

# Exploring The Impact of Obesity on Emotional Intelligence in Women and Men

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## Abstract

The research employed a cross-sectional approach and involved a sample of 100 individuals, with a 65% female and 35% male distribution. Within this sample, 51.4% were categorized as young adults (aged 30-40), while 48.6% were classified as middle-aged adults (aged 41-60). Furthermore, 51.4% of the participants were identified as overweight or obese. The study's findings revealed that there were limited associations between various aspects of physical activity (PA) and elements of emotional intelligence (EI). The study also highlighted that women displayed significantly higher emotional intelligence (EI) scores in the domains of caring and empathy when compared to their male counterparts. In contrast, individuals with obesity exhibited lower scores in the area related to the utilization of emotions.

**Keywords:** Physical, Obesity, Overweight, Health, Emotions

## I. INTRODUCTION

Physical activity, body image, and emotional intelligence are crucial aspects of human well-being, each playing a significant role in shaping an individual's overall health and quality of life. In the context of adults who struggle with overweight and obesity, these factors take on heightened importance as they navigate the complex interplay between their physical health, self-perception, and emotional well-being. The global prevalence of overweight and obesity has reached alarming proportions, with more than 2.1 billion individuals suffering from these conditions in 2017, according to the World Health Organization. The consequences of excessive body weight extend beyond mere physical health concerns, as they deeply impact psychological and emotional well-being.

It is in this nexus that the three core elements of this discussion converge: physical activity, body image, and emotional intelligence. Physical activity stands as a cornerstone of good health for all individuals, but its significance is magnified for those with overweight or obesity. Engaging in regular physical activity helps manage body weight, improve metabolic health, and reduce the risk of various chronic diseases. However, individuals facing overweight and obesity often encounter unique challenges and barriers when it comes to adopting and maintaining an active lifestyle.

Body image, on the other hand, plays a critical role in shaping how individuals perceive and feel about their bodies. People with overweight and obesity may experience negative body image, which can lead to low self-esteem, depression, and social isolation. These issues, in turn, can hinder their motivation to engage in physical activity and make positive changes in their lives. Furthermore, emotional intelligence, a vital aspect of mental and emotional well-being, is closely linked to how individuals cope with challenges and stressors associated with overweight and obesity. Emotional intelligence encompasses the ability to recognize, understand, manage, and effectively utilize emotions, both in oneself and in relationships with others. It is essential for navigating the emotional and social aspects of weight management, self-acceptance, and the development of healthier habits.

Physical activity is the foundation of a healthy lifestyle and encompasses any bodily movement produced by skeletal muscles that require energy expenditure. It includes various forms of exercise, such as aerobic activities, strength training, and flexibility exercises.

Physical activity offers a wide range of physical benefits, including weight management, improved cardiovascular health, enhanced muscle and bone strength, and reduced risk of chronic diseases such as type 2 diabetes and certain types of cancer. Engaging in regular physical activity also promotes mental well-being by reducing symptoms of anxiety and depression, enhancing mood, and increasing overall life satisfaction. However, for individuals with overweight and obesity, incorporating physical activity into their daily lives can be a daunting challenge. Excess weight places additional strain on joints and muscles, which can lead to discomfort, pain, and limited mobility. Furthermore, many individuals face barriers related to time constraints, lack of motivation, and fear of judgment in fitness or exercise environments. Thus, it is crucial to explore strategies and interventions that can help overcome these challenges and encourage adults with overweight and obesity to embrace a more active lifestyle.

Body image, the second component of our discussion, is a multifaceted concept that encompasses a person's perceptions, thoughts, feelings, and behaviors related to their physical appearance. It is influenced by societal standards of beauty and attractiveness, as well as personal experiences and self-esteem. Individuals with overweight and obesity frequently grapple with negative body image, as they may internalize stigmatizing societal norms and face criticism or discrimination due to their weight. This negative body image can lead to a wide range of emotional and psychological consequences, such as low self-esteem, depression, anxiety, and social withdrawal.

It can also create a significant barrier to engaging in physical activity, as individuals may avoid exercise settings for fear of judgment or ridicule. Addressing body image concerns is essential for promoting a positive self-image and fostering the motivation needed to initiate and sustain physical activity in adults with overweight and obesity. Exploring the impact of interventions, such as body-positive messaging and cognitive-behavioral therapy, on improving body image and reducing the barriers to physical activity is a central focus of this introduction. Emotional intelligence, the third component, is the ability to recognize, understand, manage, and effectively use emotions in one's life. It encompasses both intrapersonal skills, which involve understanding and managing one's own emotions, and interpersonal skills, which involve recognizing and responding to the emotions of others. Emotional intelligence is vital for building healthy relationships, managing stress, and making informed decisions. In the context of adults with overweight and obesity, emotional intelligence can play a significant role in helping individuals cope with the emotional challenges that arise from their condition, such as shame, guilt, or stress.

## II. REVIEW OF LITERATURE

Miguez-Torres, Noelia et al., (2020) The mental tolls and long hours of labor that come with becoming a nurse are significant. In addition to this, nurses working in the emergency room are expected to immediately adjust their emotional state. The purpose of this research was to investigate the emotional intelligence (EI) abilities of emergency nurses and establish a correlation between those skills, their body mass index (BMI), and the amount of sleep they had each night. In order to accomplish this goal, a cross-sectional study was carried out, and participants were given the perceived emotional intelligence exam as well as the Pittsburgh sleep quality index to complete. There were a total of 62 participants, including 48 female and 14 male emergency nurses. According to the findings, the most majority of individuals display appropriate levels of EI, and there were no disparities seen when comparing the two sexes. The capacity to experience, express, and comprehend different emotional states was shown to be stronger in younger nurses than it was in older nurses, while the ability to control emotional states was shown to be stronger in older nurses than in younger ones. Those nurses who had been practicing for a longer period of time shown a greater capacity to control their emotions than their less experienced counterparts. Those individuals who were overweight grade II and obese type I were better able to convey their sentiments, and the management of emotional states became more difficult as weight continued to grow. Last but not least, it has been noticed that the quality of sleep that emergency nurses get is greatly

disrupted, and that the lack of sleep that emergency nurses experience may have an effect on their capacity to process emotions.

Shabani, Jafar & Moradi, Tazehgol. (2020). There is a connection between the psychological and emotional stresses that contribute to obesity. Obesity may be caused by psychiatric diseases, severe psychological stress, psychological issues, and emotional causes. The goal of this study was to examine college students' emotional intelligence (EI) in the Iranian province of Golestan, focusing on the prevalence of obesity. This is a research that focuses on description. 358 college students made up the total population of the sample. The Emotional Intelligence (EI) Questionnaire developed by Bar-On and Parker used as the study tool. SPSS 22 was used to do the analysis on the data that were gathered. In addition, studies using descriptive statistics, Pearson's correlation, and multiple regressions were carried out.

Faizpoor, Marzieh & Movahedi et al., (2019) In addition to the obvious detrimental impact that obesity has on one's physical health, it also has an adverse effect on the mental health of children and adolescents. The purpose of this study is to investigate the impact that being obese or overweight has on the components of emotional intelligence and IQ in children who attend schools located in Tehran City Districts 1 and 19. In light of the goals that it seeks to accomplish, this study may be classified as an applied descriptive-analytical hybrid style of research. Surveying and testing the hypothesis were the two methods used to acquire the data. Both of these correlations were statistically significant. In addition, a substantial, low, and inverse connection between age and emotional intelligence was found. This association was found to be statistically significant. Est. The statistical population for this study is comprised of 184 students hailing from Districts 1 and 19 of Tehran City. These students were chosen using a sampling technique known as convenience random quota sampling. According to the results of this study, there was not found to be a strong and significant association between the anthropometric indices of the students who were evaluated and either their IQ or their emotional intelligence. It is advised that more research be conducted with wider scopes. when it comes to the anthropometric indicators of children's emotional intelligence and IQ.

Andrei, Federica & Nuccitelli et al., (2018) Nevertheless, the association between increased body mass index (BMI) and psychological well-being remains incompletely recognized, despite the rising incidence of obesity and its subsequent societal repercussions. The purpose of this research was to compare how different body mass index groups fared in terms of affective psychological characteristics. One hundred thirty-four people in need of weight loss therapy and 124 healthy controls filled out a battery of questionnaires measuring trait emotional intelligence, emotion management methods, anxiety, depression, binge eating, and subjective well-being. Emotional intelligence was measured as an attribute using the same questionnaires. The body mass index (BMI) category (normal weight, overweight, or obese class I, II, III) was included as a covariate in correlation and multivariate analyses of variance performed on all research variables. When compared to normal-weight people, those in the "obesity class III" category scored worse on tests of emotional intelligence and happiness, and they showed a greater propensity to repress their emotions. Obese persons were more likely to feel depressed and participate in binge eating than normal-weight and overweight people. Depression and emotional repression were major factors in how people with various BMIs were distinguished from one another. Trait emotional intelligence was shown to be a key psychological element differentiating between people who are overweight and those who are not. These findings suggest that a more nuanced understanding of the emotional component of psychological functioning is essential for designing successful treatments for obesity.

Gogoi, Bimal & Munda et al., (2017) The primary objective of the research was to examine and compare their levels of emotional intelligence. The study utilized a sample size of 74 students from Dibrugarh University, consisting of 59 male and 15 female participants. Within this sample, N1 included 8 participants classified as underweight (6 male, 2 female), N2 included 53 participants classified as normal weight (44 male, 9 female), N3 included 8 participants classified as overweight (4 male, 4 female), and N4 included 5 male participants classified as obese. The Emotional Intelligence Scale for Sports Persons (EISS) created by Rajitha Menon A. and Jayshree Acharya was used to gather data for this research. Under the pretense of looking at something else, the study was carried out. One-way analysis of variance (ANOVA) was performed to compare the groups and see how they fared in terms of emotional quotient. There seems to be no statistically significant difference in

emotional intelligence between the groups since the computed F-ratio (1.74), which was substantially lower than the essential F-ratio (2.74), indicating there is no difference. A p value of 0.05 was considered significant.

### III. RESEARCH METHODOLOGY

#### Participants

To take part in this investigation, a total of one hundred people were recruited, ranging in age from 20 to 60 years old and consisting of 60 men and 40 women. People who are overweight or obese and who frequent the Outpatient Clinics for Disorders of Lipid Metabolism and Obesity in order to control their weight were asked for permission to be allowed entry. The clinics were asked to provide this permission. In addition, participants came from a variety of gyms, all of which provided individuals who could exhibit adequate levels of physical activity.

Everyone who took part in the study was given comprehensive information on both the research and the method of participation. The participants had to be in good health and not be taking any medications or be under close medical supervision in order to be eligible for the study. They gave their agreement by signing a letter and filling out the necessary forms. A request was made for about half of the participants to wear a pedometer device continuously for duration of four consecutive days. This was done in order to accurately measure their total number of steps taken and thereafter assess and compare their level of physical activity with the data obtained from the physical activity questionnaire. The participants in the sample are broken down into their respective age groups and BMI categories in Table 1.

**Table 1: Distribution of respondents according to BMI and age group**

Age	BMI Classification	Males (N)	Females (N)
20-30 Years	Underweight	20	10
	Normal weight	15	5
	Overweight	5	3
	Obesity	4	7
31-60 years	Underweight	6	5
	Normal weight	5	3
	Overweight	3	2
	Obesity	2	5
Total		60	40

#### Statistical Analyses

Two different two-way multivariate analyses of variance (two-way MANOVA) were conducted to examine potential significant differences in the components of emotional intelligence (EI), considering both body mass index (BMI) with its four categories and age group, as well as body image (BI) with its three degrees of satisfaction and age group.

The research focused on four dependent variables related to emotional intelligence: (a) use of emotions, (b) control of emotions, (c) empathy and interest, and (d) identification and expression of emotional states.



The first two-way analysis included the use of two independent variables, namely the age groups of 20-30 years and 31-60 years, as well as the variable of BMI. The Body Mass Index (BMI) classification system has four categories: (a) underweight, (b) normal weight, (c) overweight, and (d) obesity. However, it is important to note that the underweight group was excluded from our analysis due to insufficient male representation within that category.

The independent variables for the second two-way analysis consisted of age groups and BI, which were categorized as three levels: (a) satisfied, (b) poor satisfaction, and (c) not pleased. The variable under investigation was gender, which served as the dependent variable. In order to examine the interaction between age groups, individual one-way ANOVAs were conducted for each age group.

The SPSS 26.0 program was used to do the analysis on the data. The results are shown as the mean accompanied by the standard deviation (SD).

#### IV. DATA ANALYSIS & INTERPRETATION

##### Emotional Intelligence and Body Mass Index

The correlation between sex and body mass index was shown to be statistically significant. Univariate analyses show a significant difference in the empathy and caring subscale based on the gender of the participants, as shown in Table 2. The findings also suggest that women outperformed males on this metric. Additionally, it was shown that body mass index has a large effect on how individuals portray their emotions. Using Bonferroni's post hoc testing, we find that the population classified as overweight had the biggest mean difference, while the population classified as obese had the lowest. That means there was a statistically significant discrepancy between the two outcomes.

**Table 2: Mean and standard deviation of the body mass index and emotional intelligence**

Emotional intelligence	BMI Classification	Males		Females		Total	
		Mean	SD	Mean	SD	Mean	SD
Use of emotions	Normal weight	3.80	0.42	3.39	0.61	3.49	0.63
	Overweight	3.61	0.63	3.71	0.69	3.65*	0.64
	Obesity	3.51	0.50	3.18	0.62	3.32*	0.57
	Total	3.58	0.54	3.40	0.61	3.52	0.59
Control of emotions	Normal weight	3.18	0.85	2.95	0.75	3.07	0.83
	Overweight	3.05	0.71	3.09	0.66	3.04	0.68
	Obesity	2.98	0.95	2.65	0.81	2.83	0.82
	Total	3.09	0.77	2.92	0.74	3.01	0.85
Empathy and care	Normal weight	4.02	0.48	4.05	0.55	4.06	0.53
	Overweight	3.91	0.55	4.26	0.52	4.05	0.53
	Obesity	3.68	0.79	4.05	0.64	3.89	0.72

	Total	3.82 **	0.61	4.08 **	0.56	4.05	0.59
Expression and recognition	Normal weight	3.13	0.76	3.28	0.87	3.27	0.85
	Overweight	3.17	0.93	3.52	0.82	3.31	0.92
	Obesity	2.91	0.79	3.07	0.91	3.05	0.88
	Total	3.09	0.85	3.31	0.88	3.22	0.79

\*\* p < 0.01, \* p < 0.05.

### **Emotional Intelligence and Body Image**

In Table 3, we can see the average, standard deviation, and three tiers of BI satisfaction for each EI variable. Both a major impact and an interaction effect of age were found for BI happiness. Age was shown to have a significant effect on both the ability to recognize and express emotions. Scores declined considerably for persons aged 42 and above compared to those aged 41 and under. The level of satisfaction with BI's emotion regulation subcomponent was also demonstrated to interact significantly across age groups.

**Table 3: Mean and standard deviation of the body image categories and emotional intelligence**

Emotional Intelligence Factor	Body Image Category	20–40 Years		41–60 Years		Total	
		Mean	SD	Mean	SD	Mean	SD
Use of emotions	Satisfied	3.67	0.60	3.66	0.59	3.72	0.55
	Low satisfaction	3.40	0.62	3.64	0.47	3.52	0.58
	Not satisfied	3.51	0.73	3.38	0.73	3.45	0.76
	Total	3.51	0.65	3.52	0.54	3.58	0.65
Control of emotions	Satisfied	3.10	0.83	2.57	0.69	2.80	0.84
	Low satisfaction	3.02	0.77	3.20	0.69	3.11	0.79
	Not satisfied	3.09	0.77	2.89	0.85	2.97	0.77
	Total	3.05	0.79	2.95	0.81	3.04	0.77
Empathy and care	Satisfied	4.09	0.39	3.99	0.57	4.08	0.51
	Low satisfaction	4.01	0.52	3.93	0.61	3.96	0.55
	Not satisfied	4.10	0.50	3.94	0.68	4.05	0.56
	Total	4.06	0.53	3.98	0.58	4.03	0.59
Expression and recognition	Satisfied	3.42	0.82	2.89	0.93	3.16	0.92
	Low satisfaction	3.41	0.82	2.96	0.91	3.28	0.85

	Not satisfied	3.39	0.73	3.12	0.82	3.17	0.81
	Total	3.42**	0.76	3.02**	0.85	3.19	0.88

\*\* p < 0.01.

The straightforward main effects of age group on each level of BI satisfaction were explored using separate t-tests so that this interaction could be studied. Statistically significant age differences were seen only among those respondents who reported being satisfied with their BI. When compared to younger people, individuals over the age of 40 who reported being happy with their appearance had significantly lower scores on the EI variables measuring their ability to regulate their emotions.

## V. CONCLUSION

In conclusion, the interplay between physical activity, body image, and emotional intelligence in adults with overweight and obesity is a complex and critical aspect of overall well-being. This introduction has highlighted the importance of these factors, both individually and in their interactions, in the lives of individuals facing excess weight. Understanding these connections can pave the way for innovative strategies and interventions aimed at promoting healthier, more positive, and emotionally intelligent lifestyles for adults with overweight and obesity. By addressing these multifaceted issues, we can work towards improving their physical and emotional health, self-esteem, and overall quality of life.

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