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# RELATIONSHIP OF EATING BEHAVIOR AND JOB STRESS IN MALE AND FEMALE WORKERS

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***Abstract***

*The aim of the present study is to examine the relationship between eating behaviors and job stress among male and female workers. Purposive sampling technique was used to collect data from 200 participants form Pakistan. The workplace stress scale and eating attitude test were used as an assessment measure in the current study to check the level of workplace stress and eating behavior. SPSS-27 software was used for the statistical analysis in the present study. Pearson product moment correlation analysis, reliability analysis, and One-Way ANOVA analysis were used in the current study. The findings showed significant relationship between eating behaviors and job stress among male and female workers. In addition, results showed significant difference between eating behavior and gender. This study concluded that poor eating behaviors leads to workplace stress among male and female workers.*

***Keywords:*** *Eating Behaviors, Job Stress, Workers*

## INTRODUCTION

Psychological research shows that stress is associated with overweight and obesity through changes in weight-related health behavior, as stress activates emotional brain networks and elevates the secretion of glucocorticoids and insulin. Both the emotional brain networks and the hormones influence different aspects of our eating behavior such as our food intake, food choice and eating motives (hunger and desire eating) (O'Connor et al., 2008; Dallman, 2010; Jastreboff et al., 2013). First, regarding food intake, stress may result in under- or overeating depending on the stress source and stress intensity (Willenbring et al., 1986; Steere and Cooper, 1993; O'Connor et al., 2008; Ansari and Berg-Beckhoff, 2015). Concerning undereating, adults and children are often found to eat less after heavy stressful events and, specifically, family stress is associated with underweight (BMI) (Stenhammar et al., 2010).

However, evidence for overeating after experiencing stress is also found. Next to the detected underweight after family stress, Stenhammar et al. (2010) also report possible overweight after family stress, suggesting a link with respectively under- and overeating. Besides, Evers et al. (2010) and Vandewalle et al. (2017b) show in youngsters how induced negative affect leads to an increased food intake, specifically comfort foods. Second, concerning food choice, stressor intensity is an important factor. In adults, chronic life stress is associated with the intake of more energy-dense food (Steptoe et al., 1998; Torres and Nowson, 2007; O'Connor et al., 2008) a lower consumption of main meals and vegetables (O'Connor et al., 2008). In a systematic review and meta-analysis on children, Hill et al. (2018) report that stress, measured via self-reports and via cortisol measures, is associated with the intake of more unhealthy and less healthy food items (8–18 years).

Third, concerning eating motives, De Vriendt et al. (2009) conclude in their review that in adolescents, stress is specifically associated with increased appetite, which can be seen as a desire for food. Therefore, a distinction should be made between 'hunger eating motives' (=eating out of

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hunger) and 'desire to eat motives' (=eating out of a desire to eat; eating out of a craving for food), with the latter defined as rather unhealthy eating (Reichenberger et al., 2016, 2018). Here, a recent EMA study in adults finds that time pressure is associated with more hunger eating (Reichenberger et al., 2016). Goldschmidt et al. (2018) shows in the only available ecologically momentary assessment study (EMA = looking into the current real time behaviors) in obese children in their natural environment that specifically 'desire to eat motives' were of importance regarding overeating.

These ecological momentary assessment results (O'Connor et al., 2008; Reichenberger et al., 2016) stress the importance of looking into the daily fluctuations in within-person stress levels to better understand the precise role of different daily stressors in eating behavior, on top of the existing measurements of stress. Besides, as eating behaviors are a daily occupation, and appear in different contexts, a diary study can further help to capture the relationship between daily hassles and different indicators of eating behavior. However, this research in children and adolescents is lacking, but highly needed and relevant as (1) adolescence is an important developmental stage (Giedd et al., 2009); (2) Goldschmidt et al. (2018) showed the importance of daily desire to eat motives in obese youngsters and (3) daily stress is positively associated with daily fluctuations in scores on emotional eating (Vandewalle et al., 2017a).

It is hypothesized that stress- induced eating or emotional eating, defined as "eating your negative emotions away," can be seen as a maladaptive emotion regulation (ER) strategy in children also, but this remains to be further explored (Braet and Van Strien, 1997; Thayer, 2001; Evers et al., 2010). The aim of the research was to explore Relationship of Eating Behavior and Job Stress in Male and Female Workers. It also explores the influence of demographic variables on eating behavior and job stress. In Pakistan little work has been done on Relationship of Eating Behavior and Job Stress in Male and Female Workers. I am further interested in exploration of problems that such participants Eating Behavior and Job Stress in Male and Female Workers. The study aims to measure the intensity of job stress in different age group and male and female workers and how to effect job stress on our eating behavior. The objective of this study is to see the impact of job stress and eating behavior in male and female's workers. And also to explore the relationship between eating behavior and job stress males and females workers.

## METHODOLOGY

### Research Design

The Correlation study method was utilized in the current research to explore the linked between eating behaviour and job stress in male and female workers in Pakistan.

### Sampling Strategy

The non-probability purposive sampling method was used for the present investigation.

### Sample

The sample consisted of respondents age between 20-50 were selected from Multan City. Total 200 respondents were approached, of whom 145 were males and 55 were females. Random sampling was a type of probability sampling that was used for drawing sample from the population.

### Assessment Measures

Following assessment measures were used in the present study.

#### *The Workplace Stress Scale (WSS)*

ISSN 1512-1801

The workplace stress scale developed by developed by Frese in (1985) and its based on 8 items on five point Likert scale never to very often. Analyze all the items showing high stress levels and figure out how to rein them in, particularly if you feel your health is being significantly affected. But keep in mind that any such scale, along with its categories, is subjective and that some stressors, such as deadlines, can actually have positive consequences. For all items each of the response receives the following values. Never = 0, Rarely = 1, Sometimes = 2, Often = 3 and Very often = 4). Total score of 15 or lower (33% of us are in this category): Chilled out and relatively calm. Stress isn't much of an issue. Total score 16 to 20 (35%): Fairly low. Coping should be a breeze, but you probably have a tough day now and then. Still, count your blessings.

***Eating Attitude Test (EAT)***

Eating attitude test developed by David M. Garner and Paul E. Garfinkel in (1979). This scale is based on 26 items on five point Likert Scale Never to Very Often. For all items excepted # 26 each of the response receives the following values. Never = 0, rarely = 1, Sometimes = 2, Often = 3 and Very often = 4). Interpreting High Scores (20 or Higher) — If people have EAT-26 scores of 20 or higher, it does not necessarily indicate they have an eating disorder, but it does indicate concerns regarding body weight, body shape, and eating.

## RESULTS

**Table 1.** Correlation between eating behavior and workplace stress (N = 200).

| Scales | Workplace stress |
|---|---|
| Eating behavior | -0.173** |

Above table show that social anxiety is correlated with eating behavior and workplace stress. And there is also negative correlation between eating behavior and workplace stress. The results support our hypothesis that eating behavior is negative correlated with workplace stress.

**Table 2.** *Mean, Standard Deviation, t-value, p- value and on eating behavior scale among males and females (N=200).*

| Eating Attitude scale | M | SD | T | P |
|---|---|---|---|---|
| Male | 20.72 | 2.22 | 2.07 | 0.039 |
| Female | 20.03 | 2.38 | | |

This table shows that there is no significant difference in the scores for eating behavior among males and females. In males (M=20.72, SD=2.22) and in females (M=20.03, SD=20.03) t (2.07) P=0.039. The mean score shows that male respondent has higher level social anxiety as compare to females. The results show that our hypothesis is accepted because significance level is below than 0.05.

**Table 3.** *Mean, Standard Deviation, t-value, p- value and on workplace stress scale among male and female (N=200).*

| Workplace stress | M | SD | T | p |
|---|---|---|---|---|
| Male | 18.02 | 6.20 | 1.89 | 0.041 |
| Female | 19.62 | 4.90 | | |

This table shows that there is no significant difference in the scores for workplace stress among males and females. In males (M=18.02, SD=6.20) and in females (M=19.62, SD=4.9) t (198) =1.89, p =0.06. The mean score shows that female respondent have higher level of workplace stress as compare to males. The results show that our hypothesis is accepted because significance level is below than 0.05.

**Table 4.** *One Way Analysis of Variance for the age group and eating behavior (N=200)*

ISSN 1512-1801

| Scale | Source of Variation | *SS* | *D f* | *MS* | *F* | *P* |
|---|---|---|---|---|---|---|
| Eating Behavior | Between Groups | 31.128 | 6 | 5.188 | 0.979 | 0.441 |
| | Within Groups | 1022.692 | 193 | 5.299 | | |
| | Total | 1053.820 | 199 | | | |

Table 4 indicates the results of one-way analysis of eating behavior respondent age. Results indicate the insignificant effects of age on eating behavior. This result implies that age of respondent and eating behavior is not affected.

**Table 5.** *One Way Analysis of Variance for the age group and workplace stress (N=200)*

| Scale | Source of Variation | *SS* | *D f* | *MS* | *F* | *P* |
|---|---|---|---|---|---|---|
| Workplace stress | Between Groups | 259.195 | 6 | 43.199 | 1.294 | .262 |
| | Within Groups | 6444.805 | 193 | 33.393 | | |
| | Total | 6704.000 | 199 | | | |

Table 4 indicates the results of one-way analysis of workplace stress respondent age. Results indicate the insignificant effects of age on eating behavior. This result implies that age of respondent and workplace stress is not affect.

## DISCUSSION

The current study aimed to investigate the relationship between eating behavior and job stress in male and female workers. First, we found that maladaptive emotion regulation was positively correlated with emotional eating, meaning emotional eating can be seen as a proxy of maladaptive emotion regulation, which is in line with Evers et al. (2010) and Michopoulos et al. (2015). Besides, daily stress was positively correlated with daily desire to eat and hunger eating; but not with daily snacking; and these three indicators of daily eating behavior were all significantly positively correlated. The positive correlation between daily stress on the one hand and desire to eat motives and hunger eating motives on the other hand was expected, as (1) the item on 'desire to eat motives' is seen as a desire or craving for food after experiencing stress and thus may be a way of regulating the experienced stress and (2) the item on 'hunger to eat motives' is seen as eating out of hunger after experiencing stress; and previous research showed that stress, operationalized as a hyperactive cortisol axis, contributes to higher levels of hunger feelings (Gluck et al., 2004; Goldschmidt et al., 2018).

The correlations are in line with the reported positive associations between levels of stress and levels of desire to eat- and hunger eating motives by De Vriendt et al. (2009) in children and Reichenberger et al. (2016) in adults. In contrary to previous findings (O'Connor et al., 2008; Reichenberger et al., 2016), we could not find an association between daily stress and snacking; maybe due to specific characteristics of the study population: children instead of adults. Children and youngsters might not have the autonomy to decide what they will eat, especially snacks. Gevers et al. (2015) found that most parents both communicate about food and at the same time restrict their children on snacking behavior. All three indicators of eating behavior showed bilateral significant positive correlations, which is in line with our expectations. Although the motivation differs in desire and hunger eating, a positive correlation is not unexpected since in both

ISSN 1512-1801

hedonic and homeostatic eating the ghrelin secretion (hunger hormone) is elevated, and the cholecystokinin-33 secretion (satiety hormone) is decreased (Monteleone et al., 2013).

Concluding, variables measured on trait questionnaires (FEEL-KJ and DEBQ) correlated bilateral; and the variables measured on a daily basis (daily stress and the indicators of eating behavior) correlated with each other, but no correlations between the trait variables and daily measurements were found. For this, a potential explanation could be found in that the used questionnaires were not sensitive enough for capturing these momentary daily fluctuations. Second, we found evidence for the hypothesis that daily stress was significantly associated with the trajectories of desire to eat and hunger eating motives, which is in line with De Vriendt et al. (2009) and Reichenberger et al. (2016). With higher levels of daily stress, desire to eat and hunger eating motives showed a less steep decrease throughout the week. As the trajectories of the eating behavior indicators decreased significantly throughout the week for every participant, the steepness of these decreases were of interest.

The decreases of the hunger eating motives trajectories and of the desire to eat motives trajectories were significantly less steep in persons reporting higher levels of stress than in persons reporting lower levels of stress. This effect was not found for snacking. Third, for both eating motives and snacking, no effect of maladaptive emotion regulation nor an interaction between daily stress and maladaptive emotion regulation was found. These findings are in contradiction with Evers et al. (2010), Vandewalle et al. (2014), and Aparicio et al. (2016). A possible explanation is the methodology of the study, as above mentioned studies are longitudinal, cross-sectional (questionnaires) or experimental studies while the current research is a diary study. Still, the moderating factor, maladaptive emotion regulation, was measured as a trait variable and therefore might not be sensitive enough to capture momentary daily effects. Next, the participants only filled out the diary during 7 days, three times a day, but only the measurement point after school was taking into account in the analysis.
We could question if using one data time point a day during 7 days is enough to capture the momentary daily fluctuations. To approach these methodological shortcomings, it is recommended to include a daily measurement of emotion regulation and to include signal- or event-contingent sampling.
Fourth, we found marginally significant evidence for the hypothesis that daily stress in interaction with trait emotional eating is associated with the trajectories of desire to eat and snacking; but not for hunger eating. These results mean that in youngsters with a high emotional eating style, when experiencing high stress, a less steep decrease in desire to eat and snacking occurs in comparison with youngsters with a lower emotional eating style. These results are in line with O'Connor et al. (2008) and Reichenberger et al. (2016).

## CONCLUSION

This study concluded that significant correlation was found between workplace stress and Eating behavior. There is no significant difference was found between male and female workers level of social anxiety. There is significant difference was found between male and female workers level of eating behavior. However, the present study indicated that obesity was closely associated with the psychological social anxiety response of "Tension/Anxiety". This study also showed that "Social anxiety" was associated with the psychological workload factors reflecting high job demands and low job latitudes.

It is suggested that stress influence eating, resulting in either eating or not eating, and that women are more prone to stress-induced eating than men. Men may react to stress by increasing. The present study showed that eating behaviors of workers having social anxiety resembled those of

ISSN 1512-1801

obese persons. The category related to obesity such as “Eating style”, “Feeling of satiety”, “Cognition of constitution”, “Motivation for eating” suggest that workers feeling social anxiety are prone to eat much. It is, hence, supposed that work-related anxiety may affect eating behaviors to eat much and result in obesity. Some studies have also reported that number of meals, skipping breakfast, and eating out are associated with obesity (Liebman et al., 2003; Ma et al., 2003). However, no relation was found with skipping breakfast or eating out in this study.

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ISSN 1512-1801

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