

## Establishing Relationship between “Stress” and “Eating” Leading to Overweight among College Students in Sultanate of Oman

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**Abstract:** In the 21st century College going students live in stressful environment and often they “Eat” to deal with the “Stress”. This study examines the relationship between “Stress” and “Eating” of college going students leading to overweight and the factors affecting the behavior in the Sultanate Oman. Students (male and female)  $n = 220$  between the age of 18-22 were conveniently sampled. The research questionnaire developed by Brittany Gower, Christina E. Hand, and Zachariah K. Crooks, was used in this research which was prepared by using Compulsive Eating Scale developed by (Kagan & Squires, 1984) and the stressful situations questionnaire SSQ by (Hodges and Fellings, 1970). The results were compared using Carl Pearson, coefficient of correlation ( $r$ ). The null hypothesis was rejected and correlation between “Stress” and “Compulsive eating” was found to be positive. The research proves the findings that “Emotional eating” and “Fast foods” are used to relive “Stress” by the college going students in Oman.

**Key words:** compulsive eating; emotional eating; overweight; stress

**JEL code:** M10

### 1. Introduction

Stress is the human body’s response to demands placed upon it. These demands can be either physical or psychological (pleasant or unpleasant) in nature (FAA, 2007). Torres & Nowson (2007) define stress as any general response of the body that either overwhelms or threatens to overwhelm the body and its ability to maintain homeostasis. (Homeostasis is the property of a system that regulates its internal environment and tends to maintain a stable, constant condition of properties such as temperature). It is generally seen that stress occurs when there are demands on an individual that exceed his or her coping capabilities and the reaction to stress may vary depending on the nature of the events that are occurring and the characteristics of the individual (Dyson & Renk, 2006). Stress occurs when the perceived pressure exceeds perceived ability to cope (Palmer et al., 2003).

In the fast-paced society we live in, many individuals experience high levels of stress on a daily basis, creating the potential to significantly contribute to unhealthy dietary behaviors both immediately and long-term. (Sieber, Jessica L., 2007). Stress has more of a role in what we eat than many realize and a great deal of overeating can be attributed to stress (Lee Dobins). With ever-increasing demands from classes, the responsibility of being on one’s own, possible financial responsibilities, lack of sleep, substance abuse (or decisions about whether to take part in such activity), and trying to figure out how to balance everything, stress levels are often

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elevated in college students. If students do not learn to manage their busy lives, it can lead to chronic stress. (Stephanie Scott, 2010). (Chronic Stress refers to stress that has a long term background of demands caused by both internal and external factors which mainly consist of physical, environment and personal issues). Whenever a person gets too much stressed, he tends to make poor food choices that will actually increase stress and cause other problems.

In one of the study reported in the American Journal of Clinical Nutrition, found that those who reported work burnout were also more likely to have a habit of “Emotional eating” (Emotional eating refers to eating of snacks to absently munching of junk foods when one is stressed but not really hungry). The common belief about weight gain during college is the eating habits when the students are stressed in the college.

## **2. Background and Problem Statement**

As per “Horizon fitness Oman” “Posted by admin” on January 10, 2011 in Health Tips, an article was published on topic “Stress can cause weight gain and affect your health”. The problem was the college going students in Oman were found themselves to be under stress and this topic of stress leading to weight gain due to overeating among the college students formed the basis of our research. Since not much of the studies was done so far on “Stress” and “Eating” among the college students in the Sultanate of Oman, there was need to explore the relation between “Stress” and “Eating” and also their relationship that how “Emotional eating” and fast foods are used to relieve stress among students. Few researchers worldwide have evaluated this phenomenon and have found that there is a relationship between stress and eating habits. Our study examines the relationship between stress and eating leading to overweight and the factors affecting the behavior and also attempts to find that whether the findings in different countries hold good in the Sultanate of Oman.

## **3. Objectives of the Study**

The objectives of the study are as follows:

- (1) To find the relationship between “Stress” and “Eating” of college going students leading to overweight in the Sultanate Oman.
- (2) To find whether “Emotional eating” and “Fast foods” are used to relieve stress among students.
- (3) To find the factors affecting the behavior of the students as a result of overeating.

## **4. Scope of the Study**

The study would help the counselors of various colleges in the Sultanate of Oman to incorporate “Stress relieving programmes” for the college students. Secondly it would also help the policy makers to incorporate “Physical work/exercises” as a part of curriculum to relieve the stress of the college going students.

## **5. Research Methods**

The second researcher did the survey part. One college was selected where number of students from different nationalities was high. College student’s (males & females)  $n = 220$  aged 18 to 23 years were asked to participate in the study. 100 males and 110 female students were conveniently selected to complete the surveys. Respondent were from three different nationalities Indian, Omani, and Tunisia with maximum percentage of 63.6 was of

Indian, 18.2 Omani, and 9.1% Tunisian. The research questionnaire developed by Brittany Gower, Christina E. Hand, and Zachariah K. Crooks, Huntington University was used in this research which was prepared by using Compulsive Eating Scale developed by (Kagan & Squires, 1984) and the stressful situations questionnaire SSQ by (Hodges and Fellings, 1970). Participants were made to enter the classroom and were asked to be seated at a desk. They were given both the Questionnaires. The participants were then asked to complete The Compulsive Eating Scale first and then The Stressful Situations Questionnaire. Each participant was also asked to complete each questionnaire honestly. They were also informed that their identity would be kept anonymous and that they could leave at anytime without any hitch. The participants were also told to give the completed form to the researchers after it was completed and then it was scored.

## **6. Literature Review**

Many of us are living in a stressful environment so we often eat as a way of dealing away with stress or as a way to calm down ourselves from the stress. The stresses to the students come from the pressures to perform well both academically and athletically, to fit in with peers, and from relationships. These stresses therefore cause students to find some way to cope with them, and college students statistically are more likely to eat to cope with them (Laska, Pasch, Lust, Story, Ehlinger et al., 2009). Hence it is hypothesized that:

H<sub>0</sub>: College going students eat more to cope with stress.

In one study of 135 college students, statistically significant but modest weight increases occurred during the freshman year for most participants. Young adults when moved into an independent living situation possess a high risk for unhealthy eating habits. One of the research conducted by Gores (2008) found that students who gain weight during the college period tend to continue a slow, steady gain in weight. One of the study performed by Nelson, Gortmamker, Subramanian, Cheung, and Wechsler (2007) reported that students in transition from adolescence to adulthood were at risk for excess weight gain, likely due to excess food consumption. Students entering the college generally are used to make independent decisions about their diet, activity, and television viewing behaviors for the first time. It was concluded that new environmental factor and social factor may emerge during this time period and may have a greater influence on their behavior.

Another study conducted by Holm-Denoma, Joiner, Vohs, and Heatherton (2008) they found that men and women gained a significant amount of weight (3.5 and 4.0 pounds, respectively) between their senior year of high school and their freshman year of college, with the absence of a significant increase in height. For students attending the university or college for the first time have a stressful experience. One common natural stressor for any college student is the examination stress. According to a Finnish study, College going students who are too much burdened with their studies may be more likely to turn to food for comfort in times of stress, hence it is hypothesized that:

H<sub>1</sub>: College going students when burdened with studies resort to food.

Zellner, Loaiza, Gonzalez, Pita, Morales, Pecora et al. (2006) found that while a group placed in stressful situations did not necessarily eat more, they were more inclined to eat more unhealthy foods, such as foods higher in calories. It was found that people who were more restrained when eating tended to eat much more when they were under perceived stress (Zellner et al., 2006). Hudd, Dumlao, Erudmann-Sager, Murray, Phan, and Soukas (2000) found that students who were over stressed consumed more of soda and junk food than non-stressed students who had the more intakes of fruits and vegetables in their diet. So, in the present study it is hypothesized that:

H<sub>2</sub>: As the stress increases in college students lives, the desire to overeat also increases.

## **7. Findings and Analysis**

An ANOVA test was conducted and it was found that the sum of squares between age of respondent and within the groups with 2 degree of freedom was found to be 0.625 and RMS between the two was 0.313. The test when conducted within groups and the age of respondent with 8 degrees of freedom the sum of squares was found to be 5.375, RMS 0.672. The ANOVA test when conducted on gender of respondent and between groups with 2 degrees of freedom was 0.136 and RMS 0.068 within groups and the gender RMS was found to be 1.500 with 8 degree of freedom and the RMS was 0.188. F test was conducted “between the groups” and age of the respondent “and was found to be 0.465. Reliability test was conducted using cronbach alpha (0.811) for internal consistency. Validity was found, with the CES correlating with the variables of eating style and stress. Gender, race, age, and class rank were added to the beginning of this measure when it was given to the respondents in this study.

When question was asked “Eat because you are feeling lonely” then 72.7% of the respondent responded “Never”. 45.5% of the respondent responded they ate once a month when asked “Feel completely out of control when it comes to food”. “Once a month” answer was given by 36.4% of the respondent. When asked “Eat so much that your stomach hurts” 72.7% of the respondent responded that they never ate too much because they were upset or nervous. When asked whether they ate too much because they were bored 63% of the respondent responded “never”. 45.5% of the respondent responded that they never overstuff themselves when they were out with their friends. 36.4% of the respondent never ate so much food so fast that they didn’t know how much they ate and how it tasted. 54.5% the respondent spoke “Never” got out of the bed at night, and went to the kitchen and finished the remains of some delicious food because they knew it was delicious food, because they knew it was there. Negative correlation (-0.304) was found between the variable “Age of respondents” and “Eat because you are feeling lonely. Negative correlation (-0.283) was found between the variable “Gender of respondent” and “Eat because you are feeling lonely”. Negative correlation (-0.304) was found between the variable “Feel completely out of control when it comes to food and “Eat because you are feeling lonely”. Negative correlation (-0.462) was found between the variable “Eat so much that your stomach hurts” and “Eat because you are feeling lonely”. Negative correlation (-0.327) was found between the variable “go out with friends just for the purpose of overstuffing yourself with food” and “Eat because you are feeling lonely”. Negative correlation (-0.518) was found between the variable “Eat so much food so fast that you don’t know how much you ate or how it tasted” and “Eat because you are lonely”. Negative correlation (-0.007) was found between “Get out of the bed at night go to kitchen and finish the remains of some delicious food, because you knew it was there” and “Eat because you are feeling lonely”. Positive correlation (0.315) was found between the variable “Age of respondent” and “Eat too much because you are upset or nervous”. Positive correlation (0.274) was found between the variable “gender of the respondent” and “Eat too much because you are upset or nervous”. Positive correlation (0.610) was found between the variable “Eat because you feel lonely” and “Eat too much because you are upset or nervous”. Positive correlation (0.274) was found between the variable “Eat so much that your stomach hurts” and “Eat too much because you are upset or nervous”. Positive correlation between (0.227) was found between the variable “Eat too much because you are bored” and “Eat too much because you are upset or nervous”. Positive correlation (.059) was found between the variables “Go out with friends just for the purpose of overstuffing yourself with food” and “Eat too much because you are upset or nervous”. Positive correlation (0.367) was found between the variables

“Eat so much food so fast that you don’t know how much you ate or how it tasted” and “Eat too much because you are upset or nervous”. Positive correlation (0.051) was found between the variable “Get out of the bed at night go into the kitchen and finish the remains of some delicious food, because you knew it was there” and “Eat too much because you are upset or nervous”. Positive correlation (0.1) was found between the variables “age of respondent” and “Go out with friends just for the purpose of overstuffing yourself with food”. Positive correlation (0.257) was found between the variable “Gender of the respondent” and “Go out with friends just for the purpose of overstuffing yourself with food”. Positive correlation (0.327) was found between the variable “Eat because you are lonely” and “Go out with friends just for the purpose of overstuffing yourself with food”. Positive correlation (0.116) was found between the variable “Eat too much because you are bored” and “Go out with friends just for the purpose of overstuffing yourself with food”. Positive correlation (0.529) was found between the variable “Eat so much food so fast that you don’t know how much you ate or how it tasted” and “Go out with friends just for the purpose of overstuffing yourself with food”. Positive correlation (0.265) was found between the variable “Get out of the bed at night, go into the kitchen and finish the remains of some delicious food, because you knew it was there” and “Go out with friends just for the purpose of overstuffing yourself with food”. Positive correlation (0.596) was found between the variable “Age of the respondent” and “Get out of the bed at night, go into the kitchen and finish the remains of some delicious food, because you knew it was there”. Negative correlation (-0.156) was found between the variable “Gender of respondent” and “Age of the respondent” and “Get out of the bed at night, go into the kitchen and finish the remains of some delicious food, because you knew it was there”. Positive correlation (0.07) was found between the variable “Eat because you are feeling lonely” and “Age of the respondent” and “Get out of the bed at night, go into the kitchen and finish the remains of some delicious food, because you knew it was there”. Positive correlation (0.298) was found between the variable “Feel completely out of control when it comes to food” and “Age of the respondent” and “Get out of the bed at night, go into the kitchen and finish the remains of some delicious food, because you knew it was there”. Positive correlation (0.239) was found between the variable “Eat too much because you are upset or nervous” and “Age of the respondent” and “Get out of the bed at night, go into the kitchen and finish the remains of some delicious food, because you knew it was there”. Positive correlation (0.81) was found between the variable “Eat too much because you are bored” and “Age of the respondent” and “Get out of the bed at night, go into the kitchen and finish the remains of some delicious food, because you knew it was there”. Positive correlation (0.265) was found between the variable “Go out with friends just for the purpose of overstuffing yourself with food” and Age of the respondent” and “Get out of the bed at night, go into the kitchen and finish the remains of some delicious food, because you knew it was there”. Positive correlation (0.222) was found between the variable “Eat so much food so fast that you don’t know how much you ate or how it tasted” and “Age of the respondent” and “Get out of the bed at night, go into the kitchen and finish the remains of some delicious food, because you knew it was there”. Positive correlation was found between “go out with friends just for the purpose of overstuffing yourself with food and eating too much because you are upset or nervous”.

## **8. Conclusion**

The research was conducted among college students taking both male and female into account. Correlation between stress and food consumption with both the genders combined and their eating habits is found to be significantly correlated at 0.05 level (2- tailed). A post hoc analysis was performed to look for any difference by

gender. The analysis of the findings show that the present data are in consistent with past research that suggests that as stress increases, food consumption also increases. It was originally hypothesized that stress influences eating habits that cannot be controlled and the two are positively correlated. The result of the study implies that the more stressed a college going students feels in a given situations, they are likely to eat to relieve stress. Getting good results and high grades are not only the source of stress for college students. Other potential sources of stress include excessive assignment, unclear assignments, and uncomfortable classrooms. In addition to the academic expectations and requirements, relations with faculty members and time pressures may also be some of the other sources of stress. Relationships with family members and friends, eating, sleeping habits, and loneliness may affect some students adversely (Ross, Neibling, & Heckert, 1999). Hence our results prove the previous findings that “Emotional eating” (Emotional eating is conceptualized as eating in response to negative affect) and “Fast foods” are used to relive “Stress” by the college going students.

## **9. Suggestions**

Stress driven college students resort to eating of sausages, hamburgers and pizzas and chocolate more frequently in order to relieve stress. These are junk foods and contain no minerals or vitamins and hence it leads to overweight. In our findings Non Muslims expatriate in the Sultanate of Oman consumed alcohol to relieve their stress but it is not recommended to resort to such unhealthy practices. Lack of emotional support for female students was one of the factors causing them to over eat to relieve stress. In an Arabic country like Oman where the consumption of liquor for Muslims is banned, the students resort to overeating under stress. As far as girls are concerned they resort to over eating for relieving stress or do chitchatting (in less number of cases) with their friends and classmates. So it was found in both the cases for boys and girls that “Eating” is the only option left to relieve the stress and the situation becomes worse when they resort to emotional eating and fast foods, which leads to overweight. Less amount of physical exercise also contribute to their stressful situations. Hence it is recommended that boys and girls after joining the college should resort to more of the physical work including sports and exercise (which lacks in the present situation) in order to reduce stress and overweight.

## **10. Future Research**

The research findings may vary taking social and environmental factors into consideration. A discriminant analysis approach in a multicultural environment may lead to different results. Separate analysis between male and female along with their area of course/discipline they are enrolled into, was not done. Further research could be done on the students enrolled from different nationalities in various colleges.

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