

# Self-esteem of obese women practicing physical activity and sport: a case study

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## **ABSTRACT**

It is undeniable that both physical and mental healths are two sides of the same coin, with each influencing the other. Psychological disorders, varying in their severity, can lead to physical illnesses, and vice versa, physical ailments can contribute to the development of mental health disorders. In this regard, we wanted to shed light on the modern-day disease known as obesity, which is accompanied by health problems that can be chronic and have a distorted impact on the individual's body, affecting their psychological well-being and personality. This can expose them to bullying and harassment.

According to studies conducted by the International Association for Obesity Studies (2013), obesity rates are higher among females, especially in Arab countries. Accepting oneself and one's body shape is essential for achieving psychological health, and conversely, it will undoubtedly impact the decline of both mental and physical health. Hence, our study aims to answer the following question: What is the level of self-esteem among obese women who engage in physical exercise?

Our study adopted a qualitative approach, which involved a case study consisting of four selected individuals who underwent semi-structured interviews. Additionally, we utilized the Cooper Smith Self-Esteem Inventory to assess the level of self-esteem among women who are affected by obesity and engage in regular physical activity.

**Keywords:** self-esteem, obesity, physical activity and sport.

## **INTRODUCTION**

Self-esteem is a fundamental aspect of an individual's psychological well-being and plays a crucial role in shaping their overall sense of self-worth and confidence. It refers to the subjective evaluation and perception a person has about themselves, encompassing their beliefs, feelings, and attitudes towards their own abilities, appearance, and value as a person.

Obesity, on the other hand, is a prevalent health issue characterized by excessive accumulation of body fat, often resulting from a combination of genetic, environmental, and behavioral factors. It poses significant physical health risks and can have profound psychological implications as well.

The relationship between self-esteem and obesity is complex and multifaceted. People with obesity may experience lower self-esteem due to societal stigmatization, negative body image, and perceived judgments from others. The internalization of weight-related stereotypes and societal beauty standards can contribute to a negative self-perception and diminished self-worth.

### **1. Research Problematic:**

Physical and mental health is a goal sought by every individual, whether male or female, to live a life free from physical and mental illnesses. It is well known that both mental and

physical health are two sides of the same coin, and each of them affects the other. Psychological disorders, varying in severity, can lead to somatic diseases (psychosomatic diseases), and vice versa, physical illnesses can be a cause of psychological disorders. In this context, we wanted to shed light on what is known as the modern epidemic, obesity, which is accompanied by chronic health problems and distorted body image. These factors can have an impact on the mental and personal well-being of overweight individuals, making them vulnerable to bullying.

The World Health Organization has indicated a significant increase in the prevalence of obesity among both genders and all age groups, resulting in an increased number of deaths due to obesity. The prevalence of obesity in adults has risen by 138% since 1975, with a 21% increase between 2006 and 2016 (Al Jazeera Mubasher, May 3, 2022).

Women go through various life transitions that can affect their physical structure, such as marriage, pregnancy, breastfeeding, and menopause, all of which can influence their hormonal secretions and physiological changes. Additionally, the nature of women's body composition, which is characterized by a higher proportion of adipose tissue compared to muscle tissue, can make them more susceptible to obesity.

According to the International Association for the Study of Obesity (2013), survey studies mapping obesity rates indicate higher obesity rates among females compared to males, especially in Arab countries. For example, in Qatar, the obesity rate among women is 47.9% compared to 34.6% among men.

Scientific studies have shown psychological differences in the impact of obesity between men and women. A study by Kafaafi and Niyal (1995) highlighted differences in body image satisfaction between males and females. Men evaluate their bodies as a whole, while women assess their bodies based on several indicators such as weight, shape, and organ proportions. This is why women have a positive inclination towards engaging in physical exercise for both mental relief and fitness improvement.

When obesity affects women, it has an impact on their psychological well-being and self-confidence. Cooper Smith (1967), as cited in a book by Mohammed Jassim (2004), stated that self-esteem is the evaluation an individual makes of themselves and strives to maintain, including positive or negative attitudes towards oneself.

Therefore, self-acceptance and body image are essential for achieving mental health in women. Conversely, a lack of self-acceptance can negatively impact mental and physical health. This brings us to our research study, which aims to answer the following question: What is the level of self-esteem among women with obesity who engage in physical exercise?

## **2. Research Hypothesis:**

Self-esteem level among obese women engaged in high physical activity.

## **3. Research Importance:**

- Shedding light on obesity as a global epidemic that has increased its prevalence worldwide.
- Focusing on the psychological health importance for obese women.

- Drawing attention through a scientific study to the importance of physical activity for both mental and physical health.
- Reducing the prevalence of obesity among various groups, including women, by highlighting its dangers as one of the leading causes of death worldwide.

#### 4. Conceptual Definitions:

**Procedural Concept of Self-esteem:** It represents the sum of scores obtained on the Self-esteem Scale by Cooper Smith, which is characterized by high levels of reliability and validity.

#### Procedural Concept of Obesity:

To select the research group of women engaged in physical and sports activities, body mass index (BMI) was calculated using the following equation:  $\text{weight} \div \text{height squared}$ . It was considered that if a woman has a BMI of 30 or above, she suffers from excessive obesity.

#### 5. Previous Studies:

##### 5.1 Zamour Tannhannen's study (2015):

The study focused on examining the self-esteem of women aged 34 to 50 who suffered from excessive obesity. It consisted of 5 cases with the aim of determining the relationship between excessive obesity and self-esteem. The study found that women suffering from excessive obesity had low self-esteem.

##### 5.2 Rabab Abdel-Halim Abu Zeid et al.'s study (2017):

This study focused on the relationship between obesity, self-esteem, and life satisfaction among university students with different weights: healthy weight, obesity, and excessive obesity. The study found that self-esteem varied with different weights or BMI in favor of lower weight. It also found that life satisfaction differed based on body weight and that there was an inverse relationship between life satisfaction and excessive obesity.

##### 5.3 John Kingsbury et al.'s study (2010):

This study examined the factors associated with self-esteem among American adolescents. It aimed to examine the variables and characteristics associated with low self-esteem among 2,522 teenagers aged 12 to 20. The study found a correlation between self-esteem and several risk factors, including obesity, parenting, academic performance, and negative body image.

##### 5.4 Renata Forest et al.'s study (2015):

This study investigated life satisfaction among teenagers and its relationship with body weight and other variables. The results indicated that overweight teenagers had lower levels of life satisfaction compared to their peers with a healthy weight. The study also found that body weight perceptions were strongly associated with decreased life satisfaction among girls compared to boys.

##### 5.5 Ardalan Javan's study (2015):

This study focused on the relationship between body mass index, weight status, and life satisfaction among a sample of teenagers aged 10 to 18 living in rural and urban areas. The results showed that 40% of the study participants had a distorted body image perception, either with weight gain or weight loss. The study found an imbalance between actual body

mass index and body weight perception. It also found a positive correlation between negative body image perception and decreased life satisfaction.

## **6. Research Methodology:**

This study adopted a case study methodology, which focuses on studying all aspects related to individual phenomena and cases, with the aim of generalizing findings to similar cases. The selection of this methodology was based on the sensitivity of the study's subject (obesity) and the scarcity of typical cases needed for this study.

## **7. Research Group and Tools Used in the Study**

In 1997, Maurice Angers defined the research group as the set of cases selected by the researcher to conduct a study when it becomes impractical to study the entire population of individuals.

### **7.1 Research Group Characteristics:**

The researcher adopted specific criteria to select the research group, focusing on women suffering from obesity with a body mass index (BMI) exceeding 30. The cases also engaged in regular physical and sports activities and frequented the same gymnasium to facilitate the necessary interviews and distribute the Cooper-Smith Self-Esteem Inventory.

### **7.2 Research Group Description:**

The research group consisted of four cases ranging in age from 18 to 52 years old. Two of them were married, two were single, two were studying, one was employed, and the last one was a homemaker.

## **8. Research Tools:**

The researcher used two tools, namely semi-structured interviews and the Cooper-Smith Self-Esteem Inventory, to collect data.

### **8.1 Semi-Structured Interviews:**

The researcher employed semi-structured interviews, using both closed and open-ended questions, to gather various information about the cases. The interviews covered four main areas: health status, psychological state, social aspects, and future aspirations of the research group.

### **8.2 Cooper-Smith Self-Esteem Inventory:**

This inventory, designed in 1967, measures an individual's self-orientation or personal judgment toward themselves. The adapted version for the Arab environment consisted of 25 positive and negative statements, answered on a "similar to me" or "not similar to me" scale.

#### **8.2.1 Self-Esteem Rating Categories:**

20 to 40 points: Low self-esteem

40 to 60 points: Average self-esteem

60 to 80 points: High self-esteem

## **9. Psychometric Characteristics of the Inventory:**

### **9.1 Reliability:**

The reliability of the inventory in the Arab environment was calculated using the Kuder-Richardson formula on a sample of 526 males and 115 females, yielding coefficients of 0.74 for males and 0.77 for females. Split-half reliability was also calculated, resulting in coefficients of 0.84 for males and 0.88 for females.

## 9.2 Validity:

The inventory's validity was calculated by correlating scores with a sample of 152 individuals, resulting in a validity coefficient of 0.84 for males, 0.94 for females, and 0.88 for the total sample.

## 10. Research Scope:

**10.1 Time Frame:** The field study lasted approximately two months, from February 11, 2021, to May 26, 2021.

**10.2 Location frame:** The study was conducted in the women's sports halls in the municipality of Bouira, where several meetings were held with gym managers to identify typical cases for the research group. Ultimately, four cases were selected.

**11 Challenges Faced During the Field Study:** The researcher encountered several challenges during the initial interviews. Some cases refused to cooperate, expressing annoyance with our presence during their training sessions. Frequent changes in the gym schedule also required repeated visits to gather information, as the cases sometimes felt tired after training, limiting the available time.

## 12. Results Presentation and Analysis:

### 12.1 first case:

The first case is an 18-year-old female with severe obesity, demonstrated excellent cooperation with the researcher during data collection.

#### 12.1.1 Presentation of interview results:

**Health status axis:** The case has been suffering from obesity since adolescence and stated that she does not suffer from any specific diseases. She believes that her obesity is hereditary because there is a family history of obesity. She mentioned that she followed a diet without consulting a nutrition specialist, which initially helped her lose the excess weight, but after stopping the diet, she gained even more weight.

The case mentioned that she has been engaged in sports since childhood (swimming and volleyball) because her parents work in the field. Currently, she follows a diet alongside her sports activities.

**Psychological status axis:** The case expresses her concern and dissatisfaction with her excess weight. She adds that she prefers to have a thin physique to be elegant in her attire and wear what she likes. She also states that she does not compare herself to others or care about their opinions. What matters to her is her own perception of herself, self-love, and being satisfied with herself. Therefore, she considers her excess weight to be a small problem and wants to lose it to maintain her health and beauty. She does not believe that obesity is a hindrance in her life because she is not ashamed of her appearance.

**Social status axis:** The case has a very good relationship with her mother and goes with her wherever she goes. However, she faces problems with her father, as their relationship is not good, according to the case, due to frequent arguments between him and her mother. Regarding her relationship with her two siblings, it is mostly good, except with her younger brother, with whom she often disagrees. As for the case's companions, she states that she does not have female companions and prefers to accompany her mother. She also mentions

that she gets along better with her male classmates than with females because, according to her, females are hypocritical.

**Future aspirations axis:** The case believes that she has succeeded in losing weight and is consistent in exercising. She is considering engaging in other sports besides aerobics and is determined to lose more weight to be completely satisfied with her appearance. She does not consider undergoing specialized treatment and believes that if she loses a significant amount of weight in the future, she will become more agile and attractive. She has made a decision to continue exercising and not to stop.

### 12.1.2 Scale Results Presentation:

To calculate the self-esteem level according to the Cooper Smith scale, we divide the total number of points obtained by the number of items (25) and multiply by 100 to get the percentage.  $15 \div 25 \times 100 = 60\%$ .

The case obtained 15 points, equivalent to 60%, which means that her self-esteem is classified as high.

### 12.1.3 Analysis of Interview Content and Self-Esteem Scale for the first case:

According to the interview results, it appears that the case loves herself very much, which makes her dissatisfied with her appearance and not accepting her obesity. She believes that obesity hinders her life, so she insists on changing her appearance. This aligns with items (1, 2, 10, 14). The case also shows distress about her family situation and tension in her relationship with her father. She sees her mother as a loyal friend and does not want to have friendships with her peers, which corresponds to items (6, 11, 20).

Although the case obtained a high percentage on the self-esteem scale, she stated and confirmed that she is not satisfied with her appearance and wants to change for the better. She is prepared to continue exercising and desires to diversify her physical activities. This explains the characteristic of transcendence that the case exhibits. Despite facing internal conflicts and tension due to her obesity, she excels in her work and achieves social acceptance. She is determined to change her body shape, as indicated by the self-esteem scale result.

## 12.2 second case

The second case is a 52-year-old married woman and mother of two daughters. After calculating her body mass index (BMI), it was found that she suffers from severe obesity. She has completed the third year of secondary education and has been going to the gym for a month and a half.

### 12.2.1 Presentation of interview results:

**Health-related aspect:** The case started experiencing symptoms of obesity with each pregnancy. She believes her obesity is hereditary since her mother, father, and aunts also struggle with the same issue. She does not suffer from any specific medical condition. The case mentioned trying various diets, one of which was supervised by a specialist doctor, through which she managed to lose 20 kg. She also engaged in several sports activities such as volleyball and swimming, which helped her lose weight. However, she quickly regained the weight after stopping these activities.

**Psychological aspect:** The case does not like her body shape, particularly the sagging skin, abdomen, buttocks, and chest when she wears clothes she dislikes. She experienced psychological relief after engaging in sports and successfully losing weight. However, she still compares herself to slim women and desires to become like them. In the case's own words, "I want to change from being a fat woman to being like them." The case also mentioned that others' opinions about her obesity matter to her as she feels uncomfortable with the looks she receives. She appreciates positive comments about her body shape because negative remarks have a negative impact on her mental well-being. Additionally, the case expressed fear in making important decisions in life due to a previous failed decision regarding her choice of husband, which has led to daily problems.

**Social aspect:** The case states that she is forced to live with an irresponsible husband but cannot separate from him for the sake of her daughters, with whom she shares a strong and loving relationship. Her daughters encourage her to engage in sports and lose weight. She also maintains friendships with peers, even those younger than her, with whom she feels comfortable discussing her concerns and preoccupations.

#### **12.2.2 Presentation of self-esteem scale results:**

The case obtained 11 points on the self-esteem scale, which corresponds to 44%. This indicates that her self-esteem is categorized as average.

#### **12.2.3 Analysis of interview content and self-esteem scale results for the second case:**

Based on the interview content, it is evident that the second case suffers from severe obesity, which she considers to be hereditary. She is 1.58 meters tall and weighs 95 kg. She managed to lose 7 kg since starting her sports activities but remains dissatisfied with her body shape. This dissatisfaction is reflected in specific items of the self-esteem scale (3, 12, 15, 18, 24). The case also exhibits hesitation in making important decisions in life, as indicated by her response to item 4. She experiences constant distress due to the lack of compatibility with her husband and negative comments about her weight from her surroundings, as reflected in items 6, 9, 12, and 20. However, she compensates for these challenges by forming friendships with women of different ages, with whom she finds solace and can discuss her concerns (items 5, 8, 25).

The self-esteem scale results align with the interview content, demonstrating that the case is dissatisfied with her body and feels bothered by the opinions and remarks of those around her. However, she is not an isolated individual due to her ability to easily form friendships with other women. She remains determined to reduce her weight through consistent engagement in sports activities or by diversifying her exercise routine, if necessary.

#### **12.3 the third case:**

The third case is a 43-year-old married woman and a mother of two children, aged 25 and 21. She suffers from severe obesity, and after calculating her body mass index, she has been exercising for months and has managed to lose 7 kilograms.

##### **12.3.1 Presentation of interview results:**

**Health axis:** According to the information provided by the case, her obesity symptoms started when she traveled to a European country, where she was not paying attention to her unbalanced and increasing food intake, which led to excessive weight gain. She also suffers

from a thyroid gland disease, which she says is the first case in her family. In addition, she experiences a slipped disc in the lower lumbar vertebrae, which has led the doctor to advise her to exercise and lose weight in order to alleviate the daily pain she experiences.

**Psychological axis:** The respondent complains about her obesity and says that she does not like her body shape, especially her abdominal area. She also states that she respects other people's opinions about her body shape and aims to lose weight for her own satisfaction, not for others. She imagines her body shape after losing weight. Furthermore, she does not see obesity as an obstacle that prevents her from enjoying her life. She says that she lives for herself and wants to lose weight to satisfy herself, not to change others' perception of her. She believes that her health is more important than her body shape.

**Social axis:** The case works in a confectionery shop where she enjoys and excels in her work. She says that she has a good relationship with her family members. She adds that her retired husband asks her to exercise to change her daily routine and improve her health. The rest of her family members also encourage her, especially after noticing the changes in her before and after exercising.

**Future aspirations axis:** The case states that she was happy with her success in losing weight in a short period, which made her decide not to seek the help of a specialist in nutrition or cosmetic surgery to reduce fat. She will not repeat the experience of following a strict diet, especially after experiencing health problems in the past due to an extreme diet she had followed.

### **12.3.2 Presentation of the self-esteem assessment results:**

After applying the self-esteem assessment scale, the case obtained 19 points, which corresponds to 76%, placing her in the category of high self-esteem.

### **12.3.3 Analysis of the interview content and self-esteem assessment results for the third case:**

Based on the interview results, it appears that the case lives in a stable and loving family environment. Although she does not like her body shape, especially her abdominal area, this does not prevent her from enjoying her life and pursuing her hobby, which has become her profession. The case also states that she wants to lose weight for herself only, as confirmed by her answers to items (3, 15, 18) in the assessment scale. It is evident that she loves her life and work very much and spends most of her time on them, as indicated by her answers to items (6, 9, 16, 20, 22). She is determined to continue losing weight, especially after her recent success in exercising.

The results of the Cooper Smith self-esteem scale indicate that the respondent has high self-esteem, which explains her high morale, especially with the encouragement of her family members to achieve her goals. Her commitment to regular exercise has enabled her to lose 7 kilograms. She loves her life and work, which distracts and occupies her thoughts regarding her health. She is also confident in herself and wants to lose weight without resorting to a nutrition specialist or cosmetic surgery in order to improve her health.

### **12.4 the fourth case:**

The case is 22 years old, unmarried, living in a simple family, and suffering from severe obesity. After regular exercise, she managed to lose 13 kilograms.



#### 12.4.1 Presentation of the interview results:

**Health-related aspect:** The participant stated that symptoms of obesity started appearing during adolescence. She expressed shock at the sudden change in her appearance and added that her obesity is genetic, as her father and paternal grandmother also suffer from the same problem. She confirmed that she does not have any chronic illnesses and started exercising at the age of 18. She has been practicing aerobics in a specialized gym for the past three months and successfully managed to lose weight.

**Psychological aspect:** The participant mentioned being concerned about her excess weight, particularly the shape of her abdomen, which she cannot hide despite her efforts. She constantly compares herself to slim women and wishes to be like them. She is determined to achieve that goal. She believes that her obesity does not prevent her from attending family gatherings. The participant also stated that she often hesitates when making decisions and was surprised by her rapid weight loss, as well as her family's reaction. She considers these factors as motivation to lose the excess weight.

**Social aspect:** The participant lives with a simple family consisting of her mother, father, two brothers, and two sisters. According to her, everyone loves and supports her, especially in her exercise routine. They opposed the strict diets she followed in the past, which led to her developing anemia, but she has since recovered.

**Future aspirations:** The participant mentioned benefiting greatly from regular exercise and expressed her commitment to continue with it. She stated that she will not return to strict diets after her previous failed attempts. She envisions herself becoming slim in the future.

#### 12.4.2 Presentation of the self-esteem assessment results:

After applying the self-esteem assessment, the participant obtained a score of 16, which corresponds to 64%, indicating high self-esteem.

#### 12.4.3 Analysis of the interview results and self-esteem assessment for the fourth case:

Based on the interview results, it is evident that the participant is bothered by her obesity, particularly her abdominal area. She constantly compares herself to other slim girls, which aligns with her responses to the self-esteem assessment items (2, 3, 15, 21) Furthermore, she lives in a supportive family that encourages exercise rather than strict diets, confirming the corresponding items (6, 9, 11, 20)

**13. General Discussion:** Based on the results obtained from the research group through directed interviews and the Cooper Smith Self-Esteem Scale, we were able to identify psychological traits that allow us to determine the level of self-esteem among overweight women who engage in regular physical activity. All the cases in the study suffered from severe obesity, which could have led to low to moderate self-esteem levels, as confirmed by the findings of a study by Mohammed Al-Qadhafi (1993) who stated, "A person with a disability or deformity tends to feel inadequate." However, three cases in the research group had high levels of self-esteem, while one case had a moderate level of self-esteem.

The three cases that achieved a high level of self-esteem benefited greatly from their consistent engagement in exercise, especially as they failed to achieve weight stability through dietary restrictions. The researcher also observed that they lived in families that supported their exercise practices instead of focusing solely on dieting. This aligns with

Ziller's view that an individual's self-esteem depends on others' perspectives and opinions, in other words, how others evaluate that individual. Successful social situations enhance a healthy self-esteem, and vice versa. It is evident that these individuals are willing to continue their exercise routines while also expressing a desire to diversify their physical activities.

As for the case that obtained a moderate level of self-esteem on the self-esteem scale, she has only been attending the gym for a month and a half. She is dissatisfied with her body shape and feels uncomfortable with the looks and comments from her surroundings, especially her husband. However, she compensates for the lack of social support by creating friendships with women in her surroundings.

It is worth noting that the results of the current study differ significantly from the findings of Zamour and Nehnan's study (2015), which focused on the self-esteem of women between the ages of 34 and 50 suffering from severe obesity, aiming to determine the relationship between severe obesity and self-esteem. The previous study concluded that women with severe obesity have low self-esteem. The discrepancy in results with the current study can be attributed to the engagement of the women in our study in regular physical exercise, which distinguishes our research group. This supports the hypothesis of the current study, which suggests that overweight women who engage in regular physical activity have high self-esteem.

#### 14. CONCLUSION

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