahap ini berusaha memperlihatkan pencapaian PB sebagai sebuah gagasan pemikiran yang dibangunkan oleh Mohd. Affandi secara

sistematik melalui penghujahan serta pembuktian ilmiah. Justeru, tidak hairanlah jika kehadiran PB mengundang reaksi daripada khalayak sastra Melayu yang memberikan komen-komen dalam media arus perdana serta laman sosial. Antaranya ialah Mokhtar Sani Abdullah (Mokhtar) yang menulis rencana yang berjudul “Idea Affandi Jatuhkan Penulis Besar” dan terbit dalam akhbar *Berita Harian* pada 26 Jun 2002. Dalam rencana ini, Mokhtar secara peribadi tertarik pada PB yang menurutnya menggariskan idea-idea pokoknya secara jelas dan diterjemahkan secara konkrit melalui *Pujangga Melayu*. Rencana ini berpendapat bahawa PB menuntut karya sastra untuk menyampaikan pemikiran intelektual dengan cara yang bijaksana bagi menanam nilai-nilai mulia di sisi Islam. PB juga dianggap memberikan cabaran yang besar, dan justeru dikatakan tidak mendapat sambutan yang baik daripada sasterawan (Mokhtar, 2002).

Wan Ahmad Fahysal dalam blog beliau bertajuk “Rausyanfikir” turut berkongsi pengalamannya berkaitan PB. Dalam entrinya dengan judul “Sehari Bersama Orang-orang Sastra dan Polemik Gagasan Persuratan Baru”, Wan Ahmad Fahysal (2009) menganggap PB sebagai sebuah gagasan pemikiran yang mencetuskan polemik dalam kalangan penggiat sastra Melayu. Wan Ahmad Fahysal berpendapat PB dapat difahami secara lebih mudah sekiranya pembaca memahami pemikiran Syed Muhammad Naquib al-Attas (al-Attas), seorang tokoh pemikir Islam. Hal ini kerana Wan Ahmad Fahysal berpendapat

PB merupakan “projek pengislaman bidang ilmu sastera” yang menyahut pemikiran al-Attas tentang pentingnya “Islamisasi Ilmu” (*Islamization of Knowledge*) dalam usaha menyelesaikan masalah kekeliruan masyarakat Islam masa kini terhadap ilmu (Wan Ahmad Fahysal, 2009).

Selain komen-komen di atas yang nyata positif, kehadiran PB turut mengundang komen-komen sinikal. Rencana A. Rahim Abdullah (A. Rahim) bertajuk “Adakah Bangsa dalam Sastera dan Bahasa Kita?” yang terbit dalam akhbar *Mingguan Malaysia* pada 13 November 2005, antaranya membangkitkan gaya kritikan Mohd. Affandi yang disifatkannya “...tidak mahu mengikut adab dan etika murni” (A. Rahim, 2005a). Gaya ini dianggap tidak seiring dengan kedudukan Islam sebagai teras dalam PB. Dalam sebuah lagi rencananya berjudul “Affandi Keliru Tradisi Ilmu” yang terbit dalam *Utusan Malaysia* bertarikh 18 Disember 2005, A. Rahim sekali lagi membangkitkan soal gaya kritikan Mohd. Affandi yang didakwanya sebagai “keras”. A. Rahim secara sinis membandingkan Mohd. Affandi dengan al-Attas, yang dianggapnya “...tidak pernah melatah dan menyerang orang yang tidak sebulu dan sealiran dengannya” (A. Rahim, 2005b). Selain itu, A. Rahim juga menyatakan bahawa beliau tidak jelas bagaimana PB dapat dikaitkan dengan pemikiran al-Attas kerana dakwanya, Mohd. Affandi tidak pernah menyatakan dengan terang sama ada PB merupakan hasil pemurniaan atau penambahan daripada pemikiran tokoh tersebut. Nada yang hampir

sama turut kedengaran dalam rencana Shafie Abdullah (Shafie) berjudul “Duri Dalam Sastera Melayu Moden” yang terbit dalam *Utusan Malaysia* pada 2006. Dalam rencana ini, Shafie (2006) menggelar Mohd. Affandi sebagai seorang “diktator intelektual” kerana menolak pandangan yang bertentangan dengan PB. Tulisan-tulisan Mohd. Affandi turut diumpamakan seperti “lumut hitam” yang mencacatkan dunia kesusasteraan Melayu. Lebih menarik apabila rencana ini mengakui hakikat bahawa PB tidak mendapat tempat untuk penerbitan oleh Dewan Bahasa dan Pustaka kerana kritiknya yang tidak disenangi oleh sebahagian besar sasterawan dan sarjana sastera Melayu.

PERNYATAAN MASALAH

Sorotan di atas menjelaskan tentang adanya dua kutub pandangan yang berbeza; yang pada satu pihak menyambut baik PB, dan di pihak yang lain kurang menyenangi PB. Kutub pertama jelas menyambut PB sebagai gagasan yang menegakkan nilai-nilai Islam melalui ilmu serta pemikiran dalam kegiatan sastera. Manakala kutub kedua pula kurang menyenangi gaya kritikan Mohd. Affandi yang dianggap “keras”, selain pendirian tegas beliau dalam menegakkan keyakinannya. Dalam sambutan khalayak yang sedemikian, kehadiran PB dalam kegiatan sastera Melayu masa kini juga telah menarik perhatian ramai sarjana serta pengkaji sastera.

Berbeza dengan komen-komen di atas yang bersifat umum dan diasaskan pada pendapat serta pengalaman peribadi,

sambutan sarjana serta pengkaji sastera terhadap PB dimanifestasikan pada sejumlah kajian ilmiah dalam pelbagai bentuk seperti tesis kedoktoran, syarahan inaugural dan kuliah umum, buku ilmiah, artikel yang terbit dalam jurnal akademik dan bab dalam buku, selain kertas kerja seminar. Kehadiran kajian-kajian ilmiah ini dengan sendirinya membina serta mengujudkan korpus penyelidikan tersendiri.

Hal ini menarik perhatian artikel ini untuk meneliti secara kritis tentang sambutan kesarjanaan terhadap PB. "Sambutan kesarjanaan" dalam konteks artikel ini merujuk kepada pengkajian serta penilaian akademik yang diberikan oleh para sarjana serta pengkaji sastera dalam bentuk tulisan-tulisan ilmiah. Penelitian kritis ini penting bagi mendapatkan pemahaman yang jelas tentang pencapaian PB sebagai sebuah gagasan pemikiran ilmiah dalam bidang kesusasteraan Melayu, berdasarkan sambutan kesarjanaan yang diberikan terhadapnya.

OBJEKTIF DAN BAHAN KAJIAN

Lanjutan itu, artikel ini menggariskan tiga objektif. Pertama, mengenal pasti idea-idea utama berkaitan PB yang dibincangkan dalam kajian-kajian ilmiah yang dikaji. Kedua, mengorganisasi kajian-kajian ilmiah yang dikaji berdasarkan fokus perbahasannya. Ketiga, merumuskan pencapaian PB sebagai sebuah gagasan pemikiran sastera berdasarkan sambutan kesarjanaan yang diberikan oleh para sarjana dan pengkaji.

Bagi merealisasikan ketiga-tiga objektif kajian tersebut, artikel ini meneliti sembilan kajian ilmiah mengenai PB yang dihasilkan dalam pelbagai bentuk iaitu tesis kedoktoran, syarahan inaugural, kuliah umum, buku ilmiah, artikel dalam jurnal akademik, bab dalam buku, dan kertas kerja seminar. Bahan-bahan kajian ini dipilih berdasarkan fokus penelitiannya yang menawarkan perbahasan mengenai idea-idea PB. Kriteria ini dipilih bagi membolehkan artikel ini memberikan fokus terhadap aspek pemikiran PB itu sendiri, khususnya pencapaian.

PENDEKATAN KAJIAN

Artikel ini menerapkan analisis teks (*textual analysis*) sebagai pendekatan kajian. Pendekatan ini dipilih berasaskan kesesuaiannya dengan bahan-bahan kajian yang merupakan teks. Dalam menganalisis teks, pendekatan ini menggariskan prosedur bacaan yang merangkumi dua tahap bacaan. Pertama, bacaan secara deskriptif bagi mengenal pasti dan seterusnya memerikan (*describe*) idea-idea utama berkaitan PB dalam teks-teks yang dikaji. Kedua, bacaan secara kritis bagi mendapatkan gambaran keseluruhan idea-idea utama berkaitan PB untuk dikelompokkan berdasarkan organisasi tertentu. Bacaan yang terakhir ini juga membolehkan artikel ini untuk merumuskan pencapaian PB sebagai sebuah gagasan pemikiran dalam kesusasteraan Melayu berdasarkan sambutan kesarjanaan yang diberikan terhadapnya.

ANALISIS DAN PERBINCANGAN

Analisis terhadap kajian-kajian ilmiah yang dikaji berhasil dalam memberikan gambaran yang menyeluruh terhadap idea-idea utama berkaitan PB. Gambaran keseluruhan membolehkan artikel ini untuk mengorganisasi kajian-kajian ilmiah yang dikaji. Untuk itu, bahagian ini akan dibahagikan kepada beberapa subtopik yang merujuk kepada fokus kajian-kajian ilmiah yang dikaji dalam perbahasan mengenai PB.

Pengenalan Persuratan Baru Sebagai Gagasan Pemikiran

Analisis ini mengenal pasti fokus beberapa kajian ilmiah yang dikaji cenderung dalam memperkenalkan PB sebagai sebuah gagasan pemikiran dalam kegiatan sastra Melayu masa kini. Fokus ini antaranya dapat diamati dalam kertas kerja Abdullah Tahir (Abdullah) berjudul “Novel-Novel Mohd. Affandi Hassan: Meneliti Kemungkinan Penerapan Konsep ‘Persuratan Baru Melayu’” (1995). Penting untuk dinyatakan bahawa kertas kerja Abdullah (1995) ini merupakan tulisan ilmiah pertama yang memberikan perhatian khusus terhadap PB. Dengan itu, kertas kerja ini lebih merupakan satu pengamatan awal (*a preliminary observation*) terhadap “kemungkinan” PB untuk diterapkan dalam penghasilan karya sastra. Sebagaimana yang jelas pada judulnya, kertas kerja ini menggunakan istilah “Persuratan Baru Melayu”. Manakala, pada beberapa tempat lain, kertas kerja ini menggunakan istilah “Persuratan Baru” pula. Dapat dikatakan bahawa pada tahap ini, penggunaan istilah bagi merujuk kepada PB masih belum konsisten.

Abdullah membangkitkan tentang pendapat Mohd. Affandi bahawa “sastra” merupakan satu kegiatan penulisan yang mengutamakan imaginasi, dan mengkesampingkan ilmu. Dalam konteks inilah, Mohd. Affandi berpendapat bahawa kegiatan yang perlu dikembangkan ialah “persuratan” iaitu kegiatan karang-mengarang yang diasaskan kepada ilmu yang benar di sisi Islam. Begitu juga kritikan terhadap pandangan-hidup yang terjelma daripada karya-karya sastra Melayu moden, yang dianggap oleh PB bertentangan dengan pandangan-hidup Tauhid yang menjadi pegangan Islam (Abdullah, 1995, hlm. 50). Menurut Abdullah, PB memperkenalkan cara baharu dalam kegiatan penulisan, iaitu merujuk kepada cara penulisan yang tidak lagi menyampaikan cerita semata-mata, sebaliknya membahaskan pemikiran atau gagasan. Cara penulisan baharu yang dianjurkan PB ini dianggap bertentangan dengan cara penulisan dalam kegiatan sastra Melayu moden yang mengutamakan imaginasi. Abdullah turut membincangkan tentang empat ciri PB seperti yang digariskan oleh Mohd. Affandi sendiri, iaitu i) keutamaan terhadap ilmu dan kebijaksanaan, ii) gaya penulisan bercorak kesarjanaan tetapi indah, iii) keutamaan terhadap gagasan dengan memanfaatkan watak-watak yang kuat, dan iv) keutamaan terhadap daya kreatif yang tinggi, terkawal dan beradab.

Lebih penting ialah hasil penelitian Abdullah (1995, hlm. 52) tentang empat ciri di atas yang didapatinya dimanifestasikan dalam novel-novel Mohd. Affandi.

Abdullah mendapati bahawa novel *Tampang Sasterawan* dan *Citra Pujangga* memmanifestasikan salah satu ciri PB, iaitu keutamaan terhadap penyampaian gagasan dengan memanfaatkan watak-watak yang kuat. Abdullah (1995) turut menamakan sebuah novel Mohd. Affandi yang berjudul *Aligupit* sebagai “dialog-idea” berdasarkan plotnya yang tidak bergantung kepada peristiwa, sebaliknya ilmu dan kebijaksanaan (hlm. 54). Abdullah (1995) merumuskan bahawa PB merupakan sebuah gagasan pemikiran yang wajar diberikan perhatian yang serius, sebagaimana katanya,

Demikianlah kita melihat usaha Mohd. Affandi Hassan cuba menengahkan konsep ‘Persuratan Baru’ Melayu untuk menggantikan sastera yang kita mesrai selama ini...Walau bagaimanapun saranan dan pemikiran Affandi itu perlu mendapat perhatian dan reaksi para ilmuan khususnya peneliti dan pengkritik sastera dan para karyawan. Kata-kata Mohd. Affandi “saya menulis novel-novel saya untuk mengajak mereka keluar daripada ‘longkang sastera’”, perlu direnung bersama dan patut mendapat perhatian yang sewajarnya (hlm. 56).

Sebuah lagi kajian awal yang turut memperkenalkan PB sebagai sebuah gagasan pemikiran dalam kesusasteraan Melayu ialah artikel Ungku Maimunah Mohd. Tahir (Ungku) berjudul “Mohd. Affandi Hassan’s Notion of *Persuratan*

Baru (‘Genuine Literature’): A Preliminary Exploration”². Berbeza dengan kertas kerja Abdullah yang dibentangkan di medan tempatan, artikel Ungku ini dapat dianggap sebagai usaha untuk memperkenalkan PB di arena antarabangsa. Hal ini kerana artikel ini ditulis dalam bahasa Inggeris, selain dibentangkan serta diterbitkan buat pertama kalinya di luar negara. Perbincangan Ungku (2003) mengenai PB dimulakan dengan penjelasan tentang dua “sistem sastera” yang diujikan oleh Mohd. Affandi iaitu “Sistem Persuratan Melayu” dan “Sistem Sastera Malaysia”. Menurut Ungku, PB membezakan kedua-dua “sistem sastera” ini dari segi falsafah dan praktisnya. “Sistem Persuratan Melayu” merujuk kepada kegiatan karang-mengarang yang berfalsafahkan Islam dan setiap medannya dibezakan oleh fungsi karya sama ada sebagai cerita, bukan cerita atau petua (Ungku, 2003, hlm. 245). Manakala, “Sistem Sastera Malaysia” merujuk kepada kegiatan penulisan bersifat sekular kerana menceritakan hal-hal kehidupan yang terpisah daripada pandangan-hidup beragama, dan setiap medannya dibezakan oleh bentuk serta kelainan teknik yang digunakan oleh sesebuah karya.

² Artikel ini pada asalnya dibentangkan di International Conference on Southeast Asian Literatures, di University of Philippines, Diliman, Quezon City pada 19-21 Mei 1997. Kemudiannya, artikel ini pertama kali diterbitkan dalam *Text and Contents* yang diselia oleh L. J. Mallavi-Hall dan L. R. R. Tope, University of the Philippines Press, University of the Philippines, Manila, 1999, sebelum diterbitkan semula sebagai salah satu bab dalam buku berjudul *Readings in Modern Malay Literature* (2003) terbitan Dewan Bahasa dan Pustaka, Kuala Lumpur.

Menurut Ungku (2003), PB menghujahkan bahawa sekularisasi kesusasteraan Melayu yang melahirkan “Sistem Sastera Malaysia” menjadi satu “pengalaman yang traumatik” dalam sejarah dan kebudayaan Melayu (hlm. 247). Ini merujuk kepada pemisahan orang Melayu daripada tradisi keilmuan Islam yang merupakan pencapaian terbaik (*par-excellence*) dalam sejarah dan kebudayaan mereka. Pemisahan inilah yang kemudiannya melahirkan “Sistem Sastera Malaysia” yang cenderung terhadap sastera Barat. Dengan hujah sedemikian, PB berpendapat bahawa karya-karya sastera yang terhasil daripada “Sistem Sastera Malaysia” memperagakan nilai-nilai yang bertentangan dengan al-Quran dan as-Sunnah. Justeru, PB menganjurkan supaya kegiatan sastera Melayu difahami menurut pandangan-hidup Islam yang berteraskan Tauhid, yang diterjemahkannya melalui tiga falsafah penting iaitu Hakikat Insan, Hakikat Ilmu dan Amal, dan Hakikat dan Fungsi Sastera (Ungku, 2003, hlm. 252). Ungku (2003) merumuskan bahawa PB merupakan gagasan pemikiran yang berpaksikan Tauhid dan menuntut kepada penghasilan karya yang menyampaikan kebenaran di sisi Allah SWT, selaras dengan falsafah *Taklif* yang mendasari PB, sebagaimana katanya,

This calls upon the combination of faith, knowledge and the commitment to make known God's words, thereby rendering literary works intrinsically didactic. These demands are seen as consistent

*with the principle of Taklif that underpins “genuine literature”*³ (hlm. 256).

Pada tahap ini, dapat dikatakan bahawa kertas kerja oleh Abdullah (1995) dan sebuah bab dalam buku oleh Ungku (2003) merupakan antara tulisan keserjanaan terawal yang menyambut kehadiran PB sebagai satu gagasan yang penting untuk diketengahkan termasuk ke peringkat antarabangsa.

Sumbangan Persuratan Baru dalam Sejarah dan Tradisi Sastera Melayu

Selanjutnya, analisis ini turut mengenal pasti fokus beberapa kajian ilmiah yang cenderung dalam membahaskan sumbangan PB dalam konteks sejarah dan tradisi kesusasteraan Melayu. Fokus ini antaranya dapat diamati dalam syarahan inaugural Ungku berjudul “Kritikan Sastera Melayu: Antara Cerita Dengan Ilmu” yang berlangsung pada tahun 2007⁴. Secara umumnya, syarahan inaugural ini mengamati kecenderungan disiplin kritikan sastera Melayu terhadap empat pola iaitu i) aspek dalaman teks

³ *Taklif* merupakan satu prinsip yang dihuraikan oleh Shah Wali Allah al-Dihlawi r.a. (h. 1702) dalam kitab karangan beliau berjudul *Hujjat Allah al-Baligha* yang telah diterjemahkan dan diselenggarakan dalam bahasa Melayu oleh Zainuddin Hj. Idris dan Nik Hassan Nik Abdullah (2011). *Taklif* membawa maksud “rahsia kebertanggungjawaban manusia kepada Penciptanya” atau diterjemahkan oleh Marcia K. Hermansen (al-Dihlawi, 1286/1996, hlm. 238) sebagai “*divine accountability and responsibility*”.

⁴ Teks syarahan ini terbit dalam bentuk buku dengan judul yang sama pada tahun 2007 dan cetakan kedua pada tahun 2012.

iaitu tema dan struktur, ii) aspek luaran teks atau pendekatan kontekstual, iii) teori luar, dan iv) teori tempatan. Keempat-empat pola kritikan sastera Melayu ini didapati cenderung terhadap cerita, sehingga mengujudkan “zon selesa” dalam disiplin kritikan sastera Melayu (Ungku, 2012, hlm. 36-58). Dalam konteks tersebut, Ungku menegaskan bahawa kehadiran PB membawa satu “anjakan radikal” dan sekaligus mencabar “zon selesa” tersebut apabila “cerita” tidak lagi dianggap sebagai “ilmu”, sebagaimana katanya, “...dua konsep yang bukan sinonim [merujuk “cerita” dan “ilmu”], iaitu satu penyimpangan yang amat jelas daripada amalan [kritikan sastera Melayu] sebelum ini” (Ungku, 2012, hlm. 58-59).

Pembezaan antara “ilmu” dengan “cerita” dalam konteks sejarah dan tradisi kritikan sastera Melayu ini kemudiannya dimantapkan dengan keutamaan terhadap “ilmu” serta sanjungan terhadap akal manusia yang waras, iaitu satu kecenderungan yang bersifat universal (Ungku, 2012, hlm. 60). Adalah jelas pada Ungku bahawa kehadiran PB telah mengubah norma kegiatan kritikan sastera daripada “condong-cerita” kepada “condong-ilmu”. Menerusi syarahan ini, PB jelas diperakukan sebagai gagasan pemikiran yang signifikan dalam sejarah dan tradisi sastera Melayu. Sanggahan PB terhadap keutamaan cerita serta tuntutan supaya kritikan sastera Melayu mengutamakan ilmu dianggap telah membawa satu anjakan radikal kerana melepaskan kritikan sastera Melayu daripada belenggu nilai-nilai kedaerahan

untuk merayakan ilmu yang menjadi asas pembinaan peradaban sejagat. Syarahan inaugural ini merumuskan bahawa kehadiran PB dalam konteks sejarah dan tradisi sastera Melayu merupakan satu usaha untuk mengembalikan tradisi karang-mengarang yang mengutamakan “ilmu” (persuratan Melayu) dan kebijaksanaan sebagai kegiatan utama bagi menggantikan kegiatan sastera sedia ada yang mementingkan “cerita” semata-mata, sebagaimana katanya,

Dengan mempertikaikan keutamaan cerita dalam penulisan kreatif dan kritikan, dan mengembalikan ilmu ke tempat sewajarnya, PB menempatkan dirinya sebagai sebuah gagasan serius dan prihatin terhadap soal tulisan dan pertanggungjawaban secara menyeluruh...kritikan yang memanfaatkan kerangka PB jelas dapat menjalankan tugas hakikinya sebagai pemantau yang berkesan, penilai yang adil dan pembentuk iklim yang berwibawa, yang dapat mendorong kepada penghasilan karya besar dan bermutu, yang memperlihatkan ketinggian ilmu, kehalusan seni dan kesantunan budi pekerti pengarang Melayu (Ungku, 2012, hlm. 66-67).

Analisis mengenal pasti sebuah lagi tulisan keserjanaan Ungku yang turut membahaskan sumbangan PB dalam konteks sejarah dan tradisi sastera Melayu, iaitu kuliah umum MASTERA

yang disampaikan pada tahun 2009⁵. Ungku memulakan siri kuliahnya dengan membangkitkan bahawa pentingnya pembentukan pemikiran sastera di Malaysia diperhalusi dan difahami dengan betul. Hal ini menuntut kepada penelitian yang mendalam terhadap konteks sejarah dan tradisi sastera Melayu yang mewarisi ideologi-ideologi kolonial bagi menilai karya sastera tempatan. Antara ideologi sastera yang kembali ditekankan oleh Ungku dalam siri kuliahnya kali ini adalah soal keamatan kesusasteraan Melayu dengan “cerita”.

Lanjutan itu, Ungku dilihat mengajukan PB sebagai satu “anjakan” dalam perkembangan kesusasteraan Melayu bagi menggantikan keamatan kesusasteraan Melayu terhadap “cerita” dengan “ilmu”. Antara lain, Ungku menekankan bahawa prinsip PB yang mengutamakan “ilmu” berbanding “cerita” ini seharusnya diterima atas terma dan persejarahannya sendiri, iaitu berasaskan Islam. Hal ini jelas jika PB diamati sebagai satu gagasan pemikiran yang ingin mengembalikan tradisi persuratan Melayu yang telah terputus setelah kedatangan kolonial Barat. Bagi mencapai maksud tersebut, Ungku (2009) menjelaskan bahawa PB mengajukan teknik “hujah-wacana” yang menuntut kepada kehadiran bentuk-bentuk seperti “...hujahan, analisis, huraian, kupasan, taakulan, olahan, debat, sanggahan dan sebagainya dalam tulisan, yang digembleng sehingga

terbangunnya sebuah pemikiran yang utuh dan bugar” (hlm. 87). Rentetan keutamaan yang diberikan kepada “ilmu” menerusi bahasa dan teknik “hujah-wacana”, PB menjadikan kedudukan “cerita” dan urusan pembikinannya berada pada kedudukan yang subordinat. Ungku menegaskan bahawa antara “anjakan” lain PB ialah dengan mengasaskan prinsipnya kepada Islam dan bukannya Barat, justeru PB menolak hasil penulisan yang meraikan kenisbian, sebaliknya meraikan kemutlakan.

Sehubungan itu, Ungku (2009) berpendapat bahawa kehadiran PB merupakan satu “anjakan” ilmiah yang serius dalam konteks sejarah dan tradisi sastera Melayu, yang dilakukan dalam kesedaran untuk membebaskan kebergantungan kesusasteraan tempatan daripada Barat dan mengembalikan semula ikatan persuratan Melayu sebagai satu kegiatan kesusasteraan tempatan, sekali gus memperkayakan pemikiran dunia sastera Melayu, sebagaimana katanya,

Dengan mengejapkan konsep Taklif, ilmu yang benar, kerangka penulisan yang prioritinya betul, di samping terkawal dan beradab, iaitu aspek-aspek kepengarangan yang begitu signifikan, PB hadir sebagai anjakan yang pasti. Ternyata dengan berbuat demikian, PB sekali gus berusaha untuk menyimpulkan semula ikatan dengan tradisi lampau persuratan Melayu-Islam, di samping meleraikan pula simpulan dengan tradisi Barat yang semakin mengukuh (hlm. 89).

⁵ Siri kuliah umum MASTERA oleh Ungku yang berlangsung di Malaysia, Brunei, Indonesia dan Singapura ini kemudiannya dibukukan dengan judul *Dinamika Pemikiran Sastera Melayu* (2009).

Seiring dengan fokus di atas, analisis mengenal pasti bahawa tulisan A. Halim Ali (A. Halim) turut membahaskan sumbangan PB dalam konteks sejarah dan tradisi sastera Melayu. Menerusi bukunya yang berjudul *Inti Sari Teori Sastera Barat dan Malaysia* (2018), A. Halim membahaskan kehadiran PB lahir daripada kesedaran bahawa teori-teori sastera Barat tidak dapat menampung konteks perbincangan karya sastera Melayu yang dihasilkan dengan sejarah dan kebudayaan tempatan. Menurut beliau, PB berpendapat teori-teori sastera Barat memperagakan pandangan-hidup yang bertentangan dengan ajaran Islam, justeru kehadirannya menuntut supaya kegiatan sastera Melayu kembali kepada pandangan-hidup Islam (A. Halim, 2018). Dengan pandangan-hidup Islam, PB meletakkan kegiatan penulisan sebagai satu bentuk ibadah manusia kepada Penciptanya, justeru manusia harus memperakukan hakikat dirinya sebagai hamba Allah SWT dan khalifah di muka bumi, sebagaimana katanya, “Kesusasteraan sebagaimana amal-amal yang lain mestilah dijuruskan kepada pengabdian kepada Allah” (A. Halim, 2018, hlm. 160-161).

Secara keseluruhannya, A. Halim (2018) menanggapi PB sebagai sebuah “teori sastera” tempatan yang lahir daripada pemikiran Mohd. Affandi yang secara kritis membahaskan tentang sejarah dan tradisi sastera Melayu termasuk soal pengaruh teori sastera Barat dalam kalangan penggiat sastera tempatan, sebagaimana katanya,

...kelahiran teori Persuratan Baru dapat disandarkan kepada

kekecewaan terhadap kedangkalan intelektualisme Melayu dan rasa tanggungjawab Mohd. Affandi untuk memperbetulkan keadaan, dengan harapan kegiatan ilmu dan sastera Melayu tidak sia-sia, sebaliknya dapat diarahkan kepada matlamat yang lebih jelas dan haq, beradab, terkawal, beretika dan mendokong pemikiran tinggi (hlm. 188).

Adalah jelas bahawa tulisan Ungku (2012, 2009) memperakukan sumbangan PB dalam mengembalikan semula tradisi persuratan Islam dalam kegiatan sastera Melayu masa kini. Lebih penting apabila PB diakui sebagai gagasan yang membawa “anjakan paradigma” dalam kesusasteraan Melayu apabila menuntut supaya ilmu diberikan keutamaan dan cerita dikesampingkan. Sambutan yang hampir sama turut diberikan oleh tulisan A. Halim (2018) yang memperakukan PB sebagai satu gagasan yang memperjuangkan aspek pemikiran dalam kesusasteraan selain memperbetulkan ketaksuban kesusasteraan Melayu moden terhadap teori sastera Barat. Kedua-dua tulisan keserjanaan ini jelas menyambut PB sebagai satu gagasan yang memberikan sumbangan bererti dalam sejarah dan tradisi sastera Melayu.

Persuratan Baru Sebagai Kerangka Analisis dalam Pengkajian Sastera

Seterusnya, analisis ini turut mengenal pasti fokus beberapa kajian ilmiah yang cenderung dalam meneliti PB sebagai kerangka analisis dalam pengkajian sastera.

Fokus ini antaranya dapat diamati dalam tesis kedoktoran Mohd. Zariat Abdul Rani (Mohd. Zariat) berjudul “Seksualiti dalam Novel Melayu: Satu Analisis Teks Berdasarkan Persuratan Baru” (2004)⁶. Tesis ini membangkitkan soal kecenderungan novel Melayu terhadap seks dan seksualiti. Teks yang dikaji merupakan novel yang menangani persoalan seks dan seksualiti, dan lebih penting lagi diberi pengiktirafan sama ada kepada novelisnya, atau novel itu sendiri diperagakan sebagai “karya penting” yang antaranya diberikan jolokan yang muluk-muluk seperti “Teks Mithali”, “Novel Idea”, “Novel Bertaraf Antarabangsa”, dan “Novel Kritik Sosial”. Dalam meneliti 20 buah novel Melayu yang menerima pelbagai bentuk pengiktirafan, tesis ini menerapkan PB atas beberapa justifikasi. Pertama, pemilihan PB sebagai gagasan tempatan dianggap sebagai wajar, terutamanya dalam konteks kekerapan teori-teori Barat diterapkan dalam kajian-kajian sastera Melayu. Kedua, PB menyediakan alat analisis yang dapat diterapkan dalam pengkajian teks sastera, khususnya apabila menjadikan “ilmu” sebagai isian yang diutamakan dalam pengkajian teks sastera. Ketiga, PB mengikat takrifan “ilmu” ini pada kerangka *Taklif* menurut Islam yang menggariskan sempadan jelas bagi membezakan antara “karya persuratan” dengan “karya sastera” dan “karya picisan”. Justifikasi di atas memperlihatkan PB buat pertama kalinya diterapkan dalam sebuah tesis kedoktoran sebagai sebuah kerangka

⁶ Tesis ini diterbitkan dalam bentuk buku dengan judul *Seksualiti dalam Novel Melayu* (2011) oleh Penerbit Universiti Kebangsaan Malaysia, Bangi.

analisis yang mampu dalam pengkajian teks sastera. Dengan menerapkan PB yang berasaskan pandangan-hidup Islam yang berteraskan Tauhid, tesis kedoktoran Mohd. Zariat (2004) berhasil dalam mengenal pasti keutamaan novel-novel Melayu yang dikaji terhadap cerita berbanding ilmu, dan justeru menjadikan novel-novel tersebut cenderung menyajikan cerita-cerita tentang kejahatan seks watak-watak yang dimanipulasi sebagai bumbu yang dapat meningkatkan intensiti cerita terhadap seks.

Selain itu, analisis mengenal pasti kecenderungan yang sama dalam buku oleh Zawiah Yahya (Zawiah) berjudul *Reading Approaches in Malay Literature* yang juga meneliti PB sebagai kerangka analisis dalam pengkajian sastera. Sebagaimana yang dinyatakan dalam prakata, Zawiah (2010) menulis buku ini bagi memenuhi keperluan bidang kesusasteraan dalam bahasa Inggeris dalam mempertemukan teori Barat dengan pendekatan bacaan kesusasteraan Melayu. Keperluan ini timbul disebabkan oleh penerapan teori-teori sastera Barat dalam kritikan sastera Melayu. Selain itu ialah penulisan berkaitan pendekatan bacaan kesusasteraan Melayu yang rata-rata ditulis dalam bahasa Melayu dengan penghujahannya yang dianggap asing bagi pelajar dalam bidang kesusasteraan dalam bahasa Inggeris.

Justeru, buku tersebut membicarakan lima “pendekatan bacaan tempatan” (*local reading approaches*) termasuk PB sebagai alat analisis teks sastera. Zawiah menganggap PB menawarkan pendekatan bacaan berbeza daripada tradisi sastera Barat

kerana memberi keutamaan kepada ilmu dan mengkesampingkan cerita, sebagaimana katanya, “*The fact that Affandi’s approach privileges knowledge over story in fiction represents a fundamental departure from western tradition*” (Zawiah, 2010, hlm. 23). Zawiah juga tidak menolak hakikat bahawa PB hadir sebagai satu pakej teori sastera yang lengkap dengan falsafah dan alat analisis, berbanding empat pendekatan bacaan lain, sebagaimana katanya,

All in all, Affandi Hassan’s theory, in my mind, is the most complete package. He has a framework, a teaching model he calls KIBLAT, a showcase novel to demonstrate application, and a new genre to take care of the kind of Islamic writing he is advocating (hlm. 25).

Lebih penting apabila Zawiah memperakukan kedekatan PB dengan Islam apabila falsafah *Taklif* dijadikan sebagai asas dalam memahami tugas serta peranan penulis. Dengan itu, kegiatan penulisan menurut PB ditakrifkan sebagai “satu ibadah manusia kepada Penciptanya”. Walau bagaimanapun, Zawiah berpendapat bahawa asas ini juga yang menjadikan PB sebagai satu kayu ukur yang sukar dicapai (*demanding yardstick*) selain menutup ruang perbincangan kerana dipasakkan pada sumber ilmu yang mutlak iaitu al-Quran dan as-Sunnah, sebagaimana katanya, “*There is also a sense of absolutism about PB that does not allow it to problematise itself. Such total conviction of its rightness also seems to rule out the validity of other alternative ways of reading*” (Zawiah, 2010, hlm. 65).

Adalah menarik untuk dinyatakan bahawa tanggapan ini dianggap oleh Mohd. Affandi sebagai “aneh”, kerana di satu pihak Zawiah memperakukan kedekatan PB dengan Islam yang berasaskan al-Quran dan as-Sunnah, dan di pihak yang lain menganggap bahawa soal “kemutlakan” dalam PB sebagai satu kelemahan, sebagaimana yang diujahkannya,

Kesimpulan ini sangat aneh, kerana selepas beliau berkata gagasan Persuratan Baru berasaskan al-Quran dan hadis, tiba-tiba beliau membuat kesimpulan bahawa gagasan Persuratan Baru terjerumus dalam *absolutism*. Sebenarnya beliau berfikir dalam kerangka kritikan Barat, yang memang menolak apa juga yang bersifat mutlak” (Mohd. Affandi, 2011, para. 29).

Petikan ini dengan jelas menyerlahkan pandangan Mohd. Affandi bahawa tulisan Zawiah yang membangkitkan soal *absolutism* PB menggambarkan cara berfikir beliau yang cenderung terhadap kerangka pemikiran Barat. Dalam hal ini, kajian ini bersetuju dengan pendapat Mohd. Affandi bahawa dalam usaha Zawiah (2010) mengutarakan PB sebagai satu “pendekatan bacaan tempatan” untuk diguna pakai dalam pengkajian teks sastera, tulisan beliau pada masa yang sama menghadapi masalah dalam memahami PB sebagai satu gagasan yang sepenuhnya bersandarkan kepada pandangan-hidup Islam. Permasalahan ini jelas apabila tulisan Zawiah tidak dapat

mengaitkan pandangan-hidup Islam yang berteraskan Tauhid dan bersumberkan al-Quran dan as-Sunnah, iaitu sumber ilmu yang di sisi Islam dianggap sebagai mutlak (*absolute*) dan pasti (*final*), dengan penilaian PB yang bersifat mutlak (diungkap oleh Zawiah sebagai “*sense of absolutism*”). Dalam konteks ini, tidak keterlaluan dikatakan bahawa Zawiah pada dasarnya masih menerapkan pemahamannya tentang “teori” menurut pandangan-hidup Barat-modern yang bersifat relatif dan subjektif (bertentangan dengan pandangan hidup-Islam yang bersifat mutlak dan pasti). Justeru, soal “kemutlakan” (*sense of absolutism*) PB seperti menjadi satu masalah kepada Zawiah. Terlepas daripada persoalan ini, adalah jelas bahawa tulisan Zawiah ini menyambut PB sebagai sebuah kerangka analisis teks sastra yang diasaskan pada pandangan-hidup Islam, dan sekali gus menjadikannya sebagai berbeza daripada teori-teori sastra Barat.

Tesis kedoktoran Mohd. Zariat (2004) dan tulisan Zawiah (2010) memperakukan kelebihan PB dalam menyediakan alat-alat analisis yang mencukupi bagi tujuan perungkaian teks sastra. Keupayaan ini antaranya dimungkinkan oleh falsafahnya yang diasaskan pada pandangan-hidup Islam yang berasaskan ajaran Tauhid. Falsafah ini membolehkan PB untuk mentakrifkan secara jelas istilah-istilah utama seperti “ilmu” dan “cerita” yang kemudiannya mencetuskan alat-alat analisis yang sistematik. Dalam konteks ini, PB jelas disambut oleh tulisan-tulisan kesarjanaan di atas sebagai satu kerangka analisis yang dapat diterapkan dalam pengkajian teks sastra.

Perbandingan Persuratan Baru dengan Tradisi Sastra Lain

Akhir sekali, analisis ini turut mengenal pasti fokus kecenderungan beberapa kajian ilmiah dalam membandingkan PB yang berasaskan pandangan-hidup Islam dengan tradisi sastra lain. Antaranya ialah artikel Adli Yaacob (Adli) berjudul “Satu Analisis Ringkas Konsep dan Teori Sastra Islam di Malaysia” (2007). Tulisan ini dimulakan dengan membicarakan tentang takrifan “*al-Adab*” dalam tradisi sastra Arab yang antaranya bermaksud “ketertiban akhlak dan budi pekerti” (Adli, 2007, hlm. 4). Menurut Adli, terkandung dalam takrifan ini ialah pengertian bahawa karya “sastra” menurut Islam perlu membawa makna atau ajaran yang baik. Dengan pemahaman ini, pengamatan Adli terarah kepada pemikiran dan teori sastra di Malaysia, khususnya PB yang dianggapnya membawa “paradigma baru” dalam pengkajian teks sastra Melayu. Ini merujuk kepada kepekaan PB terhadap tradisi persuratan Melayu yang berteraskan Islam yang dijadikan sebagai rujukan terhadap kecemerlangan kegiatan penulisan. Dengan kata lain, Adli mengenal pasti kekuatan PB terletak pada penterjemahan gagasannya secara konkrit, iaitu daripada tahap falsafah kepada tahap praktis.

Selain itu ialah soal pembezaan antara “persuratan” dengan “sastra” menurut PB. Adli menjelaskan bahawa “persuratan” menurut PB merujuk kepada tulisan yang mengutamakan perutusan tanpa memisahkannya daripada nilai kreatifnya, manakala “sastra” pula merujuk kepada tulisan yang cenderung untuk keciciran

perutusan dengan keutamaan diberikan kepada penggunaan bahasa. Lebih menarik apabila Adli membandingkan pembezaan antara “persuratan” dengan “sastera” menurut PB dengan pemikiran al-Sheikh Hassan Ali al-Nadwi (al-Nadwi) (1914-1999), iaitu seorang sarjana Islam. Menurut Adli (2007), al-Nadwi membezakan antara apa yang diungkapkannya sebagai “الأدب الطائي” (“sastera tulen”) dengan “الأدب الصناعي” (“sastera buatan”). “الأدب الطائي” (“sastera tulen”) merujuk kepada tulisan dalam kitab-kitab al-Hadith dan sirah yang memiliki keindahan serta menampilkan kebijaksanaan pemikirannya, manakala “الأدب الصناعي” (“sastera buatan”) merujuk kepada karya-karya sastera. Adalah jelas bahawa tulisan Adli ini cenderung untuk memperlihatkan kesejajaran antara pemikiran Mohd. Affandi dengan al-Nadwi tentang kesusasteraan.

Sebagai reaksi terhadap tulisan Adli, Mohd. Affandi antara lain menjelaskan bahawa kesejajaran yang wujud antara Persuratan Baru (diterjemahkan oleh Mohd. Affandi sebagai “*Genuine Literature*”) yang dalam bahasa Melayunya bermaksud “sastera tulen”) dengan “الأدب الطائي” (“sastera tulen”) ini bukan satu kebetulan, sebaliknya merupakan pemikiran daripada satu sumber yang terhasil daripada tradisi ilmu yang sama iaitu Islam, sebagaimana yang diungkapkannya, “...persamaan maksud dalam dua usaha yang berasingan ini bagi saya [Mohd. Affandi] adalah bukti wujudnya prinsip-prinsip umum penulisan berasaskan konsep ilmu yang benar yang ditekankan oleh gagasan Persuratan Baru” (Mohd. Affandi et al., 2008, hlm. 32).

Berbalik kepada tulisan Adli, adalah jelas bahawa PB dianggap sebagai sebuah gagasan yang mampu untuk menjelmakan falsafah dan praktik penulisan yang mencerminkan ajaran Tauhid, sebagaimana yang dituliskan,

Kemudiannya dia [Mohd. Affandi] mengetahui hakikat insan, hakikat ilmu dan amal, hakikat kewujudan Allah dan hakikat fungsi sastera. Hasil karya yang lahir daripada cernaan dan kefahaman di atas akan membentuk karya yang berasaskan Tauhid dan akan membuahkan karya yang memiliki isi dengan nilai yang kreatif yang membawa perutusan yang indah dan bermakna (Adli, 2007, hlm. 30).

Selain itu, sebuah kajian lagi yang turut membandingkan PB dengan pemikiran al-Nadwi ialah artikel Rahmah Ahmad H. Osman (Rahmah) dan Mohd. Shahrizal Nasir (Mohd. Shahrizal) berjudul “Sastera Islam: Satu Perbandingan Antara Pandangan Mohd. Affandi Hassan Dengan Abu al-Hasan ‘Ali al-Nadwi” (2011). Artikel ini antaranya menggariskan beberapa persamaan yang ketara dalam pandangan Mohd. Affandi dan al-Nadwi, antaranya penekanan terhadap perutusan, hubungan antara sastera dengan kehidupan, serta pengiktirafan terhadap sastera klasik. Merujuk soal perutusan, PB mengungkapkannya sebagai “makna dari segi perutusan” dan berpendapat bahawa bahagian inilah yang merujuk kepada pengisian falsafah, guna menjelaskan kebenaran Islam dalam sesebuah teks sastera.

Manakala, al-Nadwi pula berpendapat bahawa karya sastera dapat memainkan fungsi sebagai wadah penyampaian dakwah apabila dimanfaatkan untuk menjelaskan kebenaran sesuatu perkara dalam kehidupan manusia menurut pandangan-hidup Islam (Rahmah & Mohd. Shahrizal, 2011, hlm. 14, 23).

Merujuk soal hubungan antara sastera dengan kehidupan, PB menjelaskan bahawa keterikatan manusia dengan Pencipta menerusi janji azali menuntut kepada penghasilan karya yang berlandaskan ilmu yang benar di sisi Islam, dan ini dimungkinkan dengan pepadatan wacana dalam karya untuk tujuan penjelasan. Hal ini seiring dengan pandangan al-Nadwi yang menganggap bahawa karya sastera, dengan peranannya sebagai wadah penyampaian dakwah, turut berfungsi untuk merakamkan pemikiran dan pandangan untuk dijadikan pengajaran dan penghayatan yang berfaedah buat manusia (Rahmah & Mohd. Shahrizal, 2011, hlm. 24, 32).

Dalam soal pengiktirafan terhadap sastera klasik, PB menghujahkan bahawa karya yang lahir pada zaman kegemilangan Islam di Tanah Melayu mengandungi perutusan benar, selain disampaikan dengan indah. Al-Nadwi pula dilihat mengemukakan pendapat yang senada apabila mengangkat karya-karya “sastera asli”; iaitu sastera daripada khazanah kesusasteraan Arab silam, sebagai karya yang mengandungi perutusan ilmiah yang disampaikan dengan indah (Rahmah & Mohd. Shahrizal, 2011, hlm. 33-34).

Adalah jelas bahawa artikel ini memperakukan konsep “Sastera Islam” yang diutarakan PB sebagai sehaluan dengan pemikiran al-Nadwi, terutamanya perhatian terhadap keutamaan ilmu, sebagaimana yang dinyatakan, “Secara jelas, tiga bentuk persamaan antara pandangan Mohd. Affandi [PB] dan Al-Nadwi iaitu pertama: penekanan terhadap mesej dan perutusan, kedua: hubungan antara sastera dengan kehidupan, dan ketiga: pengiktirafan terhadap sastera klasik menunjukkan bahawa pandangan kedua-dua tokoh ini didasari oleh satu matlamat iaitu memperjuangkan ilmu dalam karya sastera Islam” (Rahmah & Mohd. Shahrizal, 2011, hlm. 35).

Analisis ini memperlihatkan usaha kedua-dua tulisan di atas dalam membandingkan PB dengan tradisi keilmuan Islam khususnya dari dunia Arab. Dalam konteks kedua-dua tulisan ini, PB dibandingkan dengan pemikiran Al-Nadwi, seorang ilmuan kontemporari berbangsa Arab yang mengajukan pemikiran tentang “Sastera Islam”. Perbandingan ini berupaya mensejajarkan PB dengan pemikiran Al-Nadwi dalam beberapa aspek terutamanya soal keutamaan ilmu dalam karya kreatif. Adalah jelas bahawa tulisan di atas menyambut PB sebagai satu pemikiran yang seiring dengan tradisi keilmuan Islam yang berkembang di Tanah Arab.

KESIMPULAN

Artikel ini berhasil dalam merealisasikan ketiga-tiga objektif kajian. Pertama, artikel ini telah dapat mengenal pasti idea-idea utama berkaitan Persuratan

Baru yang dibincangkan dalam kajian-kajian ilmiah yang dikaji. Antaranya PB diasaskan pada pandangan-hidup Islam yang berteraskan ajaran Tauhid sebagaimana yang dibangkitkan antaranya dalam kajian oleh Ungku (2003), Mohd. Zariat (2004), Adli (2007), Rahmah & Mohd. Shahrizal (2011) dan A. Halim (2018). Pandangan-hidup Tauhid ini kemudiannya mewajarkan pilihan Mohd. Affandi untuk memanfaatkan konsep *Taklif* yang diperjelaskan oleh al-Dihlawi dalam kitab karangan beliau bertajuk *Hujjat Allah al-Baligha*. Pemanfaatan konsep *Taklif* ini membolehkan PB untuk mentakrifkan penulisan sebagai satu kegiatan ibadah yang membawa kepada pengabdian manusia kepada Penciptanya (Ungku, 2003, 2009; Zawiah, 2010). Dengan itu, PB didapati mengutamakan ilmu yang benar di sisi Islam termasuk pemikiran dan wacana ilmiah, sekali gus meletakkan cerita pada kedudukan yang subordinat kepada ilmu. Dengan pengutamaan terhadap ilmu, PB dilihat berusaha untuk menghidupkan tradisi persuratan Melayu abad ke-16 dan ke-17 Masihi dalam kegiatan sastra masa kini. Tradisi ini merujuk kepada kegiatan karang-mengarang yang dipelopori oleh para ilmuan yang mengarang kitab-kitab ilmu. Abad ke-16 dan ke-17 Masihi dianggap sebagai zaman kemuncak kegemilangan Islam dalam sejarah dan kebudayaan Melayu (A. Halim, 2018; Ungku, 2003, 2009, 2012). Walau bagaimanapun, PB berpendapat bahawa tradisi persuratan Melayu abad ke-16 dan ke-17 Masihi ini kemudiannya terputus dengan kedatangan penjajah Barat yang memperkenalkan

konsep “sastra moden”. Dalam konteks ini, PB membezakan antara “sastra” yang merujuk kepada kegiatan penulisan yang berasaskan imaginasi dengan “persuratan” yang merujuk kepada kegiatan karang-mengarang berteraskan ilmu (Abdullah, 1995; Adli, 2007; Ungku, 2003, 2012). Pengenalpastian idea-idea utama berkaitan PB di atas yang dibincangkan dalam kajian-kajian ilmiah yang dikaji dengan sendirinya bererti objektif pertama kajian ini telah dapat dicapai.

Kedua, artikel ini berhasil dalam mengorganisasi kajian-kajian ilmiah yang dikaji berdasarkan fokus perbincangannya. Dalam hal ini, analisis ini mengenal pasti empat fokus utama iaitu pengenalan PB sebagai gagasan pemikiran, sumbangan PB dalam sejarah dan tradisi sastra Melayu, PB sebagai kerangka analisis dalam pengkajian sastra serta perbandingan PB dengan tradisi sastra lain. Merujuk kepada pengenalan PB sebagai gagasan pemikiran, tulisan Abdullah (1995) dan Ungku (2003) antaranya menyambut PB sebagai satu gagasan yang penting dalam kesusasteraan Melayu yang wajar diperkenalkan hingga ke peringkat antarabangsa. Manakala, tulisan Ungku (2009, 2012) dan A. Halim (2018) memperakukan sumbangan PB dalam mengembalikan semula tradisi persuratan Islam dalam kegiatan sastra Melayu masa kini, dan sekali gus mencabar pengaruh teori-teori Barat dalam kesusasteraan Melayu moden. Kajian tesis kedoktoran Mohd. Zariat (2004) dan tulisan Zawiah (2010) pula menyambut PB sebagai gagasan yang menyediakan alat-alat analisis yang

mencukupi untuk perungkaian teks sastera. Kajian oleh Adli (2007) serta Rahmah dan Mohd. Shahrizal (2011) pula memfokuskan pada kesejajaran PB dengan pemikiran yang lahir daripada tradisi keilmuan Islam dari dunia Arab. Berhasilnya kajian ini dalam mengorganisasi kajian-kajian ilmiah yang dikaji berdasarkan fokus perbahasannya, bererti objektif kedua kajian ini telah direalisasikan.

Ketiga, artikel ini berhasil dalam merealisasikan objektif terakhir dengan merumuskan bahawa PB telah mendapat sambutan yang serius daripada sejumlah sarjana dan pengkaji sastera Melayu. Sambutan kesarjanaan ini diperlihatkan secara konkrit melalui sejumlah kajian ilmiah dalam pelbagai bentuk termasuk tesis kedoktoran, syarahan inaugural, buku ilmiah, artikel dan kertas kerja, dan meliputi pelbagai fokus daripada usaha memperkenalkan PB kepada khalayak sastera termasuk di luar negara, hingga membandingkan serta mensejajarkan PB dengan tradisi keilmuan di luar Alam Melayu. Berdasarkan sambutan kesarjanaan yang telah diterimanya, adalah jelas bahawa PB rata-rata dianggap sebagai sebuah gagasan pemikiran yang penting dan tidak dapat dikesampingkan dalam kegiatan sastera Melayu masa kini. Sambutan kesarjanaan ini nyata memberikan perspektif yang lebih substantif dan ilmiah terhadap PB sebagai sebuah gagasan pemikiran, berbanding pendapat serta komen yang bersifat umum dan peribadi.

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Pertanika Journal of Social Sciences & Humanities

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INSTRUCTIONS TO AUTHORS

(REGULAR ISSUE)

(Manuscript Preparation & Submission Guide)

Revised: December 2020

Please read the *Pertanika* guidelines and follow these instructions carefully. The Chief Executive Editor reserves the right to return manuscripts that are not prepared in accordance with these guidelines.

MANUSCRIPT PREPARATION Manuscript Types

Pertanika accepts submission of mainly 4 types of manuscripts

- that have not been published elsewhere (including proceedings)
- that are not currently being submitted to other journals

1. Regular article

Regular article is a full-length original empirical investigation, consisting of introduction, methods, results, and discussion. Original research work should present new and significant findings that contribute to the advancement of the research area. *Analysis and Discussion* must be supported with relevant references.

Size: Generally, each manuscript is **not to exceed 6000 words** (excluding the abstract, references, tables, and/or figures), a maximum of **80 references**, and **an abstract of less than 250 words**.

2. Review article

A review article reports a critical evaluation of materials about current research that has already been published by organising, integrating, and evaluating previously published materials. It summarises the status of knowledge and outlines future directions of research within the journal scope. A review article should aim to provide systemic overviews, evaluations, and interpretations of research in a given field. Re-analyses as meta-analysis and systemic reviews are encouraged.

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Brief reports, case studies, comments, concept papers, letters to the editor, and replies on previously published articles may be considered.

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Example (page 2):

The Mediating Role of Cognitive Emotion Regulation Strategies in the Development of Social Behavior among Adolescents

Samsilah Roslan^{1*}, Noorhayati Zakaria², Siaw Yan-Li³ and Noorlila Ahmad¹

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List of Table/Figure: Table 1.

Figure 1.

Page 3: Abstract

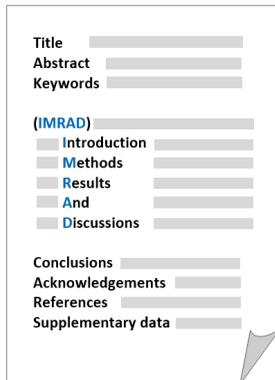
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Page 4: Text

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		Missing page or article number Jdaitawi, M. (2015). Social connectedness, academic, non-academic behaviors related to self-regulation among university students in Saudi Arabia. <i>International Education Studies</i> , 8(2). https://doi.org/10.5539/ies.v8n2p84
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Newspaper		
Newspaper article – with an author	... (Davidson, 2018) ...	Davidson, J. (2018, January 9). CES 2018: Samsung vows to add artificial intelligence to everything it does. <i>Australian Financial Review</i> . https://www.afr.com/technology/ces-2018-samsung-vows-to-add-artificial-intelligence-to-everything-it-does-20180109-h0fdtd
	Or ... Davidson (2018) ...	
Newspaper article – without an author	("Economics nudging," 2017).	Economics nudging people away from war. (2017, December 16). <i>The Age</i> , 33.
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Dissertation/Thesis		
Published Dissertation or Thesis References	... (Solomon, 2016) ...	Solomon, M. (2016). <i>Social media and self-evaluation: The examination of social media use on identity, social comparison, and self-esteem in young female adults</i> [Doctoral dissertation, William James College]. ProQuest Dissertations Publishing. https://search.proquest.com/openview/7d66a63f277a84a64907db68ff991ba/1?pq-origsite=gscholar&cbl=18750&diss=y
	Or ... Solomon (2016) ...	
Unpublished Dissertation or Thesis References	... (Curry, 2016) ...	Curry, J. (2016). <i>A guide to educating single mothers about early gang intervention and prevention</i> (Unpublished Master's thesis). Pacific Oaks College.
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Conference/Seminar Papers		
Conference proceedings published in a journal	... (Chaudhuri et al., 2017) ...	Chaudhuri, S., & Biswas, A. (2017). External terms-of-trade and labor market imperfections in developing countries: Theory and evidence. <i>Proceedings of the Academy of Economics and Economic Education</i> , 20(1), 11-16. https://search-proquest-com.elibrary.jcu.edu.au/docview/1928612180?accountid=16285
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	Or ... Morgan et al. (2017) ...	

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Online	... (McDonald et al., 2019) ... Or ... McDonald et al. (2019) ...	McDonald, E., Manassis, R., & Blanksby, T. (2019, July 7-10). <i>Peer mentoring in nursing - Improving retention, enhancing education</i> [Poster presentation]. STARS 2019 Conference, Melbourne, Australia. https://unistars.org/papers/STARS2019/P30-POSTER.pdf
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8. General Guidelines

Abbreviations: Define alphabetically, other than abbreviations that can be used without definition. Words or phrases that are abbreviated in the *Introduction* and following text should be written out in full the first time that they appear in the text, with each abbreviated form in parenthesis. Include the common name or scientific name, or both, of animal and plant materials.

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