Macrothink Institute™

International Journal of Human Resource Studies
ISSN 2162-3058
2022, Vol. 12, No. 2

Health Behavior and Academic Performance of Sri Lankan Undergraduates

G. G. Rasika Nirmal

Department of Human Resource Management, Faculty of Commerce and Management Studies, University of Kelaniya, Sri Lanka

M. K. Dinithi Padmasiri (Corresponding Author)

Department of Human Resource Management, Faculty of Commerce and Management Studies, University of Kelaniya, Sri Lanka

Received: Sep. 15, 2021 Accepted: Feb. 25, 2022 Online published: Mar. 31, 2022

doi:10.5296/ijhrs.v12i2.19696 URL: https://doi.org/10.5296/ijhrs.v12i2.19696

Abstract

In spite of the ample determinants of academic performance, which could be found in the extant literature, health behavior is scarcely investigated with undergraduates' academic performance. Bridging the gap in the literature, based on the social exchange theory and the social learning theory, the current study has assessed the impact of health behavior on academic performance of management undergraduates (n = 304) of state universities in Sri Lanka.

Findings reveal that there is a strong positive relationship between health behavior and academic performance. It is recommended that healthy practices should be promoted among undergraduates in universities and higher educational institutes by linking such healthy practices to subjects, and by encouraging undergraduates to follow extracurricular activities during the study period.

Keywords*:* academic performance, health behavior, physical activity, sleep behavior, food behavior, substance use

1. Introduction

The World Health Organization (WHO) stressed the link between health and education by means of Promoting healthy practices in University (Busch, Loyen, Lodder, & Schrijvers, 2014). Improving an undergraduate's physical health has the potential to be a valuable protective factor in the improvement of academic performance (Shaw et al., 2015). The

connection between the healthy choices made by the students in comparison to the academic results are positively proportionate. When elaborated further, it shows that when a student makes a healthier choice it results in better academic performance in university and increases the possibility for the student to pursue higher education (Cabrera, Rodriguez, Karl, & Chavez, 2018). They also indicate that students in middle and high schools with lower academic achievements are also less physically active compared to those who have achieved better results in academic work. (Cabrera et al., 2018).

The purpose of this research is to identify the impact of health behavior on the academic performance of universities undergraduates. To address this main purpose, the following objectives have been developed: (a) to identify the relationship between health behaviour and academic performance, (b) to investigate the level of academic performance among undergraduate students, and (c) to identify the level of academic performance in accordance with the gender.

1.1 Hypotheses Development

1.1.1 Academic Performance

Successful academic performance is key during undergraduates' academic period and in predicting professional and social success in one's lifetime (Kingdon et al., 2011). Improved academic performance is a suitable goal for college health promotion personnel, just as improved job performance is a desired outcome for worksite health promotion professionals (Kingdon et al., 2011). A common measure of academic performance is GPA thus, most of the researchers use GPA value to identify academic performance of undergraduates (e.g., Busch et al., 2014). The calculation of GPA is illustrated in Figure 1.

$$\text{GPA} = \frac{\text{Course grade} * \text{number of credits} + \text{Course grade} * \text{number of credits (All courses)}}{\text{Sum of the total number of the credits (All course)}}$$

Figure 1. GPA calculation

(Abdulaghani et al., 2012)

1.1.2 Health Behavior

The WHO has conducted a survey on Health Behavior of School Aged Children, which is titled as HBSC survey. In that they have investigated health-related behaviors: use of alcohol, use of marijuana, smoking, physical activity, sexual activity, nutrition, bullying/being bullied, watching television, use of the internet, and playing video games (Busch et al., 2014). Few behaviors have been linked to academic outcomes as identified in the large number of behavioral research conducted globally. Those are: physical activity, food consumption behaviors and food choices, sleeping behaviors, and tobacco, alcohol, and drug use. In a nutshell, students who adhere to secure food consumption habits, eat regular meals, consume a sufficient amount of fruits and vegetables, sleep a recommended number of hours, do not

use tobacco, alcohol or illicit drugs, and are physically active consistently, do well in university (Cabrera et al., 2018). Based on the literature, four main health behaviors can be identified as physical activity, food behavior, sleep behavior, and substance use (Tobacco, Alcohol and Drug Use).

1.2 Physical Activity

Physical activity is defined as any type of movement that increases the use of physical energy. (Cabrera et al., 2018). It includes spontaneous physical activity and organized non-competitive forms of physical activity including exercise, physical education classes, and sport (Trudeau & Shephard, 2010). The adolescent population is not collectively reaching the prescribed rates of physical activity even though ample proof remains that there is a positive relationship between the rates of physical activity and academic performance. (Cabrera et al., 2018). Only a small fraction of students in high school (34.7%) reaches the prescribed level of physical activity while the overall rate of activity is appallingly low. (Cabrera et al., 2018).

1.2.1 Food Behavior

As per the WHO, good nutrition, is a cornerstone of good health (Faught, Montemurro, Storey, & Veugelers, 2017). A crucial factor affecting health, mental wellbeing and academic results of children and teens is the consumption of healthy food. On the other hand, the inability to access such food is a factor that hampers the academic achievements of students. Teens and their families who are food-insufficient, appear to find it hard to fit in with others. Having a greater possibility of them being dropped out of schools, also shows low academic success. (Alaimo, Olson, & Frongillo, 2001).

1.2.2 Sleep Behavior

A state of active, repeated, two sided perceptual detachments from the surroundings and insensitivity to the same can be a loose definition for sleep (Dewald et al., 2009). On the topic of sleep behaviors, a close relationship has been found between the caliber and frequency of sleep against academic success and cognition (Curcio, Ferrara & Gennaro, 2006). Weak sleep nature or short sleep periods may result in drowsiness in daytime or due to the merging of the two sleep domains. (Dewald et al., 2009). This may be the reason as to why researchers frequently showed negative outcomes from daytime drowsiness rather than from the duration of sleep affecting neurobehavioral functioning and academic performance.

1.2.3 Substance Use

Substance use, also known as substance abuse, is a type of substance-related disorder that involves the use of substances in ways or quantities that are detrimental to oneself and others. Based on the context (medical, public health related or criminal justice) the same definition may change. When a person is under the influence of a drug, they may engage in criminal or anti-social conduct, as well as long-term personality changes. Substance abuse, alcohol and tobacco use has damaging impacts on a person's academic performance just as it does on one's health (Cabrera et al., 2018).

Social exchange theory posits that an individual's behaviour is determined by the benefits

that one can gain as a result of it. (Busch et al., 2014). Accordingly, health behaviours including physical activity, sleep behavior, food behavior, substance use influence individuals in desired outcomes in academic fields. For example, Busch et al. (2014) have discussed that students use alcohol to gain social status and consequently, their academic performance is stimulated. Nevertheless, the overall effect of alcohol usage is negative since alcohol may hinder student's performance though alcohol has stimulated students to perform well.

In addition, the existing literature demonstrating correlations between health behavior and academic achievement according to Bandura's (1977) social learning theory and Rosenberg's (1965) concept of adolescent self-esteem inspired the selection of variables and the causal ordering researcher tested in this model. (Kristjánsson, Sigfúsdóttir, & John, 2008). It is plausible to believe that one's health behaviors and choices may actively influence one's academic performance through changes in affect, based on previous findings on health behaviors effecting academic performance (Flueckiger, Lieb, Meyer, & Mata, 2014). The link between health behavior and academic performance may be explained using the fundamental concepts of the Social Exchange Theory (Emerson, 1976) and social learning theory (Bandura, 1977). As a result, the current study builds a conceptual framework based on these two ideas by evaluating the influence of health behavior on academic achievement.

According to the Physical Exercise Guidelines for Americans, teenagers should engage in at least 60 minutes of physical activity daily for at least five days of the week. (ODPHP, 2018 as cited in Cabrera et al., 2018). Students that participate in more physical activity perform better academically than those who do not (Castelli, Hillman, Buck & Erwin, 2007). Although academic performance has gotten a lot of attention in the literature, there is little research on the impact of dietary habits on academic performance among college students. Breakfast consumption boosted instantaneous recall and spatial memory, according to research involving university students (Mickey, Michael, & Dennis, 2010).

Given the evidence of the deleterious consequences of insufficient sleep on cognitive function, the importance of sleep for academic performance has been reaffirmed (Cabrera et al., 2018). With regard to memory retention, learning ability and academic performance of children the quality and lack of sleep and drowsiness are shown to be common issues (Dewald et al., 2009). The link between sleep disturbances and academic performance, on the other hand, has been explored..

Not only does substance abuse alongside alcohol and tobacco use negatively impact one's health it is also damaging to one's academic performance. (Cabrera et al., 2018). Intense and continuing health issues, absenteeism and low GPA levels are found among middle and high school students who habitually drink. (Newbury-Birch et al., 2009). This is the same for students who are involved in substance abuse resulting in poor academic performance. Sadly, there are huge numbers of students who are involved in these activities. (Cabrera et al., 2018). Busch et al. (2014) The consequences of alcohol usage on academic performance were carefully explored. Their findings demonstrated that alcohol use had a more complicated impact than the often-presumed simple negative impact. By looking overall, it is visible that alcohol use is adversely affecting academic performance.

Overall, there are beneficial links between students' healthy choices and academic achievements (Cabrera et al., 2018). There is a greater possibility a student may pursue higher education if the student makes healthier choices (Cabrera et al., 2018). Children's academic performance has become a public health problem since it affects their future educational achievement and health. Several studies in the United States and other countries have sought to correlate a variety of health status and health-related behavioral factors to academic success, learning and cognitive performance tests, and other educational and social outcomes (Kristjánsson, Sigfúsdóttir, & John, 2008). A crucial role is played in one's academic success and performance by his physical activity behaviors and healthy eating patterns (Taras, 2005).

In light of the literature, and on the basis of social exchange theory (Emerson, 1976), and the social learning theory (Bandura, 1977), the following hypothesis has been developed to test.

H1: There is a significant impact of health behavior on academic performance of undergraduates.

2. Method

2.1 Sampling Method

The sample size decided according to the Morgan Table, and it was mentioned that if the population of the study is 1000 should select 278 respondents as a sample (Morgan & Krejcie, 1970). Based on that the data was collected online from three hundred and four (304) final year management undergraduates, who were studying in two state universities in Sri Lanka by using the sampling technique. This study was conducted as a cross-sectional study and since it is a quantitative deductive study, it has adapted a survey research method.

2.2 Variable Measurements

In this survey, the data was collected through the standard questionnaire. The survey questionnaire was adopted from the standard measurement scale developed by Cabrera, Rodriguez, Karl, and Chavez (2018). It has 15 items to assess the independent variable of the health behavior of undergraduates under four dimensions: physical activity, sleep behavior, food behavior, substance use. Also, the researcher used five-point Likert scale to measure the independent variable. It is ranging from 1-5 strongly disagree to strongly agree. The Likert scale was ranging as 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, 5 for strongly agree. The dependent variable of academic performance was assessed through a single item of up-to-date GPA. GPA was calculated using the mechanism suggested by Abdulaghani et al. (2012) as depicted in Figure 1.

3. Discussion

Data was analyzed using the computer based statistical data analysis package, SPSS (Statistical Package for Social Science) English version 26 and correlation and regression analysis were used as analytical tools. Descriptive statistics for demographics are presented in Table 1.

Table 1. Descriptive statistics for demographics

Characteristics		Frequency	Percent%
Gender	Male	122	40%
	Female	182	60%
Age	Less than 25 years	212	70%
	25 - 30 years	92	30%
Civil Status	Married	16	5%
	Single	288	95%
Employment	Unemployed	51	17%%
	Internship	193	63%
	Permanent Employee	52	17%
	Self Employed	8	3%

According to the data depicted in Table 1, there is an imbalance between male and female. Women were by far in the majority. The majority of employees have represented the below 25-year age category which included 212 employees and covered 69.7% of the total. 92 employees have represented between 25 – 30 year age category which covered 30.3% of the total. Majority of the people in the sample are single. In other words, five percent (5%) married, and the others are ninety-five percent (95%) of unmarried undergraduates. In the sample, 51 undergraduates have been included in the unemployed category and that category represented 16.8% of the total. 193 undergraduates have indicated internship categories and 52 undergraduates have indicated permanent employees which represented 63.5% and 17.1% from the sample. Only 8 undergraduates are self-employed Cronbach's alpha is the most common measure to test scale reliability (Sekaran, 2006). According to Sekaran (2006), if the Cronbach's alpha is greater than 0.7, there is a reliability among items in a scale. So, in this study Cronbach's alpha value of health behavior is 0.890 which is at an acceptable level.

To identify the level of academic performance of undergraduates, first we have ranged responses of respondents. Researchers identified four ranges, 4.00-3.70, 3.70-3.30, 3.30-3.00, and 3.00 and below. This classification is purely based on the class given to the Sri Lankan university students. Accordingly, there were four levels of academic performance among undergraduates:1st class honors Degree, 2nd lower Degree, 2nd upper Degree, and General Degree (Kingdon et al., 2011).

Table 2. Level of academic performance

	Classes	Frequency	Percent
Valid	1st class honors Degree	27	8.9
	2nd lower Degree	91	29.9
	2nd upper Degree	83	27.3
	General Degree	103	33.9
	Total	304	100.0

Table 2 provides the level of academic performance of the respondents. According to data,

only 8.9% of respondents held 1st class honors Degree. 29.9% of respondents held 2nd lower Degree, 27.3% of respondents held 2nd upper Degree and 33.9% of respondents held General Degree. According to the above results, the majority of undergraduates have a General Degree. Therefore, it is possible to conclude that there has been a low level of academic performance of undergraduates.

To identify the level of academic performance according to the Gender. First, the researcher has ranged responses with the Independent-Sample T-Test researcher has come up with two mean values, according to gender.

Table 3. Group statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Academic Performance	Male	122	2.9530	.35785	.03240
	Female	182	3.3475	.37218	.02759

In Table 3 male undergraduates' academic performance (GPA Value) Mean is 2.953, and female undergraduates' academic performance (GPA Value) Mean is 3.3475. According to the results of those Mean values, the researcher has identified male undergraduates' academic performance is lower than female undergraduates.

In order to examine the relationship between health behavior and academic performance, we tested correlation using 'Pearson' correlation. According to the results of Pearson correlation shown in Table 4, there is a significant relationship between health behavior and academic performance.

Table 4. Correlations Results

		Health Behavior	Academic Performance
Health Behavior	Pearson Correlation	1	.693**
	Sig. (2-tailed)		.000
	N	304	304
Academic Performance	Pearson Correlation	.693**	1
	Sig. (2-tailed)	.000	
	N	304	304

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

Pearson correlation between the two variables of undergraduates is 0.693 ($p < 0.01$). It shows that there is a strong positive relationship between health behavior and academic performance. Thus, there is statistical evidence to claim that there is a significant relationship between

health behavior and academic performance in state universities.

Simple regression was performed to test the effect of health behavior on academic performance of undergraduates. So, the effects of health behavior on academic performance of undergraduates with the aid of simple regression model. In order to interpret the result of the regression test researchers used R Square or Adjusted R Square. R Square = 0.48 and Adjusted R Square = 0.478. Therefore, we conclude that health behavior has forty-eight percent (48%) impact on academic performance. It means forty-eight percent (48%) variation in academic performance (DV) is explained by the health behavior (IV) and 52% impact comes from other constant factors. Also, in order to identify whether there is a positive or negative relationship between health behavior and academic performance, we interpret the Standardized Coefficients Beta value of health behavior.

Standardized Coefficients Beta value of health behavior is 0.693 and it is a positive value. Also, Sig. = .000. According to that, there is a positive relationship between health behavior and academic performance. With the value of R Square (See Table 4) there is an impact (48% impact) of health behavior on academic performance. As per the result of simple regression analysis between the two variables, the study Hypothesis (H1: There is a significant impact of health behavior on academic performance in management undergraduates of state universities in Sri Lanka) is accepted.

4. Limitations and Directions for Future Research

This study has focused on the impact of health behavior (physical activity, eating behaviors and food choices, sleeping behaviors, and substance use) on academic performance. However, there may be many healthy behaviors other than them (e.g., stress, obesity, mental health), which can be identified as a limitation of the present study. The sample of the study included management undergraduates of two leading universities; thus, one of the limitations is related to the sample population and convenience sampling technique which we selected in this study. Therefore, the findings may not be representing the whole Sri Lankan context which is identified as a limitation of the study. We collected data using a convenience sampling method, which is identified as another limitation of the current research. Another limitation is that data was collected through a self-administrated method, different respondent errors may arise, and they may distort the real situation of the respondents (understanding questions incorrectly, completing the questionnaire carelessly and intentionally mentioning wrong answers). In addition, the questionnaire was used as the only method to collect data. Therefore, this data may be more quantitative. Questionnaires might be incapable of extracting the feelings of the respondents since it is very hard to measure these behavioral patterns statistically.

Having understood the limitations mentioned above, the researcher recommends future researchers may consider adding more variables such as stress, obesity, mental health (Dewald et al., 2009), which could affect academic performance other than health behavior. This study was conducted using a limited population (two universities) due to time constraints. Therefore, future researchers could move towards a considerable population and wide range of universities by expanding the sampling frame. In addition, future researchers

could pay attention more to descriptive analysis rather than conducting a statistical analyzing method since this is a human behavioral study and could be more successful when getting human opinions. Thus, future researchers could conduct interviews since most of the essential data and ideas can be extracted using those unstructured interviews.

4.1 Theoretical Implications

This study directly contributes to the existing knowledge related to undergraduates' health behavior and academic performance since this relationship is not yet studied in the Asian context (Cabrera et al., 2018). Furthermore, this study validates Social Exchange Theory (Emerson, 1976) and the Social Learning Theory (Bandura, 1977). In addition, this study updates the literature in order to help academics to gain an understanding of the relative effectiveness of undergraduates' health behavior in the Sri Lankan context. Furthermore, this research finding will lead to further research on the field of health behavior and academic performance.

4.2 Practical Implications

This study provides guidance to all undergraduates, lecturers, future undergraduates, and University Grant Commissions since this study empirically showed that academic performance will be increased due to health behaviors of undergraduates. The University Grant Commission (UGS) can develop new policies, regulations and guidelines on curriculum development by advising to include health practices into curriculum (e.g., as an optional subject or as part of a subject, assignments), organize health awareness programs for undergraduates at the university level and also universities could promote sports among undergraduates by awarding extra credits for the participation of sports during the study period rather than awarding colours.

5. Conclusion

This research has examined the impact of health behavior on academic performance of management undergraduates of state universities. Health behavior (physical activity, eating behaviors and food choices, sleeping behaviors, and substance use) play a vital role in increasing the academic performance of undergraduates. Researchers have discussed findings, and theoretical and practical implications of the study.

6. Disclosure of interest

The authors report no conflict of interest.

References

Abdulaghani, H., Alrowais, N., Bin-saad, N., Al-Subaie, N., Haji, A., & Alhaqwi, A. (2012). Sleep disorder among medical students. *Health education research*, *48*(2), 1-36.

Alaimo, K., Olson, C., & Frongillo, E. (2001). Food insufficiency and American school-aged children's cognitive, academic, and psychosocial. *Pediatrics*, *108*(1), 44-53.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral

change. *Psychological Review, 84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Busch, V., Loyen, A., Lodder, M., & Schrijvers, A. J. (2014). The Effects of Adolescent Health-Related Behavior on Academic Performance: A Systematic Review of the Longitudinal Evidence. *Review of Educational Research, 98*(4), 721-727. https://doi.org/10.3102/0034654313518441

Cabrera, J. C., Rodriguez, M. C., Karl, S. R., & Chavez, C. (2018). In What Ways Do Health Behaviors Impact Academic Performance, Educational Aspirations, and Commitment to Learning? *American Educational Research Association*, *29*(2), 239-252.

Curcio, G., Ferrara, M., & Gennaro, L. (2006). Sleep loss, learning capacity and academic performance. *Sleep Medicine Reviews. 10*(5), 323-337. https://doi.org/10.1016/j.smrv.2005.11.001

Dewald, J., Meijer, A., Oort, F., Kerkhof, G., & Bogels, S. (2009). The influence of sleep quality, sleep duration and sleepiness on school performance in children and adolescents. *Clinical Review*, *117*(4), 1281-1290.

Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology*, *2*, 335–362. https://doi.org/10.1146/annurev.so.02.080176.002003

Faught, E., Montemurro, G., Storey, K., & Veugelers, P. (2017). Adherence to Dietary Recommendations Supports Canadian Children's Academic Achievement. *Dietetic Practice and Research, 84*(2) 128-192. https://doi.org/10.3148/cjdpr-2017-008

Flueckiger, L., Lieb, R., Meyer, A., & Mata, J. (2014). How Health Behaviors Relate to Academic Performance via Affect: An Intensive Longitudinal Study. *Journal of School Health, 105*(2), *72-124.*

Kingdon , D., Serbin, & Stack. (2011). Academic success across the transition from primary to secondary schooling among lower-income adolescents: Understanding the effects of family resources and gender. *Journal of youth and adolescence, 42*(9), 1331-1347. https://doi.org/10.1007/s10964-013-9987-4

Martínez-Gómez, D., Veiga, O. L., Gómez-Martínez, S., Zapatera, B., Hernández, D. M., Calle, M. E., Marcos. A., et al. (2012) Gender-specific influence of health behaviors on academic performance in Spanish adolescents: the AFINOS study. Nutr Hosp. *27*(3), 724-730.

Kristjánsson, Á. L., Sigfúsdóttir, I. D., & John, A. (2008). Health Behavior and Academic Achievement Among Adolescents: The Relative Contribution of Dietary Habits, Physical Activity, Body Mass Index, and Self-Esteem. *Health Education & Behavior*, *34*(8), 275-331.

Mickey, T. T., Michael, B. D., & Dennis, E. L. (2010). Health-Related Variables and Academic Performance Among First-Year College Students: Implications for Sleep and Other Behaviors, *Journal of American college health, 49*(3), 448-521.

Morgan, D., & Krejcie, R. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, *30*(3), 607-610. https://doi.org/10.1177/001316447003000308

Newbury-Birch, D., Gilvarry, E., McArdle, P., Ramesh, V., Stewart, S., Walker, J., Kaner, E. (2009). Impact of alcohol consumption on young people. *A review of reviews, 91*(6)

Sallis, J. F. (2010). We do not have to sacrifice children's health to achieve academic goals. *The Journal of Pediatrics, 156*(5), 696-697. https://doi.org/10.1016/j.jpeds.2010.01.011

Sekaran, U. (2006). *Research Methods For Business.* United States of America: Von Hoffmann Press.

Shaw, S. R., Gomes, P., Polotskaia, A., & Jankowska, A. M. (2015). The relationship between student health and academic performance: Implications for school psychologists. *School Psychology International*, *48*(7), 101-207. https://doi.org/10.1177/0143034314565425

Trudeau, F., & Shephard, R. (2010). Relationships of physical activity to brain health and the academic performance of schoolchildren. *American Journal of Lifestyle Medicine*, *4*(2), 138-150. https://doi.org/10.1177/1559827609351133

World Health Organization. (2014). *Report of the first meeting of the ad hoc working group on science and evidence for ending childhood obesity.* Geneva: World Health Organization. Retrieved from World Health Organization: http://www.who.int/end-childhood-obesity/echo-final-report-august-2014.pdf?ua¼1

Copyright Disclaimer