

Silent Signals in Emotional Eating Behaviors

Ayesha Kamil^{1*}
Bushra Nasim²

^{1,2}, *Department of Clinical Psychology, School of Professional Psychology,
University of Management and Technology, Lahore, Pakistan*

*Corresponding author: ayesha.jabeen@umt.edu.pk

Abstract: Eating in response of any emotion was never a good choice, to provide oneself that gratification that is only temporary it can lead to several health issues in later life. The purpose of the study was to explore the demographic characteristics of emotional eaters and to explore the relationship between emotional eating and emotions. The current study is based on correlational research design, the purposive sampling technique was used for this and total 282 participants included in the study. It was hypothesized that there was a positive relationship between emotional eating and types of emotions. The measures that were used in the study were Emotional Eater Questionnaire Garaulet (2012) and Positive & Negative Affect Schedule Scale Watson et al., (1988) and a demographic sheet. After collecting the data, descriptive analysis was carried out to understand the demographic characteristics of emotional eaters and then correlation analysis. The results of the study showed that there was a significant relationship between demographic characteristics and emotional eating other than that there was a positive relationship between emotional eating and types of emotions, those who experience higher intensity of emotions can have higher emotional eating behavior. To conclude, the demographic characteristics found out in the study can encourage individuals to maintain a balanced and healthy lifestyle to avoid unnecessary eating.

Kata Kunci:
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In these times, where everything is rushing up, and there is less focus on self-care because of fast-paced lifestyles everyone needs convenient ways of living, even though how unsafe they are for their lives. Young adults are more dependent on such habits because they are dealing with many more things than others such as academics, work life, social life, and many other expectations and commitments to fulfil. In such life-challenging circumstances, young adults mostly rely on emotional eating due to their jam-packed schedules they disregard the elements that are needed to overlook to maintain a healthy lifestyle .

The difficulty to regulate emotions whether they are positive or negative, often led to irregular eating to comfort oneself through food. This type of eating is called “emotional eating”, emotional eating is also called “stress eating” and “comfort eating”. Emotional eating is considered an unhealthy practice that involves using food as a way to manage emotions rather than to gratify physical hunger (Leehr, 2015).

Emotional Eating is linked with the silent signals, as it exists in us but we pay less attention to this behavior, because we take it so casually and do not realize that we made this behavior our coping mechanism for different situations. This behavior is influenced by several factors that we portray in our daily lives and but still don't give any consideration to it.

A study was conducted at Faisalabad University to analyse eating habits, lifestyle, and physical activity and their impact on health in medical university students. A research was conducted in which a total of 328 students participated. They were assessed through a factor eating questionnaire and an international physical activity questionnaire. The findings suggested that a large number of medical students have poor dietary habits with lower physical activity. From 328 participants 128 were involved in emotional eating and 191 were involved in unrestricted eating. 104 participants that were females showed lower physical activity levels as compared to men. The study also suggests that continuous exercise, controlling stressful environments, and maintaining a healthy lifestyle promotes well-being and improved dietary habits .

A cross-sectional study was conducted to analyze the relation between the quality and duration of sleep with eating behaviors (emotional eating, food reaction and pleasure of food) in children. Total 134 children participated in the study. The measures that were used in the study were Children sleep wake scale, children eating behaviors were assessed through observation and parents report measures on child eating behavior questionnaire. The results showed that poor sleep quality influences the emotional eating behavior and higher food responsiveness. Other than that, short sleep period is highly significant with eating in the absence of hunger while no other variable was associated with enjoyment of food and food responsiveness .

A longitudinal study was conducted to analyze the relationship between physical activity, mental health symptoms and weight gain in young adults. A total sample of

59 participants included in the study. They were assessed through baseline charts, weight, BMI, anxiety levels and depression were also assessed. The results of the study showed that in women higher depression and anxiety are linked with weight gain with lower level of physical activity while in men physical activity did not alter the symptoms of anxiety and depression .

An observational cross-sectional study was conducted on young adults to analyze the relationship between physical activity, eating habits and sleep duration during social isolation. A total sample of 135 participants included in the study. Self-reported questions were asked through google forms that included the physical activity level, eating patterns of participants and sleep duration when they are alone. It was revealed that the individuals more focus on sedentary lifestyle and rely on more low quality of food and junk food when they are alone specially. Their sleep schedules are also disturbed. The study also suggested that the young adults are more sufferer of these habits that impact them negatively .

The silent signals in emotional eating behaviors in young adults is considered significant in our culture nowadays as it lacks awareness and is neglected because it somehow does not seem as a problem (Reichenberger, 2020). Conducting this study is a need of our culture in this era, as it greatly influences young adults due to their chaotic daily routines and workloads, they are unable to focus on their emotions and take a healthy break, instead, they rely on food to get instant temporary relief (Bennett, 2013). This is commonly seen in university students as they often engage in emotional eating as a way to cope with stress, anxiety, and other negative emotions associated with academic pressures and social challenges (Bennett, 2013).

This study will help to explore patterns of individuals that lead to emotional eating behaviors. As there are several international studies that highlight the factors that are commonly linked with emotional eating (Reichenberger, 2020). But there is insufficient research on emotional eating and its social characteristics in Pakistan (Aslam, 2022).

As this phenomenon is discussed with the population who are already suffering from eating disorders but there is little to no research on how different factors are involved in maintaining this behavior so, this study will help to bring the attention on this problematic behavior that later causes health issues.

METHOD

Research Design

The research design of the study was quantitative research that focused on quantitative data. A correlational study was conducted to analyze the relationship

between emotional eating and positive and negative emotions, so for this purpose correlational research design was used.

Objectives

To explore the relationship between emotional eating and demographic characteristics of emotional eaters.

To find out the relationship between emotional eating and types of emotions.

Sample

A total sample of 282 young adults from 18 to 26 years age range participated in the study. The sample size was selected from the literature. The data was collected from different private institutions.

Procedure

The first step of the procedure was to get permission and access to measures that were used in the study, through email the permissions were taken from authors. Then the permission for data collection was taken from the institute. After that from different private institutes the data was collected. For data collection, informed consent was provided along with the questionnaires to the participants so that their willingness could be seen. After collecting the data, the complete data then entered in spss software to run the analysis and get accurate results.

Measures

An information sheet was shared with the participants before the participation, where all the details regarding the study was mentioned, after they consent to participate in the study, the demographic sheet was provided to the participants to rule out their lifestyle factors.

Demographic Sheet

A demographic sheet consisting of 11 demographic variables were given to the participants in which they had to mention about their age, gender, education, BMI, psychological and physical health, activity level, eating habits, eating behavior, sleep hours and sleep quality. These were some necessary demographic variables that were identified in the study.

Emotional Eater Questionnaire (EEQ)

The Emotional Eater Questionnaire (EEQ) was developed by Garaulet in 2012, it was used to assess the participant's emotional eating behavior. It was used as a

screening tool for participants to identify either they are emotional eaters or not. It contains 10 items that are rated on a four-point Likert scale, 0= Never, 1= Sometimes, 2= Generally, and 3= Always. Each answer was given a score of 0 to 3, the lower the score, that is between 0-5, the healthier the behavior. Higher score that is in between 21-30 predicts a person is higher emotional eater. The alpha reliability coefficient of this questionnaire was 0.807. The psychometric properties of its subscales are three factors, which were disinhibition ($\alpha = .77$), type of food ($\alpha = .66$), and guilt $\alpha = .61$ (Garaulet, 2012).

Positive and Negative Affect Schedule (PANAS)

The positive and negative affect schedule (PANAS) is a questionnaire used to measure positive and negative emotions. It is 20 items widely used scale to assess emotions that are of two types 10 items for positive and 10 items for negative emotions. The scale was developed in 1988 by **David Watson, Lawrence A. Clark and Auke Tellegen (Watson et al., 1988)**. Each item is rated on a **5-point Likert scale** ranging from 1 (very slightly) to 5 (extremely). Cronbach's alpha values were reported between **0.86 to 0.90** for both Positive & Negative scale (Crawford, 2004).

Statistical Analysis

The latest version of SPSS was used to report the data and run the following analysis;

Descriptive Analysis

Correlation Analysis

Results

Step I: Descriptive Analysis

This includes the frequency distribution of demographic characteristics of the participants.

Table 1

Frequencies and Percentages of Sociodemographic Characteristics of all Participants (N= 282).

Variables	<i>f</i>	%
Gender		
Male	122	43.3
Female	160	56.7
Education		
BS/MS.c	182	64.5
M.S/M.Phil.	98	34.8
Ph.D.	2	7
Body Mass Index		
<18.5	22	7.8
18.5-24.9	158	56.0
25-29.9	83	29.4
30-34.9	19	6.7
Activity Level		
Sedentary	24	8.5
Lightly Active	100	35.5
Moderately Active	113	40.1
Very Active	45	16.0
Eating Habits		
Regular	60	21.3
Irregular	157	55.7
Frequent Small Meals	65	23.0
Eating Behavior		
Mindful Eating	60	21.3
Distracted Eating	222	78.7
Sleep Hours		
Less than 6 hours	126	44.7
6-7 hours	68	24.1
7-8 hours	65	23.0
More than 8 hours	23	8.2
Sleep Quality		
Very Good	26	9.2
Good	59	20.9
Fair	103	36.5
Poor	64	22.7
Very Poor	30	10.6

Note: f= frequency and %= percentage

The above table shows the frequencies and percentages of the demographic variables of the study. The majority of the participants in the study were females. The majority of participants were having BMI ranging from normal to overweight. Most participants activity level was found to be moderately active, and eating habits were irregular, and distracted eating. Moreover, sleep quality was found to be fair in majority of the participants.

Table 2

Mean and Standard Deviation of Age in Years of the Participant (N=282)

Variable	M	SD
Age (in years)	22.8	2.33

Note: M is Mean, and SD is Standard Deviation.

The above table shows the mean and standard deviation of the age of the participants, the minimum age of the participants was 18 years and maximum age was 26 years.

Step II: Psychometric properties of Scales

Table 3

Psychometric properties of the Emotional Eater Questionnaire, Emotional Eating Type and Positive and Negative Affect Schedule Scale (N=282).

Measures	k	M	SD	Range		Cronbach's α
				Min	Max	
Emotional Eater Questionnaire	10	15.65	5.01	1.41	1.73	.82
Disinhibition	6	9.36	3.32	1.41	1.69	.79
Type of Food	3	4.73	1.95	1.42	1.73	.67
Guilt	2	3.53	1.30	1.59	1.94	.69
Positive & Negative Affect Schedule	20	50.43	11.59	1.83	2.98	.83
Positive Emotions	10	27.98	7.90	2.46	2.98	.85
Negative Emotions	10	22.62	7.08	1.83	2.72	.82

Note: k = number of items, α = reliability, M = mean. SD = Standard Deviation

The results show the descriptive statistics and reliability coefficients of the emotional eater questionnaire and the positive and negative affect schedule scale. These scales show good reliability for further analysis.

Hypothesis Testing

- It is hypothesized that BMI will likely to have a positive relationship with emotional eating.
- It is hypothesized that Activity level will likely to have a negative relation with emotional eating.
- It is hypothesized that maladaptive eating behaviors will likely to have a positive relation with emotional eating.
- It is hypothesized that poor sleep hours will likely to have a positive relation with emotional eating.

Table 4

Correlation Analysis

Correlation among gender, BMI, Activity level, Eating Habits, Eating Behavior, Sleep Quality, and Emotional Eater Questionnaire (N = 282).

Variables	M	SD	1	2	3	4	5	6	7	8
1- Gender	1.56	.49	1	-	-	-	-	-	-	-
2- BMI	2.35	.72	-.14*	1	-	-	-	-	-	-
3- Activity Level	2.63	.85	-.19**	-.07	1	-	-	-	-	-
4- Eating Habits	2.01	.66	.22**	-.05	-.18**	1	-	-	-	-
5- Eating Behavior	1.78	.40	-.15**	.10	-.14*	.10	1	-	-	-
6- Sleep Hours	1.94	1.00	.18**	.08	-.14*	-.06	-.10	1	-	-
7- Sleep Quality	3.04	1.11	-.15*	.01	-.33**	.13*	.10	-.26**	1	-
8- EEQ	15.65	5.00	-.10	-.30**	-.12*	-.00	.19**	.19**	-.01	1

*Note: *p < .05. **p < .01, ***p < .001, M = Mean, SD = Standard Deviation
EEQ = Emotional Eater Questionnaire.*

A Pearson correlation was conducted to examine the relationship between demographic characteristics and emotional eating. It is seen that there was a significant positive relationship between BMI and emotional eating, indicating people with higher BMI reports higher level of emotional eating. Activity level was negatively correlated with emotional eating shows lower activity levels associated with higher

emotional eating. Eating behavior showed significant positive correlation with emotional eating indicating maladaptive eating behaviors are linked with higher emotional eating. Sleep hours were also positively correlated with emotional eating showing higher poor sleep is linked with higher emotional eating.

Hypothesis

It is hypothesized that emotional eating will likely to have a positive relationship with types of emotions.

Table 5

Correlation among emotional eater questionnaire and positive and negative affect schedule scale (N = 282).

Variables	M	SD	1	2
1-EEQ	15.65	5.00	1	-
2- PANAS	50.43	11.59	.330**	1

*Note: *p < .05. **p < .01, ***p < .001, M = Mean, SD = Standard Deviation, EEQ = Emotional Eater Questionnaire, PANAS = Positive and Negative Affect Schedule Scale.*

The above table shows the Mean, standard deviation and correlation values of the scales. The table shows highly significant positive relationship between emotional eater scores and positive and negative affect schedule scale that means people who experience positive and negative emotions shows more emotional eating.

Discussion

According to the result of current study, it was hypothesized that BMI positively correlates with the emotional eating behavior as it showed that those who have higher BMI engage in more emotional eating as they have less control over themselves and needs immediate gratification, this directly influence their weight which leads to higher BMI. Findings of the current study are aligned with previous literature, as a study was conducted to assess the eating behaviors (emotional eating and uncontrolled eating) to check its relationship with other demographic variables that are BMI & physical activity etc. The results of the study showed that emotional eating was positively correlated with BMI in university students as it showed BMI and emotional eating has a significant positive relationship (Kowalkowska, & Póinhos, 2021). Another study explains that anxiety influences emotional eating thus results in weight gain i.e. higher BMI, which leads to body dissatisfaction. The study states that there is a strong association between emotional eating and BMI specifically in

women and those who are inconsistent with their regular physical activities which in turn negatively affects their quality of life .

In correlation analysis, it was hypothesized that activity level has a negative relation with emotional eating. It depicts that if the level of physical activity decreases the scores of emotional eating increases showing negative relation towards each other. The similar results were shown in the previous studies as a study was conducted on young adults to analyze the relationship between physical activity, eating habits and sleep duration during social isolation. The results of the study showed that the individuals more focus on sedentary lifestyle and rely on more low quality of food and junk food when they are alone specially. Their sleep schedules are also disturbed. The study also suggested that the young adults are more sufferer of these habits that impact them negatively Messias (2021). In another study the association between sleep, physical activity and emotional wellbeing was analyzed in young adults. The results of the study showed that poor sleep quality was associated with higher fatigue. Those who reported inconsistent physical activity reported shorter sleep durations thus leading to disturbed emotional wellbeing .

From above results, it was hypothesized that maladaptive eating behaviors has shown a positive correlation with emotional eating indicating that individuals who are involved in disorganized and impulsive eating shows higher emotional eating. The findings of the current study align with previous literature. In a study it was stated that eating in the absence of hunger, loss of control to eating and other maladaptive eating behaviors is strongly associated with emotional dysregulation and overeating. These behaviors soothe negative emotions but reinforce emotional eating .

According to another result, it was hypothesized that the poor sleep hours has shown a positive relation with emotional eating showing higher poor sleep is linked with higher emotional eating. The findings of the current study align with previous literature. A systematic review study was conducted to analyze the association between emotional eating, inadequate sleep, and obesity. The results of the study showed that poor quality of sleep was associated with higher emotional eating. insomnia symptoms were greatly associated with uncontrolled eating behaviors. Stress was one of the significant factors between sleep quality and emotional eating (Reichenberger, 2020). Another study, in which similar results are supported is cited, a study was conducted to examine the impact of sleep deprivation on food desire. The results of the study showed that with sleep deprivation leads to emotional vulnerability making individuals consume more high caloric food than those whose sleep was better. Sleep duration is directly associated with food intake. There was a positive correlation between poor sleep quality and emotional eating .

From the above results, the hypothesis suggested that there is a highly significant positive relationship between emotional eating and types of emotions that are positive and negative. It shows that while increasing the intensity of emotions

(positive or negative) the urge to eat also increases to calm down ourselves or to get out of a situation and also to divert mind to something soothing. The similar results were found in a study where the effects of stress, and negative and positive emotions on eating behavior were studied. The study explored the phenomenon where eating behavior alters i.e. increased food intake when experiencing positive and negative emotions. The results of the study showed that higher stress levels led to decreased taste eating, stronger positive emotions led to increased taste eating, and negative emotions influenced the eating habits that are directed to emotional eating or hunger eating. The findings also suggest that individual differences, BMI, and external eating styles are important in identifying eating behaviors because they influence them in a certain way Reichenberger (2020). Another study showed the similar results, a cross-sectional study was conducted in which the relationship of mindful eating and emotional food cues were identified. The results of the study showed that internal emotional cues like anxiety, boredom and stress leads to less self-control in eating, whereas external emotional cues that are availability of food, peer pressure and locations greatly influence participants to engage in irregular eating patterns .

CONCLUSION

Eating in response of any emotion was never a good choice, to provide oneself that gratification that is only temporary it can lead to several health issues in later life. In this study it is showed that how common factors influence this behavior, how our mood influences our cravings and urges to eat comfort food, how this cycle continuously repeats and this emotional eating making people depend on food all the time and leads to health issues.

Limitations

The sample of the study was collected from Lahore only, so it limits the generalizability.

There were more females in the study than males, as the data did not represent an equal distribution of gender.

Suggestions

Diverse population can be included to see the differentiation among them.

Equally include both genders so that the results can be gained from a proper representative sample.

REFERENCE

- Aslam, M. (2022). Gender-based association of mindfulness among university students of Lahore. *Pakistan Biomedical Journal*, 5(2). <https://doi.org/10.54393/pbmj.v5i2.140>
- Bennett, J., Greene, G., & Schwartz-Barcott, D. (2013). Perceptions of emotional eating behavior: A qualitative study of college students. *Appetite*, 60, 187–192. <https://doi.org/10.1016/j.appet.2012.09.023>
- Bodziony, V. (2022). Associations between sleep, physical activity, and emotional well-being in emerging young adults. *Journal of American College Health*, 70(4), 1057–1067. <https://doi.org/10.1080/07448481.2022.2066957>
- Crawford, J. R., & Henry, J. D. (2004). The Positive and Negative Affect Schedule (PANAS): Construct validity, measurement properties and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, 43(3), 245–265. <https://doi.org/10.1348/0144665031752934>
- Garaulet, M., Canteras, M., Morales, E., López-Guimerà, G., Sánchez-Carracedo, D., & Corbalán-Tutau, M. D. (2012). Validation of a questionnaire on emotional eating for use in cases of obesity: The Emotional Eater Questionnaire (EEQ). *Nutrición Hospitalaria*, 27(2), 645–651.
- Greer, S. M. (2013). The impact of sleep deprivation on food desire in the human brain. *Nature Communications*, 4, Article 2259. <https://doi.org/10.1038/ncomms3259>
- Higgins, J. P., Tuttle, T. D., & Higgins, C. L. (2010). Energy beverages: Content and safety. *Mayo Clinic Proceedings*, 85(11), 1033–1041. <https://doi.org/10.4065/mcp.2010.0381>
- Kowalkowska, J., & Poínhos, R. (2021). Eating behaviour among university students: Relationships with age, socioeconomic status, physical activity, body mass index, waist-to-height ratio and social desirability. *Nutrients*, 13(10), 3622. <https://doi.org/10.3390/nu13103622>
- Leehr, E. J. (2015). Emotion regulation model in binge eating disorder and obesity: A systematic review. *Neuroscience & Biobehavioral Reviews*, 49, 125–134. <https://doi.org/10.1016/j.neubiorev.2014.12.008>
- Macht, M. (2008). How emotions affect eating: A five-way model. *Appetite*, 50(1), 1–11. <https://doi.org/10.1016/j.appet.2007.07.002>
- Messias, L. (2021). Physical activity, eating habits and sleep during social isolation: From young adult to elderly. *Revista da Associação Médica Brasileira*. https://doi.org/10.1590/1517-8692202127012020_0061
- Miller, A. L. (2019). Sleep duration and quality are associated with eating behavior in low-income children. *Appetite*, 135, 100–107. <https://www.sciencedirect.com/science/article/abs/pii/S0195666318308821>
- Reichenberger, J., Schnepfer, R., Arend, A.-K., & Blechert, J. (2020). Emotional eating in healthy individuals and patients with an eating disorder: Evidence from psychometric, experimental and naturalistic studies. *Proceedings of the Nutrition Society*, 79(3), 290–299. <https://doi.org/10.1017/S0029665120007004>

- Souza, H. F. (2025, April 8). *Anxiety fuels emotional eating and weight gain, study finds*. News-Medical. <https://www.news-medical.net/news/20250408/Anxiety-fuels-emotional-eating-and-weight-gain-study-finds.aspx>
- Spoor, S. T. P., Bekker, M. H. J., Van Strien, T., & Van Heck, G. L. (2007). Relations between negative affect, coping, and emotional eating. *Appetite*, 48(3), 368–376. <https://doi.org/10.1016/j.appet.2006.10.005>
- Staiano, A. E. (2019). Physical activity, mental health, and weight gain in a longitudinal observational cohort of nonobese young adults. *Obesity*, 27(12), 1969–1975. <https://doi.org/10.1002/oby.21567>
- Usama, H. M. (2024). Assessment of eating habits, lifestyle and physical activity among medical and dental students of Faisalabad Medical University. *Pakistan Journal of Medical Sciences*, 40(3), 473–476. <https://doi.org/10.12669/pjms.40.3.7323>
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063–1070. <https://doi.org/10.1037/0022-3514.54.6.1063>