



# Academic burnout and eating disorder among students in Monash University Malaysia



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## ABSTRACT

This study examined the prevalence of academic burnout and the relationship between academic burnout and eating disorder among Monash university students for a period of one year. One hundred and thirty-two participants were recruited for the study via advertisement. They were invited to complete three instruments, namely Demographic Questionnaire, Maslach Burnout Inventory – Student Survey (MBI-SS) and Three Factor Eating Questionnaire-Revised 18-item (TFEQ-18). In addition, anthropometric measurements such as weight, height, body mass index (BMI), body fat percentage and waist circumference were taken. All data were collected at baseline and after 6–8 weeks. Analysis of Variance (ANOVA), Kruskal–Wallis and Bonferroni pairwise comparison tests were performed using Stata version 13. The prevalence of academic burnout after 6–8 weeks was revealed to be 17.4% and 73.5% respectively for moderate and high level of academic burnout respectively. Emotional eating (EEat) scores were significantly different over levels of academic burnout after 6–8 weeks ( $p = 0.0103$ ) while no significant differences was observed in other subscales such as cognitive restraint (CR) and uncontrolled eating (UE). These findings evidenced partial associations between academic burnout and eating disorder.

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## 1. Introduction

Many definitions have been used to describe academic burnout. One description of academic burnout is a psychological condition whereby students would experience low motivation and heightened sense of failure due to inability to cope with academic stress or school demands (Salmera-Aro, Kiuru, Leskinen, & Nurmi, 2009). Academic burnout uses three dimensions as the key characteristics, which are emotional exhaustion, cynicism or depersonalization and reduced self-efficacy (Campos, Zucoloto, Bonafé, Jordani, & Maroco, 2011). Emotional exhaustion refers to an increase in level of frustration due to excessive emotional demands (Shin, Puig, Lee, Lee, & Lee, 2011). Cynicism or depersonalization can be described as detached attitude and indifference towards one's own tasks given or to people around them. Self-efficacy is an individual's own level of confidence in his/her abilities to perform specific activities or tasks, which would also affect the amount of effort that would be applied and the overall behavior during the performance given.

One study with emphasis on medical students revealed the percentages of moderate to high level of academic burnout to be 21% for the first year studies, 41% for the second year studies, 43% for the third year studies, and 31% for the fourth year studies (Santen, Holt, Kemp, & Hemphill, 2010). Another study indicated 13% of university students

in Finland developed high risk of academic burnout while around one-third of students were at moderate level (Meriläinen, 2014).

One of the common definitions for eating disorder behavior is, “dysfunctional attitudes towards eating as well as inadequate behavior towards food that is marked by anxiety, guilt and fear among many others” (Alvarenga et al., 2014). There are three subscales that can be used as representative of eating disorder behavior symptoms, which are cognitive restraint (CR), uncontrolled eating (UE) and emotional eating (EEat). CR can be defined as consciously restricting food intake in order to maintain body weight (de Lauzon-Guillain et al., 2009), while UE is a tendency to increase the frequency of food intake due to loss of control over consumption of food and EEat is characterized as the presence of overeating when in certain mood states such as anxious or when feeling lonely.

Past studies were conducted in regard to eating disorder behavior, specifically on their potential effects towards men and women (Eldredge & Agras, 1996; González-González, Betancourt-Ocampo, Tavel-Gelrud, & Martínez-Lanz, 2014). One example of eating disorder behavior is called the night eating syndrome (NES), which was caused by high level of emotional eating (Nolan & Geliebter, 2012). Generally, eating disorder behavior occurs as a method of coping to distract oneself from stress. There are many different types of coping, with rational coping (using appropriate decision making skills to resolve the problem that causes the stress) being more effective than either avoidant coping (concealing the problem from the mind without actually facing it) or emotion-based coping (self-blaming) (Sulkowski, Dempsey, & Dempsey, 2011).

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Shelton and Valkyrie (2010) argued university students who encountered difficulties and challenges in adapting to the environment (more likely to occur for first year students) were more vulnerable to develop eating disorder as well as academic burnout. If students were unable to cope with stress or eat to counter stress they may be susceptible for developing eating disorders. Hence, they concluded stress was related to eating disorder. Apart from stress, perfectionism has been evidenced to be an important clue to uncover the relationship between academic burnout and eating disorder (Peixoto-Plácido, Soares, Pereira, & Macedo, 2015). Specifically, maladaptive perfectionism is the one of interest because this type of perfectionism comes from unrealistic standard that is set towards affected individual (Chang, 2012). Those with maladaptive perfectionism would usually be stressed and frustrated when they cannot achieve what they have targeted. Those negative feelings would cause emotional exhaustion and feelings of inefficacy, eventually leading to burnout. These findings lead to a suspicion that correlation may exist between academic burnout and eating disorder.

Academic burnout and eating disorder are both capable of bringing negative impact on students' well-being. Hence, it is important to uncover the prevalence and relationship between these two conditions. Past studies revealed both academic burnout and eating disorder were related specifically in the context of stress and perfectionism, limited studies were conducted in examining the relationship between academic burnout and eating disorder. Hence, this study aimed at examining the prevalence of academic burnout as well as exploring the potential relationship between academic burnout and eating disorder among university students.

## 2. Materials and methods

### 2.1. Ethical approval

This study was approved by Monash University Human Research Ethics Committee (MUHREC) (reference number of CF14/446-2014000154).

### 2.2. Study instruments

The study instruments used for this study were divided into three parts as further mentioned below.

#### 2.2.1. Demographic characteristics

Participants were asked to provide basic demographic information as stated on the questionnaire (gender, age, race, recent Grade Point Average (GPA), estimated household monthly income and parental occupation).

#### 2.2.2. Maslach Burnout Inventory-Student Survey (MBI-SS)

MBI-SS comprised fifteen items about academic burnout. The responses were quantified using Likert scale 0–6, where 0 indicated “never” and 6 indicated “every day”. The three subscales of academic burnout were emotional exhaustion (EE), cynicism (CY) and academic efficacy (AE) (Maslach, Jackson, Leiter, Schaufeli, & Schwab, 1986). Schaufeli, Martinez, Pinto, Salanova, and Bakker (2002) reported the Cronbach's alpha value for internal consistencies of MBI-SS to be 0.74 for EE, 0.79 for CY and 0.76 for AE (sample of 621 in Spain); 0.79 for EE, 0.82 for CY and 0.69 for AE (sample of 723 in Portugal); and 0.80 for EE, 0.86 for CY and 0.67 for AE (sample of 309 in Netherlands). These subscales can further be categorized into Low, Medium and High (Maslach et al., 1986). A combination of high EE, high CY and low AE scores indicates high degree of academic burnout.

#### 2.2.3. Three-Factor Eating Questionnaire-Revised 18-item (TFEQ-18)

TFEQ-18 consisted of eighteen items related to eating behaviors in a person. The responses were “definitely true”, “mostly true”, “mostly false” or “definitely false”. The three subscales of TFEQ-18 were

cognitive restraint (CR), uncontrolled eating (UE) and emotional eating (EEat) (de Lauzon-Guillain et al., 2004). The reliability of these subscales using Cronbach's alpha value in pooled data were 0.79 for CR, 0.82 for UE and 0.89 for EEat (Keskitalo et al., 2008). These subscales can further be categorized to Low, Medium and High. Higher scores in the respective scales indicate greater CR, UE or EEat (Mossavar-Rahmani et al., 2013).

### 2.3. Recruitment process

Participants for this study were recruited through advertisements placed on notice boards across the university, which comprises seven unique schools, namely the School of Arts and Social Sciences, School of Business, School of Engineering, School of Information Technology, Jeffrey Cheah School of Medicine and Health Sciences, School of Science and School of Pharmacy. Basic explanations about the study were provided in the advertisement. Interested participants were briefed about the study (including responses to questionnaires and anthropometric measurements to be collected at both initial and second visit which was held 6–8 weeks after). The participants were subsequently been invited to sign the written consent form prior to the commencement of study.

### 2.4. Data collection

#### 2.4.1. Pilot study

Pilot study was conducted mainly to assess the suitability of wordings used in questionnaires. A total of thirty-two participants, who were fluent in English, were recruited for the pilot study. It took participants approximately 30 min to complete the paper-based questionnaires. A set of highlighter pen was given to participant at the conclusion of their participation as a token of appreciation.

#### 2.4.2. Actual study

A total of one hundred and thirty-two participants, including thirty two participants from the pilot study, were recruited for the actual study. These participants completed the paper-based questionnaires in an office space located in the School of Science either individually or in a small group of 2 students under the supervision of a facilitator. Anthropometric measurements were performed with measuring tape and OMRON Body Composition Monitor with Scale to measure height (in meter) and weight (in kilogram) respectively. All participants spent approximately 40 min in completing the paper-based questionnaires and another 10 min in providing their anthropometric measurements. The same procedure was conducted at baseline as well as after a period of 6–8 weeks. A token of appreciation (8 GB Kingmax® pendrive) was given to participant at the completion of survey at the second visit which was held 6–8 weeks after the initial visit.

### 2.5. Data analysis

First, descriptive statistics (mean, standard deviation, median, minimum and maximum) were used to summarize the continuous data, while frequency and percentage was presented for categorical data. Secondly, the internal consistency (Cronbach's alpha) for all subscales in MBI-SS and TFEQ-18 was computed. It was followed by investigating the difference of anthropometric measurements between the first and second visits using independent *t*-test for normally distributed data. Alternatively, Wilcoxon Mann-Whitney test was conducted for non-normally distributed data. A chi-square test was performed to investigate the relationship between academic burnout subscales and visits.

Next, the analysis of variance (ANOVA) was carried out to examine whether there was any difference in average CR score across the three burnout categories. If statistically significant result was obtained, then, Bonferroni pairwise comparison test was subsequently conducted to investigate the difference in average CR score across Low and Medium,

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