Pertanika J. Soc. Sci. & Hum. 26 (3): 1617 - 1631 (2018)

PERTANIKA JOURNALS

SOCIAL SCIENCES & HUMANITIES

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

High Grade-Point Average and Predictors among Filipino University Students

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ABSTRACT

A high grade-point average (GPA) is considered important because of its ramifications for young people's job and career prospects. Although various studies have examined GPA in terms of its predictors, the predominant research focus has been on US samples of university students. This study determines the independent associations of socio-demographic characteristics, lifestyle activities, and academic motivation with a high GPA among a sample of 3011 Filipino university students. Data were analyzed using logistic regression, with GPA as the dependent variable and socio-demographic characteristics (sex, age, course, and weekly allowance); lifestyle activities (smoking, alcohol intake, number of social networking accounts, number of hours spent in social media, level of physical activity, and level of religious activities); and academic motivation as the independent variables. Of the 11 predictors examined, six had a statistically significant relationship with a high GPA: three socio-demographic characteristics (sex, course, and weekly allowance); two lifestyle activities (smoking and religious activities); and academic motivation. Although the regression model fitted the data well, it only explained 10.6-15.4% of the variance in the dependent variable. Prospective studies need to further validate this model, broaden the measures of the assessed predictors, and identify the statistical significance of other predictors.

Keywords: Academic motivation, Filipino university students, grade-point average, lifestyles, socio-demographic characteristics

ARTICLE INFO

Article history:
Received: 02 March 2017
Accepted: 19 January 2018
Published: 28 September 2018

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INTRODUCTION

Having a formal higher education is critical to young people's social mobility, particularly their job and career prospects

ISSN: 0128-7702
e-ISSN 2231-8534

(ILO, 2010). Governments, companies, educational institutions, and parents are working together to provide an array of educational opportunities to young people. From 2005-2025, the average annual growth rate of students enrolling in higher educational institutions throughout the world would exceed 3.0%. By 2025, globally, there would be approximately a quarter of a million university students (Maslen, 2012). To date, the Philippines has only around 3.0 million, but within the next two decades, its university student population—given an annual growth rate of 3.27% across all fields of study (Commission on Higher Education, 2014)—is expected to double.

The enormous number of university student population has social and occupational mobility implications for young people. This means that young people need to compete—in their own as well as in other countries—not only for admission at higher educational institutions but also for employment and other mobility-related opportunities in industries and government, non-government, international, and global organizations. Because of the highly competitive socio-economic environment, young people are commonly counseled to earn good grades to improve their career and social mobility prospects. Indeed, some young people are acquiring high grades and pursuing their chosen career paths (Tomlinson, 2014).

The published research literature has amply described young people with a high grade-point average (GPA) in terms of their characteristics. However, most prior large-scale analyses on GPA and its predictors have concentrated predominately on samples of young people in the US. Parallel evidence from developing countries (e.g., Philippines) is sparse. This study examines and discusses socio-demographic characteristics, lifestyle activities, and academic motivation as predictors of a high GPA among a survey sample of Filipino university students. This study would not only expand on a subject that mainly reports US-based findings, but its results would also have international implications, particularly that it might be common for the present generation of students, including those in the Philippines, to attend universities and/or seek employment in other countries. It is thus important to understand factors related to students' academic achievement from various parts of the world.

LITERATURE REVIEW

Grades earned from completed subjects are a common objective indicator of academic performance. More than their numerical values, grades have social and cultural meanings. For instance, high grades are indicative of hard work, conscientiousness, resilience, and persistence (Lee, Baring, & Sta. Maria, 2016). Because of their associated values, high grades are markedly regarded as a pathway to better jobs and careers (Tomlinson, 2014). Knowing these normative values and knowing that organizations are using GPA as a selection tool (Imose & Barber, 2015) tend to drive many young people to want and acquire high grades.

A large number of young people in US colleges and universities have a high GPA. An analysis of six studies, with sample sizes ranging from 985-105,012, reveals that 39.0-85.7% of US-based students were found to have a high GPA (i.e., either A or B) (Bell, Wechsler, & Johnston, 1997; Eisenberg, Neumark, & Lust, 2005; Huang, DeJong, Towvim, & Schneider, 2009; Shegog, Lindley, Robinson, Simmons, & Richter, 2010; Primack, 2011; Wells et al., 2015). As a time-based performance indicator, GPA is a robust measure of academic performance. However, a high GPA seldom occurs in the long run due to chance. Research has shown that a high GPA is associated with a number of predictors. This study examines three sets of predictors, namely, socio-demographic characteristics, lifestyles, and academic motivation.

Social structures and socio-demographic characteristics, such as sex, age, course category, and allowance, effectively organize young people into groups. Within a group, members are provided with opportunities to acquire values, traits, and resources that would help them earn high grades. Sex does not only refer to maleness and femaleness; it also prescribes social norms that guide academic performance. In highly patriarchal societies, such as the Philippines, young males are expected to perform, achieve, and lead more than their female counterparts (Moran, 1992); subsequently, young males are expected to acquire high grades.

Like sex, age is more than simply a socio-demographic category. Major age levels have their corresponding sets of norms that could also impact GPA. Usually, higher age levels call for higher levels of responsibilities suggesting that young people who are older are expected to earn high grades. According to a study by Wolaver (2002) (n=17,592), older, rather than young, college students have a high GPA. One's course also has a potential to influence one's GPA. When enrolled in their respective degree programs, young people need to abide with, and adjust to, the norms of their respective courses. Academic courses, such as engineering on the one hand and social sciences on the other, are governed by their own distinctive educational inputs, processes, and outcomes, not to mention that their respective faculty members have patterned differences in the ways they award grades. Disparities in the learning systems between course categories could therefore impact how young people earn their GPA. According to a study by Rask (2010) (n = 5000+), the five lowest GPAs (2.78-3.02) are acquired by young people matriculating in STEM (science, technology, engineering and mathematics) courses, while the five highest GPAs (3.22-3.36) are obtained by those enrolled in non-STEM courses.

Regardless of their sex, age, and course, young people, while studying, need funds for their subsistence and other expenses. In contrast to young people in the US who have multiple ways of meeting their non-tuition financial needs (e.g., via loans, scholarships, employments, and parental support), those in the developing countries, such as the Philippines, rely heavily on the allowance given to them by their parents. Whether it

is received daily, weekly or monthly, an allowance could serve as a social security for young people. At a certain threshold, it could affect GPA positively, where a high allowance may result in a high GPA. Large-scale evidence in support of the GPA-allowance nexus is scant, but a related study by Stinebrickner and Stinebrickner (2000) (n=2,999) suggests that family income as a source of allowance for young people affects GPA.

On top of being embedded in their respective socio-demographic categories, young people also have their lifestyle activities. These activities are prescribed—directly or indirectly—as part of their age-graded and gender-related identities and norms or their socialization towards adulthood. As a set of sociocultural or sub-group practices, lifestyle activities are life-changing phenomena, with both negative and positive consequences. On the one hand, lifestyle activities demand a certain amount of time and attention from young people, fostering norms and behaviors that are inimical to their academic performance; for example, lifestyle activities influence young people to defocus from their studies. On the other hand, lifestyle activities provide young people with inputs for further inspiration and zeal, thereby improving their interest in, and focus on, their studies. Lifestyle activities could be a boon or bane to those seeking high grades. This study examines lifestyle activities related to smoking, alcohol intake, social media usage, physical activity, and religiosity.

The inverse relationship of lifestyle activities with GPA has been reported in US studies. For example, students who smoked versus those who did not smoke (n = 9931) (University of Minnesota, 2008); and students who took alcohol versus those who did not drink alcohol or who drank less alcohol (n = 28,000) (Center for the Study of Collegiate Mental Health, 2009) were found with a lower GPA. High alcohol levels have debilitating effects on brain functioning (US Department of Health and Human Services, 2004) and subsequently, on academic performance. Other studies reported findings on GPA and social media usage, which refers to the usage of either multiple social networking sites (SNS) or Facebook, one of the most popular SNS in the world and in the Philippines. Prior studies have mixed results on the relationship between use of social media and GPA. While the research by Junco (2012) (n=1839) underscored a statistically significant inverse relationship between social media usage and GPA, the research by Harrigittai and Hsieh (2010) (n = 1060) pointed out a lack of any relationship. In this study, a negative relationship between the two variables is hypothesized. It is argued that when young people spend an inordinate amount of time on social media, they would have less time for their studies, and therefore, their chances for getting a high GPA would be lessened. Other studies reported a robust positive association of GPA with physical activity (n = 16,095) (Wald, Muennig, O'Connell, & Garber, 2014)

and with religiosity (n = 3,924) (Mooney, 2010). These findings suggest that certain levels of physical activity and religiosity are linked to better grade outcomes. As a result of its effects on the human brain, physical activity promotes better concentration and other positive academic-related outcomes (Castelli, Glowacki, Barcelona, Calvert, & Hwang, 2015). Religiosity, through certain religious teachings, can help create discipline or work ethic (Mooney, 2010), which may impact young people's academic work.

Central to the study of academic performance is academic motivation, defined as a person's desire, as mirrored in his/her approach, persistence and level of interest regarding academic subjects, when competence is judged against a standard of performance or excellence (McGrew, 2007). As a psychological variable, academic motivation is a foundation of academic performance. In the absence of academic motivation at a particular threshold, a high GPA is unlikely. Much of the evidence linking academic motivation and GPA is drawn from studies with modest sample sizes (e.g., < 300), albeit there being no shortage of theoretical explanations on the nexus (Richardson, Abraham, & Bond, 2012).

Using logistic regression, this study determines which of the three sets of predictors, namely, socio-demographic characteristics, lifestyle activities, and academic motivation, are statistically significantly associated with a high GPA among Filipino university students. The overarching aim is to develop a model that can help guide relevant discourse and research and program development. As mentioned, there is no large-scale analysis of predictors of GPA among local university students. This Philippine-based data is a valuable addition to the present pool of knowledge on the matter, having cross-cultural relevance.

MATERIALS AND METHODS

Study Design and Sampling

Data was drawn from a complete enumeration survey conducted in 2014 at a private university in Manila, Philippines. For this analysis, data from 3011 Filipino students was examined. At the time of the survey, respondents were enrolled in general education subjects, such as Introductory Sociology. A self-completed questionnaire was administered to respondents during the first 20-30 min of their class. The first page of the instrument was a letter introducing the research to respondents and inviting them to participate. The second page was a written consent form containing brief but vital information on the purpose of the study, survey procedures, voluntary participation, confidentiality, potential risks, and contact address of the principal investigator. At the bottom of the form was a statement regarding the willingness of respondents to answer the survey instrument, under which a blank line was included to accommodate their signature. The information contained in the consent form was used to orient each class about the study. Respondents aged 18, and older, were asked to sign the written

consent form, while those younger were requested to obtain the consent and signature of their parent or guardian. Once the consent form was signed, respondents were each given a questionnaire. No incentive was provided.

The findings discussed in this report were culled from a broader data set on well-being, social and civic engagements, and relationships among Filipino university students. The Research Ethics Committee of De La Salle University approved the implementation of the study.

Measures

The dependent variable, GPA, was based on respondents' reported grades ranging from 1.0-4.0 (the highest). GPA was recoded as a dichotomous variable: grades from 2.5-4.0 were transformed into '1' and grades below 2.5 into '0'. At the university surveyed 2.5 serves as the cut-off to indicate that a grade is good or otherwise. For example, if one of their grades falls below 2.5, respondents are excluded from the Dean's List and the honor roll. The codes '1' and '0' were used to refer to respondents with a high GPA and without a high GPA, respectively.

The four socio-demographic variables were coded as follows: sex ('1' male, '2' female), age category ('1' <18, '2'≥18), course category ('1' non-STEM, '2'STEM), and weekly allowance ('1' ≤US$30, '2' >US$30). It should be noted that, until now, Filipino students begin their university education at the age of 16. In general, US$30 a week is just enough to cover basic needs. A meal of one cup of rice and one viand costs about US$2.00 in the university. A weekly allowance of more than US$30 provides respondents with some extra amount for their leisure and entertainment activities.

Lifestyle activities covered the following six variables with their respective codes: smoking ('1' did not smoke in the past 30 days, '2' smoked), alcohol intake ('1' did not drink alcohol in the past 30 days, '2' took alcohol), number of SNS accounts ('1' 1-2, '2' >2), number of hours spent daily on social media ('1' <10, '2' ≥10), vigorous physical activity ('1'had no vigorous physical activity in the past 7 days, '2' had vigorous physical activity), and level of religious activities ('1' low (1-4), '2' high (>4). A low or high level of religious activities means having attended 1-4 or more than four religious activities in the past 30 days, respectively. Vigorous physical activity refers to fast biking, aerobics, dancing, running, basketball, swimming laps, rollerblading, tennis, and soccer, among others.

Academic motivation was based on the following seven statements: 1) I do not have any desire to go to my classes, 2) I do not attend classes as much as I used to earlier, 3) I don't feel motivated to study, 4) Going to university is pointless, 5) I have trouble starting assignments, 6) I do not find study as interesting as I used to, and 7) I have trouble completing study tasks. These statements were drawn from the University Student Depression Inventory developed by Khawaja and Kelly (Khawaja & Duncanson, 2008). Each statement has five response options, scored as- '1' none at all, '2' a

little bit of a time, '3' some of the time, '4' most of the time, and '5' all the time. These scores were recoded dichotomously for each statement, such that '1' through '3' were converted into ''1", which means 'a low level of motivation'; and '4' through '5' into '2', which means 'a high level of motivation'.

Statistical Analysis

To examine the relationship between a high GPA and 11 predictor variables, logistic regression was performed. Compared to other statistical analytical techniques (e.g., linear discriminant function analysis), logistic regression is more robust for cases involving dichotomous outcomes, because it is not subject to strict statistical assumptions (e.g., linearity and normality) (Peng, Lee, & Ingersoll, 2002). Logistic regression analysis was performed by computing descriptive statistics, a classification table and a model summary, and adjusted odds ratios. The Statistical Package for the Social Sciences version 20 was used to process and analyze the data.

RESULTS

The variables assessed in this study are described in Table 1. Of the 3,011 respondents, 73.2% had a high GPA (i.e., ≥2.5), a little more than half (52.9%) were female, and 64.5% were aged 18 years and older. In relation to their courses, 54.3% and 45.7% of respondents were enrolled in non-STEM and STEM degree programs, respectively. Approximately 60% reported having a weekly allowance of more than US$30.0.

In the duration of 30 days before their interview, 8.9% of respondents had smoked cigarettes, while 35.0% had taken an alcoholic beverage. Of the respondents, 71.0% indicated they had more than two social networking site accounts. In terms of the number of hours spent in using social media, the findings suggest that 66.2% used social media daily for 10 hours or more. Moreover, 71.2% had a vigorous physical activity in the past 7 days and 86.6% had a high level of religious activities. Among the respondents, 62.3% and 37.7% had a low level and a high level of academic motivation, respectively.

Table 1
Descriptive results of variables

Variables	Categories	N	%
Grade-point average	0 Not high (< 2.5)	806	26.8
	1 High (≥ 2.5)	2205	73.2
Sex	1 Male	1419	47.1
	2 Female	1592	52.9
Age	1 < 18	1068	35.5
	2 ≥ 18	1943	64.5
Course	1 Non-STEM	1636	54.3
	2 STEM	1375	45.7

Table 1 *(continue)*

Variables	Categories	N	%
Weekly allowance (US$)	1 ≤ 30	1240	41.2
	2 > 30	1771	58.8
Smoking	1 Did not smoke in the past 30 days	2744	91.1
	2 Smoked	267	8.9
Alcohol intake	1 Did not drink alcohol in the past 30 days	1958	65.0
	2 Took alcohol	1053	35.0
Number of social networking site accounts	1 1-2	874	29.0
	2 > 2	2137	71.0
Number of hours spent in using social media	1 < 10	1018	33.8
	2 ≥ 10	1993	66.2
Physical activity	1 Had no vigorous physical activity in the past 7 days	868	28.8
	2 Had vigorous physical activity	2143	71.2
Level of religious activities	1 Low (1-4)	404	13.4
	2 High (>4)	2607	86.6
Level of academic motivation	1 Low	1877	62.3
	2 High	1134	37.7

The classification data in Table 2 suggests that the study's overall rate of having correctly classified the respondents in terms of their GPA was 73.7%. Table 3 shows that the variation in the dependent variable based on the 11 assessed predictors ranged from 10.6-15.4%. Results of the Hosmer and Lemeshow Test suggest that the 11-predictor model was a good fit to the data (X^2: 25.9, df 8, p = .001) (not in the table).

Table 2
Percentage of cases for which high GPA was correctly predicted given the model

Observed			Predicted		
			High GPA		Percentage Correct
			No	Yes	
Step 1	High GPA	No	134	672	16.6
		Yes	121	2084	94.5
	Overall Percentage				73.7

Table 3
Propotion of variance in high GPA given the model

Step 1	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
	3161.389	0.106	0.154

Table 4
Logistic regression results

Variables	Categories	Adjusted Odds ratios	95% CI		p value
			Lower	Upper	
Sex	1 Male	0.344	0.285	0.415	0.000*
	2 Female	Ref			
Age	1 <18)	1.097	0.907	1.326	0.341
	2 ≥18	Ref			
Course	1 Non-STEM	Ref			
	2 STEM	0.548	0.458	0.655	0.000*
Weekly allowance (US$)	1 ≤ 30	1.280	1.069	1.533	0.007*
	2 > 30	Ref			
Smoking	1 Did not smoke in the past 30 days	Ref			
	2 Smoked	0.512	0.380	0.689	0.000*
Alcohol intake	1 Did not drink alcohol in the past 30 days	Ref			
	2 Took alcohol	0.889	0.730	1.084	0.246
Number of social networking site accounts	1 1-2	Ref			
	2 > 2	1.212	0.900	1.632	0.205
Number of hours spent in using social media	1 < 10	Ref			
	2 ≥ 10	0.774	0.580	1.032	0.081
Physical activity	1 Had no vigorous physical activity in the past 7 days	Ref			
	2 Had vigorous physical activity	0.900	0.737	1.100	0.303
Level of religious activities	1 Low (1-4)	0.689	0.505	0.941	0.019*
	2 High (> 4)	Ref			
Level of academic motivation	1 Low	0.643	0.527	0.783	0.000*
	2 High	Ref			

Of the 11 predictors examined using logistic regression, six were found to have a statistically significant relationship with a high GPA. These included: three socio-demographic characteristics (i.e., sex, course, and weekly allowance); two lifestyle activities (i.e., smoking and religious activities); and academic motivation. The five predictors without any statistically significant relationship with the outcome variable were: one socio-demographic characteristic (i.e., age) and four lifestyle

activities (i.e., alcohol intake, number of SNS accounts, number of hours spent in using SNS, and physical activity) (Table 4).

Based on the computed adjusted odds ratios (AOR), female respondents were found to be more likely to earn a high GPA than their male counterparts (AOR: 0.344; 95% confidence interval (CI), 0.285-0.415; p =.000). Those enrolled in non-STEM courses had a high GPA relative to STEM students (AOR: 0.548; 95% CI, 0.458-0.655; p=.000). Rather than respondents having a weekly allowance of more than US$30 a week, respondents with a weekly allowance of less than US$30 were more likely to have a high GPA (AOR: 1.280; 95% CI, 1.069-1.533; p=.007). Additionally, respondents with a high level of religious activities tended to have a high GPA (AOR: 0.689; 95% CI, 0.505-0.941; p=.019).

Non-smoking respondents as well as those with a high level of academic motivation were about 50% more likely to earn a high GPA compared to smokers (AOR: 0.512; 95% CI, 0.380-0.689; p =.000) and those with a low level of academic motivation (AOR: 0.643; 95% CI, 0.527-0.783; p=.000), respectively.

DISCUSSION

This study examined the independent statistical relationships of 11 predictors of a high GPA among a sample of 3,011 Filipino university students. The number of large-scale studies analyzing these predictors, specifically among Filipino university students, is sparse. This study, particularly its final model, is a contribution to the current pool of systematic knowledge on a topic having employment and career ramifications for young people. The present study found that a high GPA was common among the Filipino university students interviewed, implying that many local students have already begun forming a crucial academic-based capital for their future career and social mobility.

Young people with a high GPA have been described, in US studies, with respect to their socio-demographic characteristics, lifestyle activities, and academic motivation. This study confirmed the statistically significant relationship of six predictors, based on the model formed from the analysis of a data set involving Filipino university students. The current findings on the direction of the bivariate relationships—whether these are positive or negative—are not necessarily aligned with the findings reported in US studies, possibly because of differences in the samples and methodologies used and the sociocultural contexts. Overall, the model involving a high GPA comprised of six predictors: sex (females), course (non-STEM students), weekly allowance (low level), smoking (non-smokers), religious activities (high level), and academic motivation (high level).

Females had a high GPA, because they tend to be more self-disciplined and conscientious than males. For instance, female students are more likely to take down notes in class, transcribe lectures more accurately, and remember lecture content better (Voyer & Voyer, 2014). The high GPA among non-STEM students and the

low GPA among STEM students may have had to do with the ways teachers, including those in the Philippines, award grades. The finding is that non-STEM teachers award higher grades than their STEM counterparts (Rizvi, 2015), probably due to variations in the learning strategies, processes and outcomes between these courses. The hypothesized positive association between a high level of financial allowance and a high GPA did not materialize in this analysis. Instead, students with a low level of allowance were observed to have a high GPA. Having just enough allowance may constrain students from spending money and time for leisure and entertainment activities, which may then influence them to spend their free time in studying. In contrast, having more than enough allowance, and therefore, having some leisure and entertainment activities could also adversely affect students' academic performance. Although the academic impact of allowance is relatively unexplored, there is some evidence regarding the disruptive effects of certain forms of allowance on grades (Mandell, 2016).

Non-smokers had a high GPA, because they were probably less stressed than smokers, and as a result, they could have had more focus on, and greater control over, their academic performance. Tobacco use is an indicator for other health conditions, such as stress levels (Lederman, 2008), and is widely practiced among young people because of its calming effects (File, Fluck, & Leahy, 2001). The high GPA among highly-religious students could be a consequence of the learning they acquire from their religion. For example, the regularity in which young people perform religious activities (e.g., praying and attending religious services) could have developed in them a sense of order, structure and discipline (Mooney, 2010). These values are fundamental to young people's movement towards achieving a high GPA.

That Filipino students with a high GPA also had a high level of academic motivation is hardly surprising. As a constitutive element, academic motivation propels young people's movement towards their academic goals. While a passing grade only demands a modicum of academic motivation, a high GPA requires young people to possess an elevated desire and a need for a wide spectrum of academic matters (Richardson, Abraham, & Bond, 2012), involving, for instance, class attendance, subjects, study tasks, and university education. Class attendance alone is a very crucial personal input for academic performance (Baxter, Royer, Hardin, Guinn, & Devlin, 2011).

In the absence of statistically significant associations with a high GPA, the study's model of predictors excluded one socio-demographic characteristic (i.e., age) and five lifestyle activities (i.e., number of SNS accounts, number of hours of social media usage, alcohol intake, and physical activity). The absence of their associations with GPA, which is not consistent with evidence from US studies, suggests that a high GPA could not be attributed to any category of students across these variables. The findings thus indicate that those with

a high GPA were either young or old; had some or a broad array of SNS accounts; had some or longer hours of social media usage; were non-alcohol or alcohol drinkers; and were engaged or not engaged in a vigorous physical activity. The following explanations are offered for these empirical deviations.

Like their older counterparts, young students also had a high GPA, probably because they were still enrolled, as first and second year students, in general education subjects when interviewed. Overall, introductory or 101 subjects are relatively easy (Central Michigan University, 2005). Some of these young students could have also taken the opportunity to acquire high grades in these subjects so that they could later shift to other disciplines with better job and career prospects. At their ages, many of these university students are still uncertain about the degree program they would want to pursue (Freedman, 2013). Despite their heavy use of social media and their alcohol drinking habits, students—along with others who were not heavy users of social media and alcohol drinkers—also had a high GPA. The heavy users and drinkers appeared to have managed their engagements in social media and alcohol consumption well in relation to their academic tasks. It was plausible, for example, that these students could have used their social media judiciously even while attending classes and studying (in many parts of the world, including the Philippines, instruction and learning have yet to be fused with social media, or vice versa). Furthermore, regarding alcohol consumption, some of these students could have consumed alcohol only during their free time, weekends or holidays, and they could have also controlled the amount of their alcohol intake. Overall, these students could have effectively reined in their lifestyle activities to remain focused on their academic performance. Finally, like those engaged in vigorous physical activity, students who were not engaged in any physical activity, also had a high GPA. In lieu of having vigorous physical activity, some of these students could have exercised lightly or moderately; research has shown that this, too, has a positive effect on academic performance (Booth et al., 2013).

This study has some limitations. Since the sample was drawn from an elite university in the Philippines, the findings may not be fully applicable to the broader population of Filipino university students. The GPA data was also based on self-reports, which are normally subject to under- or over-estimation (Prince et al., 2008). In addition, the variable measures failed to cover some deeper aspects of the assessed predictors, such as the specific social media activities or the specific vigorous physical activities performed by students. These additional details could have provided the study with further information to better appraise the results. Lastly, the study's 6-predictor model could only explain 10.6-15.4% of the variance in GPA, implying that there are other influences on the outcome variable that studies have yet to uncover, at least in the case of local university students. More studies are needed

to further validate, or expand, the scope and coverage of the present findings. Prospective research should cover samples of university students from other economic backgrounds, more nuanced measures for the assessed predictors, and other independent predictors.

CONCLUSION

Academic performance, as evidenced in a high GPA, has been linked to factors related to the characteristics of university students. Among a sample of 3,011 Filipino university students, the study identified six of these characteristics, namely, sex, course, weekly allowance, smoking status, religious activities, and academic motivation. The combined predictive power of these six statistically significant characteristics was rather modest. Age and the other lifestyle activities examined were not statistically significantly related with a high GPA. These exploratory findings need further validation in other university student samples. It is important to establish the body of systematic knowledge on GPA and its predictors among non-US samples, given that the topic has ramifications for universities seeking to improve the academic performance and the social and career mobility prospects of young people.

REFERENCES

Baxter, S. D., Royer, J. A., Hardin, J. W., Guinn, C. H., & Devlin, C. M. (2011). The relationship of school absenteeism with body mass index, academic achievement, and socioeconomic status among fourth grade children. *Journal of School Health, 81*(7), 417–423.

Bell, R., Wechsler, H., & Johnston, L. D. (1997). Correlates of college student marijuana use: Results of a US National Survey. *Addiction, 92*(5), 571-581.

Booth, J. N., Leary, S. D., Joinson, C., Ness, R., Tomporowski, P. D., Boyle, J. M., Reilly, J. J. (2013). Associations between objectively measured physical activity and academic attainment in adolescents from a UK cohort. *British Journal of Sports Medicine, 48*(3), 265-270.

Castelli, D. M., Glowacki, E., Barcelona, J. M., Calvert, H. G., & Hwang, J. (2015). Active education: Growing evidence on physical activity and academic performance. *Research Brief*. Retrieved February 14, 2017, from http://activelivingresearch.org/sites/default/files/ALR_Brief_ActiveEducation_Jan2015.pdf.

Center for the Study of Collegiate Mental Health. (2009). Study: Inverse relationship between alcohol abuse and college GPA. *Penn State News*. Retrieved February 14, 2017, from http://news.psu.edu/story/172329/2009/11/16/study-inverse-relationship-between-alcohol-abuse-and-college-gpa.

Central Michigan University. (2005). Student opinion survey on the general education program at CMU. Michigan: CMU. Retrieved February 14, 2017, from https://www.cmich.edu/office_provost/AcademicAffairs/gened/Documents/GenEd_Survey_Report_Student.pdf.

Commission on Higher Education (2014). Higher education in numbers. Quezon City, Philippines: CHED. Retrieved February 14, 2017, from http://www.ched.gov.ph/index.php/higher-education-in-numbers/enrollment/.

Eisenberg, M. E., Neumark, D. S., & Lust, K. D. (2005). Weight-related issues and high-risk sexual behaviors among college students. *Journal of American College Health, 54*(2), 95-101.

File, S. E., Fluck, E., & Leahy, A. (2001). Nicotine has calming effects on stress-induced mood changes in females, but enhances aggressive mood in males. *International Journal of Neuropsychopharmacology, 4*(4), 371-376.

Freedman, L. (2013). The developmental disconnect in choosing a major: Why institutions should prohibit choice until second year. *The Mentor.* Retrieved February 14, 2017, from https://dus.psu.edu/mentor/2013/06/disconnect-choosing-major/.

Harrigittai, E., & Hsieh, Y. P. (2010). Predictors and consequences of differentiated practices on social network sites. *Information, Communication & Society, 13*(4), 515-536.

Huang, J. H., DeJong, W., Towvim, L. G., & Schneider, S. K. (2009). Sociodemographic and psychobehavioral characteristics of US college students who abstain from alcohol. *Journal of American College Health, 57*(4), 395-410.

ILO. (2010). *A skilled workforce for strong, sustainable and balanced growth*. Geneva: International Labor Organization. Retrieved February 14, 2017, from https://www.oecd.org/g20/summits/toronto/G20-Skills-Strategy.pdf.

Imose, R., & Barber, L. K. (2015).Using undergraduate grade point average as a selection tool: A synthesis of the literature. *The Psychologist-Manager Journal, 18*(1), 1-11.

Junco, R. (2012).The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers & Education, 58*(1), 162-171.

Khawaja, N. G., & Duncanson, K. (2008). Using the university student depression inventory to investigate the effect of demographic variables on students' depression. *Australian Journal of Guidance and Counseling, 18*, 1-15.

Lederman, D. (2008). Health, behavior and college GPA. *Inside Higher Ed*. Retrieved February 14, 2017, from https://www.insidehighered.com/news.

Lee, R. B., Baring, R. V., & Maria, M. A. Sta. (2016). Gender variations in the effects of number of organizational memberships, number of social networking sites, and grade-point average on global social responsibility in Filipino University students. *Europe's Journal of Psychology, 12* (1), 191-202.

Mandell, L. (2016). *Child allowances – beneficial or harmful?* Retrieved February 14, 2017, from http://lewismandell.com/child_allowances_-_beneficial_or_harmful.

Maslen, G. (2012). Worldwide student numbers forecast to double by 2025. *University World News*. Retrieved February 14, 2017, from http://www.universityworldnews.com/article.php?story=20120216105739999.

McGrew, K. S. (2007). *Beyond IQ: A model of academic competence and motivation*. St. Cloud, Minnesota: Institute for Applied Psychometrics. Retrieved February 14, 2017, from http://www.iapsych.com/acmcewok/map.htm.

Mooney, M. (2010).Religion, college grades and satisfaction among students at elite colleges and universities. *Sociology of Religion, 71*(2), 197-215.

Moran, B. B. (1992).Gender differences in leadership. *Library Trends, 40*(3), 475-491.

Peng, X. Y., Lee, K. L., & Ingersoll, G.M. (2002). An introduction to logistic regression analysis and reporting. *The Journal of Educational Research, 96*(1), 3-14.

Primack, B. A. (2011). Hookah tobacco smoking among U.S. College students (Doctoral dissertation). Retrieved February 14, 2017, from http://d-scholarship.pitt.edu/6229/1/primack_dissertation_final_2011_11_08.pdf

Prince, S. A., Adamo, K. B., Hamel, M. E., Hardt, J., Gorber, S. C., & Tremblay, M. (2008). A

comparison of direct versus self-report measures for assessing physical activity in adults: A systematic review. *International Journal of Behavioral Nutrition and Physical Activity, 5*, 56-80.

Rask, K. (2010). Attrition in STEM fields at a Liberal Arts College: The importance of grades and pre-collegiate preferences. *Cornell University ILR School Working Papers*. Retrieved February 14, 2017, from http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1141&context=workingpapers.

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin, 138*(2), 353-387.

Rizvi, S. A. (2015). RMP evaluations, course easiness and grades: Are they related? *Practical Assessment, Research and Evaluation, 20*(20), 1-8.

Shegog, M. L, Lindley, L., Robinson, M. T., Simmons, D., & Richter, D. (2010). HVI/STI risk factors among African-American students attending predominantly white universities. *Journal of Health Disparities Research and Practice, 4*(1), 86-98.

Stinebrickner, T. R., & Stinebrickner, R. (2000). *The relationship between family income and schooling attainment: Evidence from a Liberal Arts College with a full tuition subsidy program*. Ontario, Canada: The University of Western Ontario; Berea, KY, US: Berea College. Retrieved on February 14, 2017, from http://adfdell.pstc.brown.edu/papers/stisti02.pdf.

Tomlinson, M. (2014). *Education, work and identity: Themes and perspectives*. London: Bloomsbury.

University of Minnesota. (2008). Grades in college directly linked to health-related behaviors. *Science Daily*. Retrieved February 14, 2017, from www.sciencedaily.com/releases/2008/10/081021120925.htm.

US Department of Health and Human Services. (2004). Alcohol's damaging effects on the brain. *Alcohol Alert*. Retrieved February 14, 2017, from http://pubs.niaaa.nih.gov/publications/aa63/aa63.html.

Voyer, D., & Voyer, S. (2014). Gender differences in scholastic achievement: A meta-analysis. *Psychological Bulletin, 140*(4), 1174-1204.

Wald, A., Muennig, P. A., O'Connell, K. A., & Garber, C. E. (2014). Associations between healthy lifestyle behaviors and academic performance in U.S. undergraduates: A secondary analysis of the American College Health Association's National College Health Assessment II. *American Journal of Health Promotion, 28*(5), 298-305.

Wells, A., Karpe, V., Butler-Barnes, S. T., Cunningham-Williams, R. M., Sanders-Thompson, V., Williams, S. L., & Jones, B. D. (2015, November). GPA among African American female college students: Examining lifestyles and preventive health behaviors. Paper presented at *The Social and Behavioral Importance of Increased Logevity, New Orleans, Louisiana, USA*.

Wolaver, A. M. (2002). Effects of heavy drinking on study effort, grade point average, and major choice. *Contemporary Economic Policy, 20*(4), 415-428.