Pertanika J. Soc. Sci. & Hum. 26 (3): 2115 - 2128 (2018)

PERTANIKA JOURNALS

SOCIAL SCIENCES & HUMANITIES

Journal homepage: http://www.pertanika.upm.edu.my/

Academic Stress Among University Students: A Quantitative Study of Generation Y and Z's Perception

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ABSTRACT

Concerns on academic-related stress among students in institutions of higher learning are widespread. Pursuing tertiary education is said to be stressful as students pass through the process of adapting to new educational and social environments. Past literature has highlighted that common academic stressors include family-related pressures, scholarship requirements, financial burdens, competition in class and course-related stress. These stressors trigger physical and psychological issues resulting in lack of energy, loss of appetite, headaches, sleep problems or gastrointestinal problems. Although studies have been done on common stressors in universities/colleges, perceptions of what are considered academic stressors from the Generation Y and Z perspectives using the Perceived Stress Test (PSS) have not been carried out in the Malaysian context. Thus, this quantitative study aims to identify the perceptions of Gen Y and Z (18-25 years old) students to identify factors attributing to stress and their effects. The findings show that 88% of the respondents confirmed that studies are the main cause of their stress, while 78% admitted facing a moderate stress level and out of this, 36% had BMI that fell in the overweight/obese category. Further, the study indicates that 54% experienced sleeping disorders. It is hoped that the findings will add to the understanding of the stress levels among Generation Y and Z to enable policy-makers and university/college management teams to strategise actions to alleviate issues arising from academic stress among students.

Keywords: Academic stress, perceived stress test, biochemical changes, physical and psychological issues, stress factors

ARTICLE INFO

Article history:
Received: 19 January 2018
Accepted: 29 June 2018
Published: 28 September 2018

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ISSN: 0128-7702
e-ISSN 2231-8534

INTRODUCTION

Stress is a multi-faceted construct that is affected by a large number of factors. According to Towbes and Cohen (1996), stress is a major issue for college students as they cope with a variety of academic, social and personal challenges. Most first-year undergraduates are living apart from their parents for the first time and in addition, more advanced undergraduates face continuing pressure for academic performance as well as in making difficult career choices and job search issues (Oman, Shapiro, Thoresen, Plante, & Flinders, 2008). McNamara (2000) supported this argument, stating that the transition from childhood to young adulthood, often marked by beginning college education, was a particularly stressful time. According to Thawabieh and Qaisy (2012), the transition of students from the school environment to university environment could cause psychological, academic and social shock due to the differences in the education system in terms of new methods of teaching, academic requirements, type of relationship between students and faculty and even relationships among students themselves.

Stress has been shown to manifest as fatigue, tension, dizziness, sleeplessness, tachycardia, gastrointestinal symptoms, irritability, anxiety and cynicism (Cecchini & Friedman, 1987; Grandy, Westerman, Lupo & Combs 1988; Knudsen, 1978; Martinez, 1977; Tedesco, 1986; Wexler, 1978). Since admission to professional courses is largely on the basis of merit, competition is intense and many students may have to settle for an educational programme that is not their first choice. Previous studies have shown that these students may experience higher stress than those who enrolled in their preferred educational programme (Rajab, 2001). Other symptoms of stress highlighted by researchers over the years include anxiety and depression (Segrin, 1999), suicidal ideation and hopelessness (Dixon, Rumford, Heppner, & Lips 1992), poor health behaviour (Naquin & Gilbert, 1996; Sadava & Pak, 1993), increase in headaches (Labbé, Murphy, & O'Brien, 1997), sleep disturbances (Verlander, Benedict, & Hanson, 1999), increased rates of athletic injury (Laubach, Brewer, Van Raalte, & Petitpas 1996) and frequent occurrences of the common cold (Stone et.al., 1992).

Research on stress among students and their effects have been well-documented in many Western countries. Researchers are in agreement that students share common academic stressors such as family-related pressures, scholarship requirements, financial burdens, competition in class, examination, time-management and course-related stress**.** However, there has been a dearth of studies on the perceptions of Gen Y and Z about academic stressors and their effects, especially in the Malaysian context. Thus, this quantitative study aimed to identify the perceptions of Gen Y and Z students in a tertiary education institution in Malaysia as to the factors causing them stress and the effects of stress on their mental and physical health. For the purpose of this study, Generation Y will

refer to those born between 1981 and 1994, while Generation Z will include those born from 1995 to 2012 (McCrindle, 2006). The reason for choosing Generation Y and Z as the sample was due to the fact that these generations grew up in an era that was totally different from that of baby boomers and Generation X. Their lives whirl around fading culture, secularism and the advent of digital technology. Surrounded by modern gadgets run on scientific technology that support an increasingly perplexing lifestyle impacting hugely on family relationships has exposed these generations to higher stress and challenges in coping with life issues.

As issues related to stress and health have constantly triggered concerns and debates at various levels of stakeholders, the focus of this research was mainly to study the association of stress levels on body mass index (BMI), blood glucose and cholesterol levels, sleep deprivation as well as blood pressure. The data obtained from this research on Generation Y and Z was, therefore, important as it may be able to detect the stress burden faced by younger generations as high levels of stress may result in more severe or chronic problems as the generations age. The specific objectives of this study were:

(a) to categorise the stress levels according to low, moderate and high levels based on the Perceived Stress Score (PSS) scoring system;

(b) to identify the factors contributing to stress and its effects on the daily activities of students; and

(c) to examine the relationship between stress levels and the research variables (BMI, blood glucose levels, systolic blood pressure and sleeping disorders).

LITERATURE REVIEW

Research into stress among students is not new. Researchers have been researching and debating the issue for a very long time as it is essential to continue to understand how students perceive and manage stress in their daily lives. Stress has been defined in varied ways. According to Lazarus and Cohen (1977) as cited in Hamaideh (2011, p. 70), stress means "any event in which internal and/or environmental demands exceed the adaptive resources of an individual or social system," while stressors are defined as "demands made by the internal or external environmental stimuli that affect the balance, thus influencing physical and psychological well-being of an individual and requiring actions to restore the balance." According to Pariat, Rynjah, Joplin and Kharjana (2014), although college life is one of the most entertaining and unforgettable experiences of the individual, a closer perspective would indicate that college students encounter a number of challenges in their daily lives that contribute to stress and if not dealt with can only escalate and hamper their academic performance and emotional and social well-being. There have also been studies on the effects of stress on physical health. A study by Jenkins (1982) noted that for myocardial infarction, a condition where the heart muscle died, a

certain cluster of symptoms and complaints such as poor sleep, exhaustion and inability to relax were confirmed risk factors.

Researchers have identified that stress among students is triggered by different sources in their academic life due to the different personality and characteristics that affect the way they react to those stressors (Gadzella, 2004; Misra & McKean, 2000). According to Furnham (2005), there are three perceptions of stress i.e. response-based or emanating from the individual's reactions to events and circumstances; stimulus-based or the result of events and circumstances; and interactive or resulting from the interplay between stimuli and responses. Many researchers have also experientially studied the relationship between demographic factors and stress. Thawabieh and Qaisy (2012) in their research highlighted three key research studies in this area i.e. Hamaideh (2011), Chen, Wong, Ran and Gilson (2009), and Sulaiman, Hassan, Sapian and Abdullah (2009), all of which are discussed here. According to Thawabieh and Qaisy, the study of Hamaideh (2011) indicated that the highest group of stressors experienced by students was self-imposed stressors followed by pressure and cognitive responses. They added that Chen et al. (2009)'s study that was carried out to describe the relationship between college stress, coping strategy and psychological well-being proved that psychological well-being had a negative relationship with college stress and a positive coping strategy had significant buffering effects on psychological health problems. Meanwhile, Sulaiman et al. (2009)'s study found that a significant difference in the level of stress attributed to gender between rural and urban secondary school students. The study was comprehensive and highlighted that factors such as parenting style and parents' education background do influence students' stress. Other key researchers in this area were also cited in their study, such as Bayram and Bilgel (2009), Canales-Gonzales and Kranz (2008), Wong, Cheung, Chan, Ma and Wa Tang (2006) as well as Skirka (2000).

In the Malaysian context, there has been an increase in research in this area in the past decade. However, most of the research in Malaysia has been conducted in public universities only. Shamsuddin et al. (2013) carried out a study to assess the prevalence of depression, anxiety and stress to identify their correlation among university students. Johari and Hassim (2009) carried out a study to determine the prevalence of stress and coping strategies among medical students in the National University of Malaysia, Malaysia University of Sabah and Universiti Kuala Lumpur and Royal College of Medicine, Perak. Yee and Yusoff (2013) carried out a comparative study to identify the prevalence and sources of stress among medical students in Universiti Sains Malaysia and Universiteit Maastricht. Saub (2013) carried out research to explore the association between social support and stress levels among preclinical and clinical dental students in Malaysia.

It is inevitable that stress plays a significant role in human mortality and morbidity in developed nations around the world; Malaysia is not an exception. Stress has been a chief contributor to the burden of suffering that is causing a wide range of human illness (Macik-Frey, Quick, & Nelson, 2007). According to Quick and Cooper (2003), stress is either directly or indirectly linked to seven out of 10 leading causes of death in the United States, the United Kingdom and all developed nations. They further identified the seven causes as heart disease, cancer, stroke, injuries, suicide/homicide, chronic liver disease and chronic bronchitis. Interestingly, Cooper and Quick (2017) regarded stress as both the spice of life and the kiss of death. They went on to state that it was as an excellent rubric for a domain of knowledge for clinical, medical and psychological practice.

MATERIALS AND METHODS

In this section, the methodology used in the research is discussed. The researchers adopted a quantitative research method as it had been proven that understanding perceptions is best done through this manner (Creswell, 2013). In carrying out this research, data were collected through a survey. The researchers developed a suitable questionnaire incorporating the Perceived Scale Test (PSS) developed by Cohen, Kamarck and Mermelstein (1983), which was validated through a pilot study administered among 15 students from the same university. Based on the responses, the survey questionnaire was edited to improve clarity by removing inconsistencies and errors. The questionnaire was divided into four parts: demographic questions, Perceived Stress Test (PSS), causes of stress and its effects as well as biochemical and anthropometric measurements. The Perceived Stress Test (PSS) is a 10-question survey that results in a scoring to categorise stress levels into low (scores 0-13), medium (score 14-26) and high (scores 27-40) categories. The responses to the questionnaire were based on a 5-point Likert scale with response options of 0=never, 1=almost never, 2=sometimes, 3=fairly often, and 4=very often. The selection of respondents for the survey was done using a non-probability convenient sampling method from which students from a private university in Malaysia offering undergraduate programmes where one of the researchers was affiliated to be selected. In order to fulfil research ethical requirements, approval from the university was obtained. Consent was also obtained from the respondents comprising students from Year 1 to Year 3. Prior to obtaining consent, the purpose of the study was communicated well in advance to ensure that the students' participation in the research was voluntary. The students' body mass index (BMI) was determined by measuring body weight and height using calibrated equipment and then classifying the BMI value using the Asian BMI range. Blood glucose and cholesterol were obtained by finger-pricking and then analysing the blood sample using a glucometer and a cholesterol meter. A calibrated digital blood pressure

monitor was used to obtain systolic and diastolic blood pressure readings. All the responses and measurements were captured and subsequently, the data were coded and then analysed to ensure anonymity and confidentiality of respondents. The quantitative data were analysed using SPSS version 23. The findings were then discussed in line with the objectives of the study, which were to investigate stress levels and factors attributing to stress and the effects of stress.

RESULTS AND DISCUSSION

This section explains the findings obtained from the survey carried out among 124 respondents from a private university in Malaysia. Table 1 provides the demographic details of the respondents involved in the study.

Out of the 124 respondents, 21.8% were males and 78.2% were females. This finding was not surprising as research has proven that female students outnumber male students in higher institutions of education in Malaysia. In 2016, there were approximately 399,240 female students enrolled in public higher education institutions in Malaysia, compared with around 268,250 male students (Statista, 2018). The respondents were all aged between 18 and 25 years old and were pursuing a degree programme in the university. In terms of age, the respondents were divided into two categories: 21 and below and above 21. The findings indicated that 78.2% of the respondents were aged 21 and below and 21.8% were aged above 21. An analysis of the race distribution indicated that the majority were Chinese (54.8%), followed by Indians (21.0%) and Malays (18.5%). A small percentage (5.7%) consisted of respondents from other races, including international students from various countries such as Nepal and Indonesia. Figure 1 shows the classification of stress levels based on the scoring of the Perceived Stress Test (PSS).

Table 1
Demographic details of respondents

Demographics	Frequency (N)	Percentage (%)
Gender		
Male	27	21.8
Female	97	78.2
Age		
21 and below	97	78.2
Above 21	27	21.8
Race		
Chinese	68	54.8
Indian	26	21.0
Malay	23	18.5
Others	7	5.7

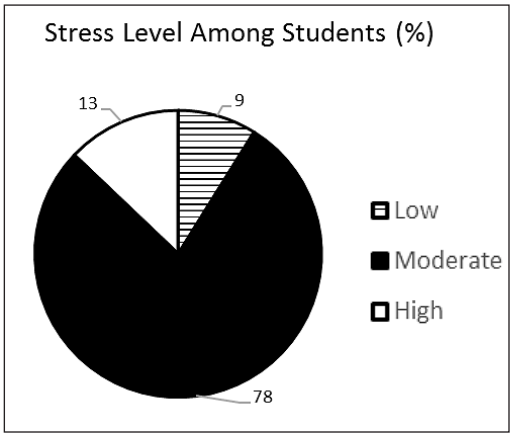

Figure 1. Classification of stress levels among respondents.

Based on the findings represented in Figure 1, it was noted that the majority of the respondents, or 78.2% of the respondents, fell under the moderate level of stress category, followed by those in the high level (12.9%) category. Only a small number of respondents (8.9%) fell under the low level category. Further analysis of the figures brought to light some interesting findings. From the total of 16 respondents who indicated high level of stress, 10 (63%) were aged 21 and below, while the remaining six (37%) were aged above 21. The number of respondents who reported experiencing moderate and low levels of stress also showed a similar pattern i.e. the majority were in the age group of 21 and below.

The survey also sought answers from the respondents on the factors that contributed to their stress. Out of the 124 respondents, only 119 respondents responded to this question. Table 2 indicates the findings.

Table 2
Factors contributing to stress

Factors	**Frequency (N)**	**Percentage (%)**
Studies	105	88.2
Peer pressure	33	27.7
Family problems	31	26.1
Financial problems	29	24.4
Others	2	1.7

Almost 90% of the respondents confirmed that their studies were the cause of the stress they were experiencing. This included attending lectures, preparing for tutorials, carrying out individual and group assignments, preparing oral presentations as well as preparation for exams. The other factors were not indicated as frequently as studies. This confirmed findings from other research studies that identified university life as being a very stressful part of a student's life (Towbes & Cohen, 1996; Thawabieh & Qaisy, 2012).

In response to the question on whether stress affected their daily lives, 56% of the respondents responded affirmatively, stating it did affect their daily lives, while the remaining 44% stated that it did not. Out of the 69 respondents (56%) who confirmed that stress affected their daily lives, 62 (90%) were found to be in the moderate and high stress level categories. With regard to the effect of stress on daily life, the Perceived Stress Test identified different impacts on the emotional state of the respondents such as nervousness, anger, loss of control, inability to cope and feelings of irritation. In the survey, the respondents were asked to state the frequency of these occurances over the period of one month. As indicated in Figure 1, the respondents who fell under the categories of moderate and high levels of stress selected the options 'fairly often' or 'very often' to show how frequently they were affected by the stress experienced.

Since past researchers (Lavie, 2001; Pillar, Malhotra, & Lavie, 2000; Van Reeth et al., 2000) have identified sleep as one of the most common daily activities affected by stress, in the current research, an in-depth analysis was done to identify the extent to which sleep was affected. Two

questions specifically focussed on sleep to understand how student stress affected it. The respondents were aske whether they encountered any problems in sleeping and if yes, they were requested to state the nature of the problem. It was noted that 54% of the respondents, equivalent to 67 respondents experienced some form of sleeping disorder. The sleeping disorders experienced by these 67 respondents were then analysed. Figure 2 indicates the findings.

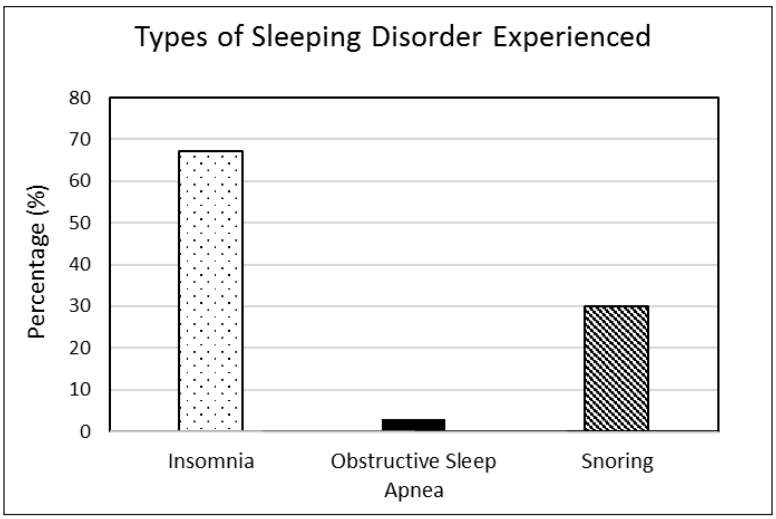

Figure 2. Types of sleeping disorder experienced by respondents

As shown in Figure 2, a total of 45 respondents (67.2%) experienced insomnia, a condition where one faces prolonged, abnormal inability to obtain adequate sleep (Medline online dictionary, 2012). Another 20 respondents (29.8%) reported snoring while sleeping. A small number (3%) said they experienced obstructive sleep apnea, a condition indicated by brief periods of recurrent cessation of breathing during sleep that is caused especially by obstruction of the airway or a disturbance in the brain's respiratory centre (Medline online dictionary, 2012). These findings are similar to the claim made by Sadeh, Keinan and Daon (2004) that sleep problems faced as a result of stress included difficulty in falling asleep, fragmented sleep as well as recurrent and frequent nightmares. According to Sadeh (1996) as well as Sadeh and Gruber (2002), difficulty in sleeping is related to the response mode identified as the sleep-wake system, where there is a "turn on" response of the "alarm phase" as labeled by Selye (1983) (as cited in Sadeh, Keinan and Daon, 2004, p. 542) that is compatible with hypervigilance and incompatible with sleep.

The researchers also went on to compare the body mass index (BMI) of the respondents with their category of stress level as indicated by the Perceived Stress Test (PSS). Table 3 portrays the results obtained from the survey.

Table 3
Comparison between body mass index and stress level categories

BMI Classification	Stress Level Categories		
	Low (N=11)	Moderate (N=97)	High (N=16)
Underweight	1	16	4
Ideal	3	46	5
Overweight/Obese	7	35	7

As indicated in Table 3, 35 respondents (36%) who experienced a moderate level of stress were overweight/obese while seven (44%) who experienced a high level of stress were overweight/obese. The findings were similar to past research that has proven that obesity is a result of stress. According to Kivimäki et al. (2006), there is a possibility that stress can affect body mass index for it may cause some people to eat less and lose weight but others to eat more and gain weight.

Table 4
Data for biochemical and physical parameters

Parameter	Mean	Standard Deviation
Glucose		
Low stress category	3.72	0.652
Moderate stress category	3.57	0.745
High stress category	3.79	0.629
Cholesterol		
Low stress category	5.12	0.729
Moderate stress category	4.83	0.732
High stress category	5.20	0.735
Body Mass Index		
Low stress category	26.57	7.973
Moderate stress category	22.70	5.576
High stress category	23.68	6.536
Systolic Blood Pressure		
Low stress category	121.09	13.989
Moderate stress category	116.87	14.163
High stress category	118.81	14.630

Table 4 indicates the mean and standard deviation values obtained from respondents based on their stress level category. An ANOVA test was carried out to determine if there were any differences in BMI, systolic blood pressure and glucose and cholesterol levels in the different categories of stress. The analysis indicated that there was no

significant difference between the three stress categories (low, moderate and high) and the measured variables.

In order to identify if a relationship existed between the variables, a Pearson correlation test was carried out. Table 5 shows the findings. The test indicated evidence that a positive relationship existed between BMI, glucose levels, cholesterol levels and systolic blood pressure. However, no evidence showed that a relationship existed between stress levels and the measured variables.

Table 5
Correlation between variables

		Stress	BMI	Glucose	Cholesterol	SystolicBP
Stress	Pearson Correlation	1	-0.11	0.04	0.063	-0.023
	Sig. (2-tailed)		0.226	0.659	0.492	0.802
	N	124	124	124	122	124
BMI	Pearson Correlation	-0.11	1	0.278**	0.194*	0.407**
	Sig. (2-tailed)	0.226		0.002	0.032	0
	N	124	124	124	122	124
Glucose	Pearson Correlation	0.04	0.278**	1	0.055	0.281**
	Sig. (2-tailed)	0.659	0.002		0.546	0.002
	N	124	124	124	122	124
Cholesterol	Pearson Correlation	0.063	0.194*	0.055	1	0.162
	Sig. (2-tailed)	0.492	0.032	0.546		0.074
	N	122	122	122	122	122
Systolic BP	Pearson Correlation	-0.023	0.407**	0.281**	0.162	1
	Sig. (2-tailed)	0.802	0	0.002	0.074	
	N	124	124	124	122	124

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

CONCLUSION

This study was done to assess the perceived factors of stress among Generation Y and Z students in a private university in Malaysia. The findings of the research showed clearly that the majority of the respondents, at the percentage of 78.2%, fell under the moderate level of stress category. It was also proven without doubt that among the factors identified as sources of stress were their studies, peer pressure, family problems, financial problems and others. Their studies

(88%) were said to be the factor that caused the most stress. With regard to the effects of stress, 56% of the respondents claimed to have experienced some form of sleep disorder. The research findings also showed that there was a positive relationship between BMI, glucose levels, cholesterol levels and systolic blood pressure. However, there was no evidence to indicate that a relationship existed between stress levels and the measured variables.

Based on the findings, the researchers recommended that university/college management teams must take positive steps to reduce students' stress to ensure that they possess good mental health and are able to perform well in their studies. They can do this by creating a conducive learning environment with suitable teaching and learning methods. In addition, they need to provide adequate counselling in order to decrease psychological and social stress. The researchers also recommend that university/college management teams should place a lot of emphasis on ensuring courses are designed properly. They should also ensure that student support services are set in place, students are made aware of potential stress that can occur in the period of transition from school to university/college life as well as that adequate training and workshops are conducted to help students handle stress. All these measures will help decrease the stress faced by students as a result of their academic pursuits. Further, it is accepted that there are limitations in this study, especially in the sample size. Thus, it is recommended that a similar study be carried out among a larger sample of respondents to ensure validity of findings and to generalise the findings to the whole population. In addition, to confirm the present findings and to enlighten corrective interventions, it is also necessary for future research to be carried out incorporating a wider array of information in terms of sociodemographic, psychosocial and institutional variables.

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