ACADEMIC STRESS AND EMOTIONAL EATING BEHAVIOUR AMONG IIUM STUDENTS

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Abstract

Introduction: Stress and pressure are inevitable events that occur in our life. Individuals at different stages of life perceived different types of stress, including adolescents. Academic stress has been identified as the main leading stress factor among teenagers. Therefore, to cater this stressful event, emotional eating behaviour is implemented as a response to the stimulation of the negative emotions perceived from this academic stress among students. Thus, this study is aimed to identify the prevalence of academic stress and its relationship with emotional eating behaviour among IIUM students. **Method:** A cross-sectional study was conducted, involving the collection of the 419 sample through simplerandom sampling among IIUM students from all campuses. A three-part self-administered questionnaire consisting of socio-demographic factor, Educational Stress Scale for Adolescent (ESSA) and Dutch Eating Behaviour Questionnaire (DEBQ) was used. Pearson correlationwas used to determine the relationship between the academic stress and emotional eating behaviour among the IIUM students. **Result:** The study showed that 39.6% of the students experienced low academic stress and 52.5% were on emotional eating status. Thisstudy also reported a significant relationship between academic stress and emotional eating behaviour ($p < 0.001$). **Conclusion:** Academic stress does affect the emotional eating behaviour of the IIUM students. Hence, the awareness on the healthy coping mechanism should be increased to ensure the positive impacts student's life.

Keywords: Academic Stress, Emotional Eating Behaviour, Students, Malaysian

Introduction

Crisis, traumas, conflicts, and losses are types of challenges that are certainly faced by humans throughout their lifespan. Stress is unavoidable as it is the nature of life. Hence, the response and coping mechanism presented by an individual towards the stressor in each stage of life is important. According to Akande, Olowonirejuaro and Okwara-Kalu (2014), academic stress was reported to be the leading source of pressure and stress amongst adolescents. This leading stressor happens among teenagers because most of their time is spent at schools and college rather than home (Liu & Lu, 2012; Jain, Billaiya, & Malaiya, 2017; Usca, Danilane & Lubkina, 2019). Besides, the transition towards higher level of studies has shown to be significantly related to the high occurrence of academic stress. Commonly, college students bear more pressure and are exposed to serious physical and mental crisis compared to the high schoolers due to the high workload, personal conflict in managing courses as well as pressure from the peers (Yikealo, Yemane & Karvinen, 2018; Gao, Ping & Liu, 2020; Yang, Chen & Chen, 2021). This issue has been proven by a previous study that assesses the stress level among the undergraduate students in UPM which showed a high prevalence of stress at 37.7%, and one in three cited study workload as the main cause (Elias, Wong and Abdullah, 2011).

Academic stress events that occur among the students does affect their life. Therefore, to cater to this uncomfortable situation, various ways and responses have been shown to elevate back students' motivation and emotions. The implementation of coping strategies during a stressful event are varied and specific, depending on the individual's personality and intensity of the stressor itself. There are many types of responses shown by the person when under stress, and one of them is through their eating behaviour. Emotional eating behaviour has been recognized as one of the emotional coping strategies when someone is subjected to stress (Rachim et al., 2018) or in response to the negative feelings like anxiety, frustration, or anger (Frayn, Livshits, & Knäuper, 2018). According to Nakamura et al., (2020), prolonged stress was associated with the changes of health behavior, specifically on the appetite and food preferences of the person. Mohamed, Mahfouz and Badr (2020) supported the association by reporting an increase in unhealthy food preferences such as sweets, snacks and fast food among Riyadh students when they are stressed about their studies. Hence, academic stress amongst students can change their eating pattern towards an unhealthy one and potentially lead to other problems such as obesity (Rachim et al., 2018).

Method

Subjects

419 students of IIUM from Gambang, Kuantan, Gombak, and Pagoh campuses from a variety of courses and level of studies were selected to be the participants of this research.

Study design

This quantitative research was conducted using cross sectional design and self- administered questionnaire. Ethical approval (KAHS 53/22) was obtained from the Kulliyyah Postgraduate and Research Committee (KPGRC) and International Islamic University Malaysia Research Ethical Committee (IREC) before the study was conducted. A set of questionnaires was prepared and distributed to the selected respondents via Google Form. Informed consent also was included and filled by the participants before they answered the questions.

Sampling method

The sample was collected through simple random sampling. The invitation to participate was distributed to selected students using a random number generator and table. Students that refuse to participate were replaced with the next selection until the target number of respondents was achieved.

Instruments

A set of questionnaires comprises of three parts were distributed to the respondents through online. The first part of the questionnaire involved the information regarding the socio-demographic background of the respondents such as gender, age group, year of study, location of campus, level of study, sponsorship, and living status (e.g.: on campus, off campus, living with family). The second part was to assess the academic stress level using Educational Stress Scale for Adolescent (ESSA) consisting of 16 questions on a 5-point Likert scale with reliability index of 0.857 on Cronbach alpha. Scores of academic stress level were classified into high (score > 58), moderate (score 51-58), and low (score < 50). Lastly, Dutch Eating Behaviour Questionnaire (DEBQ) consisting of 11 questions on a 5-point Likert scale was used to assess the emotional eating behaviour status of the students. Scores on emotional eating behaviour were dichotomized based on median value with those below median considered as non-emotional eating and those above the median as emotional eating. The reliability index for DEBQ was 0.906 on Cronbach's alpha.

Statistical Analysis

The data collected was analyzed using the SPSS version 25 software. The descriptive statistical analysis was used to provide an overview of the characteristics of respondents. For the inferentialanalysis, independent t-test was used to determine the difference in eating behaviour between gender and Pearson correlation was used to analyze the relationship between academic stress and emotional eating behaviour among IIUM students.

Results

Demographic Data

Descriptive analysis showed that 59.7 % of the respondents were female. Most of the respondents were at the age group of 21-24 years old (55.4 %), followed by 17- 20 (41.3 %), 25-28 years old (2.9 %) and > 30 years old (0.5 %). Malay race was dominating among the respondents shown by 97.4%. The respondentsincluded the students of foundation (20.3%), postgraduate (1.7%) and undergraduate (78.0%) which comprises 23.9% from year 1, 14.6% year 2, 31.3% year 3 and 9.8% were year 4. In addition, students from Gombak (35.8%) and Kuantan (31.0%) were the main contributors of theresponse, followed by the students from Gambang campus (20.3%) and Pagoh campus (12.9%). The sponsorship of the students also showed 52.3% of them were under sponsorship by programmes such as JPA, PTPTN, Mara, Zakat, and others while 47.7% of them were self- sponsored. There was also a huge difference between the living situation of the students in whichthe majority of them were already on-campus (74.9%) while 25.1% was off-campus. Details of the socio-economic characteristics of the respondents was summarized in the Table 1.

Table 1: Socio-economic characteristic of the respondents

Demographic Factor	Categories	Frequency (n)	Percentage (%)
Gender	Male	169	40.3
	Female	250	59.7
Age	17-20	173	41.3
	21-24	232	55.4
	25-28	12	2.9
	>30	2	0.5
Race	Malay	408	97.4
	Chinese	-	-
	Indian	2	0.5
	Others	9	2.0
Level of study	Foundation	85	20.3
	Undergraduate	327	78.0
	Postgraduate	7	1.7
Year of study	Foundation	85	20.3
	Year 1	100	23.9
	Year 2	61	14.6
	Year 3	131	31.3
	Year 4 and above	42	10.0
Location of campus	CFS (Gambang)	85	20.3
	Gombak	150	35.8
	Pagoh	54	12.9
	Kuantan	130	31.0

Academic Stress level

Descriptive analysis was done to identify the prevalence of the academic stress among IIUMstudents. Based on the Table 2, it was reported that most of the students was on low level of academic stress with the prevalence of 39.62%, followed by moderate level, 31.26% and high stress level, 29.12%.

Table 2: Academic stress and emotional eating level

Construct	Level	n	%
Academic stress	High (> 58)	122	29.12
	Moderate (51 to 57)	131	31.26
	Low (< 50)	166	39.62
Emotional eating behaviour	Non-emotional eating	220	52.5
	Emotional eating	199	47.5

Emotional eating behaviour status

Descriptive analysis was done to identify the prevalence of the Emotional eaters and non-emotional eaters among IIUM students. Table 2 reported the prevalence of the emotional eating behaviour among IIUM students, showed that 52.5% were non-emotional eaters meanwhile 47.5 % was emotional eaters.

The difference between genders towards the emotional eating behavior.

Descriptive analysis was done to know the number of emotional eating behavior between male and female among IIUM students. Table 3 showed the descriptive analysis on the emotional eating behavior between female and male. Female showed higher mean of emotional eating behavior as compared to male (30.5 ± 9.8 and 27.1 ± 8.5, respectively).

Table 3: Differences in emotional eating behaviour scores

Gender	n	Mean	*SD*	*t*	*df*	*p*
Male	169	27.05	8.47	- 3.74	418	< 0.001
Female	250	30.50	9.77			

Table 3 indicated the result of the independent sample t-test analysis for Emotional Eating Behaviour between male and female IIUM students. Based on the result, there was a significant difference in emotional eating behaviour between males and females ($p < 0.001$). Mean score of the emotional eating among female students was higher than male students at IIUM.

Correlation between academic stress level and emotional eating behaviour.

Pearson correlation test was done to investigate the relationship between the academic stress level and emotional eating behaviour among IIUM students. Analysis revealed significant positive correlation between academic stress and emotional eating behaviour [$r = 0.268$, $p < 0.001$]. higher level of academic stress is associated with higher level of emotional eating behaviour.

Discussion

Prevalence of academic stress among IIUM students.

The first objective of this study is to identify the prevalence of academic stress level among IIUM students. The result reported that most of the students of IIUM perceived low academic stress level, which inconsistent with the previous study conducted by Hamdan et.al. (2021) among medical students in the University of Cyberjaya. Their study reported high academic stress level among their respondents which contradict with the current study. This inconsistency may be attributed to difference in courses taken by the respondent of this study and purely medical students in the study at University of Cyberjaya. The intensity of academic workload in a 5-year medical undergraduate programme is expected to be significantly higher than a 4-year health sciences programme commonly available in IIUM. This argument is supported by Mofatteh (2020) reporting that students perceived more intense workload as compared to the wide range from the other academic background.

Another reason for this inconsistency were due to the different number of the respondentsfrom each year of study. Their included the higher participations from the final year students meanwhile this study involved most number of respondents from year 1 and year 3. Since the different academic level does affect the academic stress perceived, therefore, the higher level of the academic stress perceived among the University of Cyberjaya's students may be contributed from the pressure of the final year students that need to complete the undergraduate medical studies.

Emotional eating behaviour status between male and female among IIUM students

The significant result between gender and emotional eating behaviour among IIUM students shown in this study was consistent with the previous study from Du et al., (2022) conducted among university students mainly from the United States (U.S), the Netherlands, South Korea, Malaysia, Ireland, Ghana, and China during the pandemic. Female students tend to become emotional eaters as compared to male students which may be due to the greater intensity of expressed emotions by females than males (Kemp et al., 2011; Gearhardt et al., 2011; Thompson, 2015). Females perceived more stress and expressed more negative emotions making them more susceptible to practicing emotional eating behaviour as coping mechanisms during stressful events (Thompson, 2015).

Another possible reason was because female has low control over food intake during stress. Research conducted by Grave et al. (2021) discovered that most female students use more emotion-focused coping strategies such as overeating than the male students. Female also produced more impulsive reward-oriented food choices during stressful events than males event (Van der Laan et al., 2014). Hence, making them hard to limit their food intake during stress, which then lead to overeating, obesity and difficulty in losing weight in the future.

Academic stress and emotional eating behaviour among IIUM students.

The significant relationship in this study was consistent with the previous study conducted by Ramadhani and Mahmudiono (2021). They also found a strong correlation between the academicstress and emotional eating behaviour among the students of SMAN 6, Surabaya. This consistency was due to the similar method and tools used to measure the academic stress level and emotional eating behaviour among the participants. ESSA and DEBQ questionnaire were also used in their study, hence providing similar operational definition to the constructs. In addition, a similar pattern of behaviour was also shown by the study conducted by Mohamed, Mahfouz and Badr (2021) among the undergraduate students in Riyadh, Saudi Arabia, reporting students tend to eat more especially during stress condition. Further into their discovery, the food choices among these stressed students were high in palatable food such as sweets and fatty food. Another supporting reason for the high tendency of the students to seek food when they stressed was due to the availability and various accessibility of food around them. For instance, food sold in the cafeterias in IIUM campus, fast food near the campus as well as from the food delivery such as Grabfood and Food Panda that were always available at all times. Hence, making them easier to make food as their comfort tools to reduce the negative emotions like anxiety, frustration, and anger.

Food has been a well-known method to cope with stress in everyday life. The study's finding supports the presence of similar tendency within the university setting among students in IIUM. Emotional eating behaviour provides an immediate relief to the negative emotional experience. As argued earlier, the eating behaviour may stem from a normal physiological reaction towards stressful experience. In situation perceived as stressful, the body activates sympathetic nervous systems and produce hormone such as cortisol to increase the presence of glucose within the blood in preparation to face the "danger" of the situation. Therefore, increase tendency to eat after stressful experience may reflect an attempt to fulfill the hormonal command to increase glucose (Hill et. al., 2022). Therefore, some experts have proposed to tailor the type of food eaten after stressful experience to be in line with the normal physiological demand (Schultchen et. al., 2019).

Conclusion

In conclusion, academic stress does affect the students' life and eating behaviour. This present investigation has discovered that students are more susceptible to practice emotional

eating behaviour especially during stress conditions, such as unhealthy eating and food intake. Therefore, a healthier version of coping stress strategy such as exercising or developing good hobbies should be implemented instead of using food to comfort the negativefeelings arise from the academic stress. Hence, to explore more on this matter, further studies should be done to assess the other stress factors that may contribute to the high intake of food among the students to provide better interventions in managing the stress. Since this study does not include the assessment on the dietary intake, hence future study should also emphasize on thefood intake to discover the actual and specific types of food choices during stress condition among the student.

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