

The Effects of Stress on Eating Patterns and Food Preferences among Undergraduate Students in Jordan

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Abstract

Eating disorders are mental disorder well-defined by abnormal eating habits that adversely affect a person's physical or mental health, the reason of eating disorders is not pure. Both biological and environmental factors perform to play a role. Cultural idealization of thinness is believed to contribute. Eating disorders affect about 12 percent of undergraduate, those who have experienced sexual abuse are also more likely to progress eating disorders. Some disorders such as pica and reflection disorder occur more often in people with intellectual disabilities. Only one eating disorder can be diagnosed at a given time.

Keywords: Eating behavior; Stress; Depression; Anxiety

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Introduction

Eating behavior is a process of biological, psychological, and social actions that establishes the relation between human and food^[1,2]. Consequently, this process affected by environment, family relationship, culture, and social relationship^[2]. Healthy eating behavior considers essential to intact social-psychological-physical system. Disordered eating behavior may lead to chronic diseases like Diabetes mellitus, Ischemic Heart Diseases, Hyperactivity disorder, and eating disorders^[3].

Ineffective eating behavior precedes disordered eating behavior such as; bingeing, fasting, skipping meal, self-induced vomiting, or excessive exercise. Thus, continuously disordered eating behavior will lead to eating disorders like; Bulimia Nervosa and Anorexia Nervosa^[4]. On the other hand eating disorders are one of the most common mental health issues, along with anxiety disorders and depression^[5]. Sedentary lifestyle and changes in eating patterns, together with other social and cultural factors, explain the increase of these disorders world-wide^[6]. According to Øverby and Høigaard (2012)^[7] adolescent behavior may affect learning capabilities and this will impact

negatively on learning outcomes and social environment. On the other hand complications which result from eating disorders not easy to treat, it needs long time to treat, and it's costly^[7].

Significance

Transition of students from school to university environment could cause a psychological, academic and social shock to them, since this educational system has huge differences: the student will face new methods of teaching, new type of relations between students, new academic requirements, and faculties and even new relations among students themselves. In Jordan, most schools are unisex so student's co-education will have new types of relations with the opposite sex. Due to these changes, students can potentially experience different types of stress that can affect their mental and social health and their academic achievement^[8]. This paper will investigate the effect of stress on eating pattern and food preferences. So it will guide and direct health plans to eradicate stress, and decrease its effect on eating pattern; to avoid eating disorders and serious health effects which caused by unhealthy eating under stress.



Literature Review

The key words “eating pattern” and “stress” were primarily entered into Science Direct (2007 to 2017)^[9], MEDLINE, CINAHL, and GOOGLE SCHOLAR databases. To extend my search the terms; eating disorder, food intake, stress influence, and university students were used. After that the reference list in each study was also checked to expand my search.

My search focused primary on both descriptive and experimental studies. Within the literature 1,072 articles presented. 18 articles were used to conduct this paper. Articles were eliminated if it didn't focus primarily on eating behavior or stress, if it has been published before 10 years, and if it was written in language otherwise English.

Analysis and presentation of content

Stress has been defined as “the nonspecific response of the body to any demand” (Selye, 1976, p. 15). Hancock and Szalma (2008) noted that two general themes characterize modern stress theory. The first, the presence of a mechanism through which individuals evaluate events in terms of their meaning fullness to the psychological or physical well-being. The second, individuals regulate their internal states and engage these mechanisms to compensate for perturbations induced by external events, including task demands. As any psychological concept, stress has different definitions (Hancock and Szalma, 2008). On the other hand studies reported that the adverse health effects of stress are enormous, and vary among people, probably because of differences in how stress is appraised and the strategies individuals use to cope with it^[8].

Literature reported that university students experience stress from different sources and causes. A study conducted Ohio state university found that 71% of students reported feeling stress from personal finances^[9]. Also Archuleta, Dale, and Spann^[10] found that college students having higher levels of financial satisfaction were significantly and negatively related to financial anxiety. Laurence, Williams, and Eland (2009) found that 25% of student reported elevated depressive symptoms, the study indicated that the exams, fear of falling, shortage in clinical time, decrease in self-esteem and prompt reduction in time spent in recreational activity have been associated with higher stress levels. Kranz (2008)^[12] evaluated stress levels experienced by students in a pharmacy faculty. The results indicated that: students rated stress to be average to above average, with a mean score of 3.8 out of 5, with regard to approaches used to manage stress, (70.5%) reported some form of active approach such as exercising, playing basketball or swimming.

In Arabian countries university students experience stress from another sources and causes^[13]. conducted a study among university student sat in Saudi Arabia, recruited 232 students, the study found that academic overloads, inadequate time to study, workload every semester, exams, low motivation, and high family expectations were drive moderately stress among students. It also found that fear of failure is the major source of stress among undergraduate students. In addition it found that there were positive correlation between religiosity sources and academic stress. Finally, the study found that there were no significant differences in academic stress among students with Different, level of study and specializations^[13].

Thawabieh, and Qaisy^[14], conducted a study about stress among university students in Jordan, recruited 471 stu-

dents. They found that university students experienced a moderate stress level and the main factor is the social factor. The study indicated that female students had more stress than males. The income affects males stress more than females. The results indicated that students from scientific college and finance and Administration College have more academic stress than other college's student, and this may due to the fact that those students have lower average grades in high school. The transition shock from school to university explains the high stress of the first year students.

A study of Hamaideh (2011)^[15], recruited 877 students, aimed to identify stress and reactions to stress among university students and examine the correlations between student stressors and study variables. The result indicated that the highest group of stressors experienced by students was self imposed stressors followed by pressure. Cognitive responses were found to be the highest responses to stressors experienced by students. Negative correlations were found with student's perception of health, and father's and mother's level of education^[3].

Another study by Hamaideh (2012)^[3], recruited 950 students, aimed to examine differences in the perception of stressors and reactions to stressors between male and female Jordanian university students, and to identify the best predictors of stressors among them. The study found that there were statistical differences between male and female students regarding their perception and reactions to stressors. Female students reported a higher perception of stressors in frustrations, conflict, pressures and changes, as well as emotional reactions to stressors. Male students reported higher behavioral and cognitive reactions to stressors than female students. Participation in stress workshops, perception of general health, and perception of stress level in general were found to predict stressors among male students, while mother's educational level, perception of general health, and perception of stress level in general were found to predict stressors among female students^[3].

Ekpenyong, Daniel, and Aribo, (2013)^[16], assessed the association between academic stress and Musculoskeletal Disorders (MSDs) among 1365 students, they found that Students' stress level and associated MSDs were higher during the examination period than the pre-examination periods. Stressors were significantly associated with increased risk of MSDs in both sexes were those related to changes and pressures. Emotional and physiological reactions to stress were significantly associated with MSDs in both sexes, with higher odds for MSDs in females, whereas cognitive and behavioral reactions showed higher odds. The risk of MSDs was higher in students who adopted avoidance and religious coping strategies compared with those who adopted active practical and distracting coping strategies.

During the last 50 years the prevalence of disordered eating behavior and disorders eating had increased in the world^[17]. According to Delisle (2005) eating disorders considered the third cause of chronic illness in the developed countries. Despite the fact that in the developing countries, disorders eating behavior considered a rare cause of chronic illness^[18], Jordan one of developing countries and low economic status undergoing toward western lifestyle, so that may affect the culture and norms of the country^[18].

In comparison with regional countries, Jordan is considered from the highest countries to develop disordered eating behaviors in both genders but among females was twice as high

as that among male^[3]. Conducted study to discover the prevalence of disordered eating in seven Arab countries; Jordan, Kuwait, UAE, Palestine, Bahrain, Algeria, and Libya. 2698 participants were recruited in the study. The percentage to develop disordered eating behavior in Jordanian adolescents males and females was 20.1% and 42.7% respectively, the percentage of Jordanian girls was close to Kuwaiti adolescent girls where was the highest percentage of male and female; 47.3% and 42.8%, respectively. Whereas the lowest country had susceptibility to develop disordered eating behavior amongst males and female adolescents was Algeria, 13.8% and 16.2%, respectively^[8].

Prevalence of disordered eating behavior among adolescent girls in Jordan was investigated^[18]. Conducted a cross-sectional study in 2008. 326 adolescent girls were recruited in the study. 40.5% of adolescent girls suffered from disordered eating behavior. Positive association between body shape and age with eating behavior was observed. That could be result in weight concern, social pressure, food preoccupation, and awareness of food dieting. Regarding to eating disorders^[18] found that 33.4% of participant eating disorders and 46.3% of participants developed eating disorders in the later age of the adolescent period from age 14 to 16 years.

Studies have shown a high prevalence of eating disorders among university students: a study among university students from Taubate, found that prevalence of eating disorder symptoms of 10.3% and 14.1% for physical education and nutrition students, respectively^[19]. Another study among university students from Brazil, found that 13.6% of the students had already used amphetamines, 16.8% diuretics, 14% laxatives, and 3.3% had induced vomiting; 29% of the students had used at least one of these methods, 22.4% revealed abnormal feeding patterns; 9.8% were at risk for developing bulimia and 36.9% required clinical evaluation^[20].

On the other hand, a study among university student in Ghana, recruited 100 female participants, found that there is a significant correlation between body image and eating disorders among undergraduate female students. In addition, it found that there was no significant difference between the levels of university education on female body image and eating distortions^[21].

Previous studies findings found a relationship between stress and eating. Participants in a study by Kandiah, Yake, Jones, and Meyer (2006)^[22] reported either an increase or decrease in eating due to changes in their appetite as a result of stress. Food restriction and decreases in caloric intake have been linked to disordered eating behaviors^[23]. O'Connor, Jones, Conner, McMillan, and Eamonn (2008)^[24] distinguished between consumption of snack and main meal in response to stress. Researchers found that all forms of stress, with the exception of physical stress, which had an inverse relationship, were associated with reported increases in snacking behaviors and decrease in main meal consumption. In a separate study investigating the relationship between stress and binge eating among African-American and Caucasian women, Harrington et al.^[25] found that discriminatory stress, or stress experienced as a result of being discriminated against because of minority status, was significantly related to binge eating patterns for African-American women.

Sanler and Ogrer (2008)^[26] investigated the effect of stress on body weight (BMI) and eating behaviors in a sample of 889 Turkish adolescents ages from 14 to 25 years. They found that females underwent stress more than males. Also, they found

that there were statistically significant differences between females who perceived more need for social support, eating with positive and negative moods than males. Also the males scored higher on being optimists than females with a statistically significant result. Finally, they found that if adolescents know their personality features, they can determine the degree of the prevention from stress.

The experience of stress has long been associated with overeating^[27,28]. Also it's found that younger's who are genetically predisposed to suffer from an eating disorder, these stressful events can act as the environmental trigger needed for the eating disorder to develop^[29]. The initial Transition from home to the university environment is the first major stressor that can lead to the development on an eating disorder for some individuals; so they could lead to unhealthy eating among them^[29].

Many of the studies on Disordered Eating Behaviors have looked at such behaviors among adolescents and have not looked at these behaviors among university students. No published studied investigated the effect of stress on eating among university students in Jordan^[30,31].

Recommendations

Studies recommend that university decision makers have to provide university students with a psychological, social and academic counseling in order to decrease the students stress. So they can achieve better and have a good psychological health. They need to involve students with different activities to reduce the gaps between them; also they have to provide their students with a suitable teaching and learning methods in order to decrease their academic stress. So they can avoid the effect of stress on students eating pattern and prevent eating disorders among them.

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