

Association between stress and eating habits among college students



**ASSIGN
BUSTER**

Abstract

Studies have shown that a significant proportion of university students globally suffer from stress. The purpose of this research is to examine whether or not stress has an effect on eating behavior among college student. A group of thirty college students at the age of 18 to 30 with BMI $22.7 \pm 4.4 \text{ kg. m}^2$ have participated in the study. Self-administered questionnaires were used in order to access the stress symptom and eating behavior. Perceived Stress Scale (PSS) and Three-Factor Eating Questionnaire-21 are used as measurement scales for stress levels and eating behavior standards. Quantitative (energy and macronutrients) and qualitative (consumption frequency of food groups: (1) high in sugars, (2) fast food type ready-to-eat snacks and sandwiches and (3) fruits and vegetables) food intake was assessed from 3-day food records. College students were classified into lower stress groups (1st PSS tertile) and higher stress group (PSS 3rd). The study's results indicate that in situation of stress, food choices are more likely determined by emotional factors, associated with the difficulty of controlling the amount ingested. Therefore, students with higher stress had higher scores for the eating behavior of emotional eating, uncontrolled eating and had higher frequency of consumptions of fast-food than those with lower stress level.

Keywords: stress, eating behaviors, college students

Effects of Stress on Eating Habits of College Students

College students are at risk for making poor dietary choices that can cause significant health problems due to stress. Stress is now considered a global problem especially at college-age because of demands of earning high grades, excessive homework, unclear assignments and uncomfortable classroom. Often times this stress affects usual eating behaviors and may even lead to disordered eating habits. In terms of psychology, stress is defined as a process that involves perception, appraisal, and response to noxious events or stimuli. Stress can also be both emotionally or physiologically. In general, stress occurs when there are demands on an individual that exceed his or her coping capabilities and the reaction to stress is variable depends on the characteristic of that individual, either positive or negative.

Several studies have shown that there is a significant relation between stress and health. For instance, chronic stress can cause heart disease, cardiovascular disease, high blood pressure and obesity ⁽¹⁾. Furthermore, chronic stress can also lead to weak immune system underlying some ambiguous symptoms that people usually ignore such as headaches, difficulty sleeping or rapid thoughts ⁽¹⁾. There is evidence suggests that stress alters eating behavior, redirecting food choices to food with greater palatability and energy value. Individuals tend to increase consumption of high calorie and high fat snack foods which may results in weight gain ^{(2),(3)}. Despite the strong emphasis on coping with stress and staying healthy, many college students seem to care less about their daily nutrition intakes.

According to Demetra (2016) ⁽⁴⁾, decision-making in relation food choices is a complex process that was contributed by many other factors including emotions such as stress. The intake of snack type foods, pre-prepared ready-to-eat foods and sweet foods such as chocolate, cakes and ice-cream, was found to increase among students experiencing stress while the intake of healthy food such as vegetables and fruit tended to decrease ^{(2),(3)}.

Academic requirements and new social demands, together with a freedom for food selection, purchase and preparation can directly affect the eating behavior and generate negative impacts on food choices ⁽⁴⁾.

It is important to understand and broaden the concept of how stress interfere on college student's eating habits. This better understanding can support some further educational activities and promote health. Therefore, the purpose of this study is to evaluate the association between stress levels, eating habits and food intakes among college students.

Method

Participants

Thirty college students (18 to 30 years old with BMI 22.7 ± 4.4 kg. m²) were evaluated out of 80 scheduled students who did not meet the inclusion criteria and attend either the first or second stages of the pilot study.

Subjects are diagnosed with eating disorder, using other medication to alter appetite or weight loss are excluded.

Study design

The sample was by convenience as non-probabilistic. Recruiting volunteers was done through disseminating posters in public places at the university and invitations in classrooms. Data collection occurred in two stages. The first stage is checking inclusion/exclusion criteria; evaluations: anthropometric, of the symptoms of stress and eating behavior, and guidelines for conducting a food record (FR) of 3 days. The second stage is to submit the FR of 3 days.

Materials and Procedures

In order to evaluate the stress symptoms, the Perceived Stress Scale (PSS) was used. PSS is a general scale and can be used in different group of age. In this study, PSS measures perceived stress and how individuals perceive situation as stress. It contains 14 items to check how unpredictable, uncontrollable and overloaded the participants evaluate their lives. Each question contains answer option range from zero as never to four as always. The scale has the sum of score that range from zero (minimum) and 56 (maximum) ⁽⁵⁾ .

In addition, the Three-Factor Eating Questionnaire-21 (TFEQ-21) was used to evaluate eating behavior standards. There are three dietary patterns assessed with questionnaire including cognitive restraint (CR), emotional eating (EE) and uncontrolled eating (UE). While CR addresses six items and identifies food control to reduce weight, EU also has six items and measures propensity to excessive eating in response to likely negative emotional states. Last but not least, UE has nine items verifies the tendency to lose food control in the presence of hunger or other stimuli.

<https://assignbuster.com/association-between-stress-and-eating-habits-among-college-students/>

Data analysis

According to Demetra (2016) ⁽⁴⁾, the data normality was checked from the Kolmogorov-Smirnov test. Given that not all variables had a normal type distribution, the use of the non-parametric Mann-Whitney test to compare means between the higher versus lower stress groups and the Spearman's rank correlation coefficient for correlations between variables were standardized. The level of significance adopted was of 5% ($p \leq 0.05$)

Results

Thirty students were evaluated, with average weight and BMI of 60.8 ± 12.9 kg and 22.7 ± 4.4 kg/m², respectively. Participants were classified into two groups, according to tertiles of the PSS score (lower stress Group: 1st tertile – 15 to 22 points and higher stress Group: 3rd tertile – 31 to 40 points) and there were no significant differences in the anthropometric parameters between them.

In terms of stress and food consumption, energy food and macronutrient intake was not significantly different between higher and lower stress groups. It revealed that the consumption of fast food type ready-to-eat snacks and sandwiches was more frequent for students with higher stress (2.7 ± 1.8 x 1.0 ± 1.3 , $p = 0.03$) ⁽⁴⁾. On the other hand, it was observed that students with higher levels of stress had higher scores for the EE and UE eating behaviors meanwhile for the CR behavior there was no difference between the groups

Conclusion

<https://assignbuster.com/association-between-stress-and-eating-habits-among-college-students/>

Students with higher stress levels had higher scores for emotional eating and uncontrolled eating, and higher frequency of consumption of fast food type ready-to-eat snacks and sandwiches compared with those who have lower stress levels. However, there was no difference in the frequency of consumption of foods high in sugar or quantitative food intake between the groups. In another words, we reject the null and state that stress levels do effect eating habits among college students. Additionally, it is worthwhile to emphasize the importance of studies that go deeper in psychological phenomena involved in the relationship between stress and food intake so that specific food and nutrition education programs can be well-developed.

Discussion

College students with higher stress levels with higher scores for eating habits of emotional and uncontrolled eating have raised a red flag and positive correlation between these variables. This experiment indicates that food choices are more likely determined by emotional factors, associated with inability to control amount ingested.

One important variable is how individuals use food to cope with stress and emotions. Eating has been recognized as a coping mechanism for improving and dealing with stress and emotions by either under eating or overeating.

There are several limitations throughout this study besides some advantages. Base on this study, no differences were found between the groups for the consumption of foods high in sugar, which is distinguished from most frequently observed results in the literature, which point to the increase in consumption of foods high in sugar and fat in the presence of

stress. Other research has found stress to be associated with an increase in food consumed as snacks in adults ⁽⁶⁾. Grunberg, et al. ⁽⁷⁾ found that when stressed, women were more likely to select foods high in calories and fat; meanwhile, Oliver, et al. (2000) found an increase in consumption of sweet high fat food and more energy dense foods. In a separate study, Steptoe, et al. ⁽⁸⁾ found that “fast food” was eaten more frequently when individuals reported greater number of events, thoughts, or situations which produce negative feeling such as annoyance, irritation, worry or frustration. Increased consumption of foods high in sugar as an attempt to relieve stress and improve mood may be related to the physiological response.

The individual's interest for certain food is the result of the combination of both physiological and psychological needs. There are several factors involved in the process of food choice such as food culture, availability, gender, income and age, etc ⁽⁹⁾. Stress plays an important role on food consumption. In the specific case of a college student, convenience and cost are important determinants for food consumption.

References

- Kandola, A. (n. d.). Chronic stress: Symptoms, health effects, and how to manage it. Retrieved October 12, 2018, from <https://www.medicalnewstoday.com/articles/323324>.
- Unusan N (2006) Linkage between stress and fruit and vegetable intake among university students: an empirical analysis on Turkish students. *Nutrition Research* 26: 385-390.

- Zellner DA, Loaiza S, Gonzalez Z, Pita J, Morales J, et al. (2006) Food selection changes under stress. *Physiological Behavior* 87: 789-93
- Demetra. (2016). Association between stress and eating behavior in college students. *11* (1), 225-237.
- Luft CDB, Sanches SO, Mazo GZ, Andrade A. Brazilian version of perceived stress scale:
 - translation and validation for the elderly. *Rev. Saúde Pública.* 2007; 41 (4): 606-615.
- Conner M, Fitter M, Fletcher W (1999) Stress and snacking: A dietary study of daily hassles and between-meal snacking. *Psychology & Health* 14: 51-63.
- Grunberg NE, Straub RO (1992) The role of gender and taste class in the effects of stress on eating. *Health Psychol* 11: 97-100
- Steptoe A, Lipsey Z, Wardle J (1998) Stress, hassles and variations in alcohol consumption, food choice and physical exercise: A daily study. *British Journal of Health Psychology* 3: 51-63.
- Kanoski SE. Cognitive and neuronal systems underlying obesity. *Physiol. Behav.* 2012; 106(3): 337-344
- Russom, R., & Fontenot, A. (2017). Evaluation of an eating disorders prevention curriculum on eating attitudes and behaviors of female college students. *The Eating Habits of College Females and How Stress Affects Eating Behavior* .
- Buxton, M. (2014, March 05). Bad college eating habits can have long-term effects. Retrieved from <https://collegian.com/2014/03/bad-college-eating-habits-can-have-long-term-effects/>

- Yau, Y., & Potenza, M. (2013). *Stress and Eating Behaviors*, (3), 255-267. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4214609/>.
- Gower, B., Hand, C. E., & Crooks, Z. K. (2008). Undergraduate Research Journal for the Human Sciences. *The Relationship Between Stress and Eating in College-Aged Students*, 7. Retrieved from <https://www.kon.org/urc/v7/crooks.html>.