

## Evaluation of Self-Esteem and Quality Of Life of the Individuals with Different Body Mass Index Who Participated in Physical Activities

Mehmet Cagri Cetin

Mustafa Kemal University, School of Physical Education and Sports, Department of Physical Education and Sports Teacher, Hatay, Turkey.

[mccetin80@gmail.com](mailto:mccetin80@gmail.com)

**Abstract:** The aim of the present research was to determine the levels of self-esteem and quality of life of the individuals who participated in physical activities at the fitness centers / sports halls in terms of Body Mass Index (BMI) variable. The population of the study which was carried out using survey-model was consisted of individuals who were members of 16 fitness centers/sports halls located in Hatay Province. The sample of the research was composed of 427 adult individuals who were selected through random sampling method and participated in physical activities in these fitness centers/sports halls for at least three months. Self-esteem Scale developed by Arıcak (1999) was used in order to measure self-esteem of the participants. World Health Organization Quality of Life Scale Short Form, Turkish version WHOQOL-BREF TR designed by Eser (1999) was used in order to measure quality of life of the participants. It was found out in the study that there was significant difference between BMI values of the individuals who participated in physical activities and self esteem scale and all of the subscales of the quality of life scale. As a result, it was noted that self esteem and quality of life of the individuals with different BMI values who regularly participated in physical activities decreased as their weight-values increased.

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### 1. Introduction

To be a respected person in the society requires that person to show respect for himself. Self-respect is an important attitude that is demonstrated in relation with "self-concept" identified as self-knowledge and self-evaluation (Köknel, 1985). Self-concept is a term formed according to our opinions of our own personality and point of views. Therefore, self-concept may also be described as the exclusive part of the personality. Self-concept, which is named as a dynamic costume of the individual's opinions about his characteristics, abilities, value judgments and ideals, is the awareness of the individual about his identify (İkizler and Karagözoğlu, 1997; Karakoç, 2010). Individual with a healthy self concept accepts his own strong and weak characteristics using criticisms reflected from the environment. Individuals with high self esteem make mistakes less and become more successful and thus may feel more valuable (Patrick et al., 2004).

To Chrzanowski, such natural characteristics of the person as intelligence, physical appearance, body structure are the essence that establishes self-esteem. Life experiences, culture, society, family and environmental factors play a vital role in the formation of this concept, too (Chrzanowski, 1981). Positive psychological characteristics such as self-confidence, optimism, wish to succeed and not submitting in the face of difficulties are present among those with high

self-esteem. On the other hand, people with low self-esteem have poor self-confidence, easily give away to despair and -in short- are more inclined to develop negative psychological symptoms (Yörükoğlu, 1988).

Many researches have demonstrated that there are benefits of physical activities upon mental health and that physical activities may be used as a suitable help-strategy in improving psychological functions of the individual (Aşçı, 2004). Individuals with sufficient level of body image in physical aspects are expected to show higher level of positive self-concept (Kulaksızoğlu, 2005; Yavuzer, 2002). Many researches have revealed that individuals are worried about their body structures and body images. When individuals, who become under the effect of the body image introduced by the culture and fashion as the ideal, experience dilemma between the ideal body image and their real body image (Kulaksızoğlu, 2005); it may be said that this situation directly affects their self-esteem; which is therefore emphasized by many studies. Literature points out that physical activities play a key role in having a healthy and presentable body (Kavussanu and McAuley, 1995; Marsh, et al., 1997; Wilkins et al., 1988; Jackson et al., 1999; Jaffee and Manzer, 1992, Kim et al., 2004; Alfermann and Stoll, 2000). It may be suggested that an indirect correlation may exist between exercising and self-esteem and body image (Aine and Lester, 1989). However; it is seen that the number of the studies that

have examined self-esteem of the people who perform physical exercises in relation with BMI is very small and these studies have –rather- been conducted in clinical psychiatry.

Quality of life is a broad term that includes not only personal health condition but also personal well-being. World Health Organization describes quality of life as the individual's perceptions of life in the context of their own culture and value systems (Eser and et al., 2008). According to some researchers, quality of life is considered as the expression of individuals' satisfaction from life and their personal well being as a whole (Belek, 1996; Fider et al., 1999).

The term “quality of life” is used to demonstrate the correlation between health condition and functional capacity and to show how individuals perceive themselves in these circumstances. Health-related quality of life is about the fact that individuals feel good and covers a general point of view of their health condition. Health-related quality of life includes not only absence of diseases but also individuals' psychological activeness, their feeling good and their life satisfaction (Lamaonte, 2001).

Physical activities are increasingly important in the sense that they reduce the risk of many different diseases and therefore promotion of physical activities in public health is very significant. Physical activities increase physical, mental and social welfare level of individuals and play an important role in increasing quality of life (Hamer et al., 2009; Ware and Sherbourne, 1992). When considered the fact that obesity is a health problem, weight problem is associated with numerous factors such as genetic, psychological and life style factors. It may be argued that physical activities not only expand life-span by improving physical health but also rehabilitate the individual psychologically.

In light of these information presented, our research topic was to find out how related the quality of life of the individuals who performed fitness activities and their self-esteem in terms of BMI. There are studies about self-esteem and quality of life of the individuals who participated in physical activities in literature. Yet, when these studies are analyzed, it is seen that they have been conducted - particularly- with individuals with chronic diseases and have inquired clinical and psychiatric aspects. Our research has investigated self-esteem and perceptions about quality of life of the individuals who regularly participated in fitness activities in relation with their BMI and has especially highlighted psycho-social factors.

## 2. Materials and Methods

### 2.1. Research Model

In the research; general survey model –one of the descriptive study methods- was used. Survey method is a research model used on the purpose of

representing existing condition (Karasar, 2005).

### 2.2. Population and Sample

The population of the study was consisted of 748 individuals who were members of 16 fitness centers/sports halls located in Hatay Province in 2011 year. The sample of the research was composed of 427 individuals who were selected through random sampling method from 784 individuals consisted of the population. The implementation of the method of random sampling in accordance with the information received from the authorities in fitness centers/sports halls was determined days and hours when most athletes and each different day and at different times by going to the fitness centers/sports halls three times a week questionnaire was applied to participants.

WHO BMI classification [BMI<18.5: underweight, (n=30); BMI 18.5-24.9: normal weight, (n=153); BMI 25.0-29.9: slightly overweight, (n=147); BMI 30.0-39.9: moderately overweight, (n=71) and BMI ≥ 40.0: morbidly obese, (n=26)] was used while determining the BMI of the participants and they were classified into five groups.

### 2.3. Data Collection Tools

**Self Esteem Scale:** In the research, Self-esteem Scale which was developed by Arıcak (1999) for the adults was used in order to measure self-esteem levels of the participants who attended fitness centers. It is a five point Likert type scale composed of 32 items. There are five factors in the scale: Self-worth, self-confidence, depressive affect, self-sufficiency, success and prolificacy. The Cronbach alpha reliability coefficient was .90 and test-retest reliability coefficient was .70. Content validity of the scale was approved by the opinions of 34 experts from 9 nine universities. Factor analysis technique was used in order to test construct validity of the scale. Being similar to Rosenberg's Self-esteem Scale; validity coefficient was determined .69 (Arıcak, 1999).

Arıcak (1999) summarized the subscales of the scale as follows:

*Self-worth:* Attributing values characteristics that is present or that should be present in oneself.

*Self-confidence:* Attributing values –mainly- to one's own characteristics and approving oneself through these values.

*Depressive Affect:* Individual's perception about himself as more helpless and weak.

*Self-sufficiency:* Individual's realization of his expectations and objectives in mental and behavioral sense.

*Success and Prolificacy:* Individual's considering himself as successful and useful enough (Arıcak, 1999).

**World Health Organization Quality of Life Scale Short Form, Turkish version WHOQOL-BREF TR:** WHOQOL-BREF (TR) is a scale

composed of 26 questions in total; 2 questions from the main part and one question from the other 24 parts of the original scale.

To the contrary of the long scale, WHOQOL-BREF is consisted of 4 domains. It has not got separate parts, neither a total score. Each domain is scored over maximum 20 points or 100 points. The type of the scoring is up to the researcher's preference. But, 20-point scoring system is more generally used in our country. When Turkish edition of the scale with 27 questions (the 27<sup>th</sup> question is national question) is used, Environment domain score is termed as Environment-Tr. In this case; Environment-Tr score is used instead of Environment score. Quality of life increases as the score increases (Aydemir and Koroğlu, 2006). In the present research; 20-point scoring system was used.

The validity and reliability tests of the Turkish edition were performed by Eser et al. (1999 a,b). In accordance with the decision made in the 1<sup>st</sup> European WHOQOL Symposium held in Leipzig in 1997; the users are needed to send their data to WHOQOL Turkiye center with a summarized report (Karabilgin, 2001). The calculation of the scores of the domains is performed by WHOQOL Turkiye center.

*Physical Health:* activities of daily living, dependence on medicinal substances and medical aids,

energy and fatigue, mobility, pain and discomfort, sleep and rest, work capacity

*Psychological Health:* Bodily image and appearance, Negative feelings, Positive feelings, Self-esteem, Spirituality / Religion / Personal beliefs, Thinking, learning, memory and concentration

*Social Relationships:* Personal relationships, Social support, Sexual activity

*Environment:* Financial resources, physical safety and security, Health service accessibility, Home environment, opportunities for recreation / leisure activities, Physical environment, Transport (Eser et al., 1999 a,b).

#### 2.4. Analysis of the Data

SPSS 15.00 statistical software was used for the analysis of the data obtained from the data collection tools. Kolmogorov-Smirnov test was used whether the data followed a normal distribution or not and as a result it was seen that the data followed a normal distribution. Therefore, one way analysis of variance was used for the comparisons of triple or more groups comparisons. Tukey HSD multiple comparison tests were used to determine the source of the differences found significant after ANOVA. Results were considered significant at  $p < 0.05$ .

### 3. Findings

**Table 1. Results Of One Way Analysis Of Variance Demonstrating The Comparisons Of Mean Scores Of Self Esteem Scale Of The Participants In Terms Of BMI Variable**

	BMI	n	$\bar{X}$	Ss	DF	F	P	Tukey
Self-value	a Underweight	30	28.06	5.11				
	b Normal weight	153	27.31	4.48	4			a-e
	c Slightly overweight	147	26.72	4.20	422	5.648	0.000*	b-e
	d Moderately overweight	71	26.19	4.39	426			c-e
	e Morbidly obese	26	23.19	5.21				d-e
Self-confidence	a Underweight	30	36.83	5.94				
	b Normal weight	153	36.16	5.14	4			a-e
	c Slightly overweight	147	35.80	4.93	422	3.828	0.005*	b-e
	d Moderately overweight	71	34.35	5.70	426			
	e Morbidly obese	26	32.76	5.27				
Depressive Affect	a Underweight	30	20.80	3.23				
	b Normal weight	153	19.59	3.80	4			a-e
	c Slightly overweight	147	19.38	3.72	422	3.785	0.005*	b-e
	d Moderately overweight	71	18.76	3.63	426			
	e Morbidly obese	26	17.26	3.91				
Self-sufficiency	a Underweight	30	20.70	3.74				
	b Normal weight	153	20.54	3.25	4			a-e
	c Slightly overweight	147	20.51	3.27	422	2.648	0.033*	b-e
	d Moderately overweight	71	19.94	3.77	426			c-e
	e Morbidly obese	26	18.38	4.01				
Success and prolificacy	a Underweight	30	24.30	4.12				
	b Normal weight	153	23.90	3.72	4			a-e
	c Slightly overweight	147	23.74	3.47	422	3.522	0.008*	b-e
	d Moderately overweight	71	23.16	3.60	426			c-e
	e Morbidly obese	26	21.23	4.14				
Total score	a Underweight	30	130.70	17.64				
	b Normal weight	153	127.52	17.20	4			a-e
	c Slightly overweight	147	126.16	15.59	422	5.619	0.000*	b-e
	d Moderately overweight	71	122.42	17.29	426			c-e
	e Morbidly obese	26	112.84	18.53				

\* $P < 0.05$

**Table 2. Results Of One Way Analysis Of Variance Demonstrating The Comparisons Of Mean Scores Of Whoqol-Bref (TR) Domains Of The Participants In Terms Of BMI Variable**

	BMI	n	$\bar{X}$	Ss	DF	F	P	Tukey
Physical Health Domain	a Underweight	30	15.90	2.37				
	b Normal weight	153	16.10	2.07	4	5.489	<b>0.000*</b>	<b>b-d</b> <b>c-d</b>
	c Slightly overweight	147	15.79	2.35	422			
	d Moderately overweight	71	14.72	2.28	426			
	e Morbidly obese	26	14.85	2.78				
Psychological Health Domain	a Underweight	30	15.24	2.06				
	b Normal weight	153	15.72	2.15	4	6.057	<b>0.000*</b>	<b>b-d</b> <b>b-e</b> <b>c-e</b>
	c Slightly overweight	147	15.19	2.26	422			
	d Moderately overweight	71	14.56	2.25	426			
	e Morbidly obese	26	13.79	2.72				
Social Relationships	a Underweight	30	14.80	3.49				
	b Normal weight	153	15.71	2.57	4	12.803	<b>0.000*</b>	<b>a-e</b> <b>b-d</b> <b>b-e</b> <b>c-d</b> <b>c-e</b>
	c Slightly overweight	147	14.88	3.14	422			
	d Moderately overweight	71	13.40	2.87	426			
	e Morbidly obese	26	12.20	3.14				
Environment-TR	a Underweight	30	14.74	2.47				
	b Normal weight	153	14.78	2.16	4	4.447	<b>0.002*</b>	<b>b-d</b> <b>b-e</b> <b>c-d</b> <b>c-e</b>
	c Slightly overweight	147	14.58	2.25	422			
	d Moderately overweight	71	13.68	2.34	426			
	e Morbidly obese	26	13.40	2.70				

\*P&lt;0.05

#### 4. Discussion

The following results were obtained from the study which was carried out to determine the levels of self-esteem and quality of life of the individuals who participated in physical activities at the fitness centers in terms of Body Mass Index (BMI) variable:

When the subscale “self-worth” of the Self-Esteem Scale was analyzed, it was found out that self-worth of underweight, normal weight, slightly overweight and moderately overweight participants was higher than those morbidly obese. It may be suggested that self-worth of the participants decreased as their BMI values increased; which may be related to perception of the participants about how they were regarded by significant others in their social environments, too. Overweight may lead to negative body image perceptions for people. Therefore; almost all over the world beauty is considered equal with thinness and it is thought that those who care about their weight and body love themselves and their bodies and thus have high self-worth (Sadock et al., 2000). There are parallel results in the studies conducted. Guinn et al.,(1997) reported that an inverse correlation existed between BMI values and self-esteem of the university students who participated in fitness program and discovered that self-worth levels of the participants decreased with high weights. The study of Merrill and Swapan (1991) on the college students who participated in physical activity program revealed that self-worth of the students who perceived their body images positively was higher. Foster et al. (2004) conducted one-year behavior therapy program where there were physical activities and told that 17 obese women had higher

self-worth and increased body image with weight loss at the end of the program. The study of Lowery et al. (2005) on university students who participated in physical activities discovered that self-worth decreased among the students with low body images. It may be said that the findings of the above-mentioned studies are in agreement with ours.

Another finding which was explored in the study was that those with underweight and normal weight had lower depressive affect and self-confidence perceptions compared to those morbidly obese. This result may be due to the fact that morbidly obese participants regard themselves more helpless and weaker in the social life compared to those not obese. The relevant literature contained studies that supported this finding. The study of Simon (2008) on middle-aged women concluded that depressive affect was correlated with physical activity and body mass index. Pınar (2002) reported that there was a negatively significant correlation between depression and body images of those obese people who attended to sports halls. Alici and Pınar (2008) pointed out that self-esteem of the obese people who participated in exercise program together with healthy life and nutrition program increased at the end of the program and that their depression levels decreased. The studies conducted on self-confidence of the subjects (Eremiş et al., 2004; Dallar et al., 2006) demonstrated that self-confidence perceptions of the obese children was considerably lower than those with normal weight.

When total score and the subscales “self-sufficiency” and “success and prolificacy” of the Self-Esteem Scale were analyzed, it was noted that

mean scores of underweight, normal weight and slightly overweight participants were considerably lower than those morbidly obese. In other words; it may be argued that level of realization of their own expectations and realization of their objectives decreased in the mental and behavioral sense with increased weight and thus their perception to feel successful and useful decreased. The findings of Huang et al. (2007) showed that weight of the overweight individuals who participated in diet and physical activity program decreased at the end of the program and thus their self-esteem increased; which was in parallel to the results of our research. Wadden and Stunkard (1985) claimed that the society is prejudiced against overweight people due to their unpleasant appearances and that the society considers them lazy, idly and insufficient in many aspects. Therefore, other people come to the conclusion that overweight people do not have enough motivation for success and prolificacy due to the fact that overweight obese people themselves have the belief that they are not accepted by their own social environments. Total score of self esteem is minimum 72 and maximum 160 (Arıca, 1999). Accordingly, it may be said that underweight participants (130.70), normal weight participants (127.52) and slightly overweight participants (126.16) had self-esteem levels above the average whereas morbidly obese participants had self-esteem below the average but not too much low; which indicates that physical activities play an important role in the improvement of self-esteem. The studies of Jaffee and Manzer, (1992); Kim et al., (2004); Alfermann and Stoll (2000) on different groups reported that physical activity was an important factor that increased self-esteem.

When “physical health domain” of the Quality of Life Scale of the participants who did physical exercises was analyzed, it was discovered that normal weight and slightly overweight participants had higher “physical health domain” scores compared to moderately overweight people. It may be concluded that normal weight and slightly overweight people have better physical abilities such as performing activities of daily living better, feeling physically stronger and having a more improved work capacity than moderately overweight people. However, there are different studies in the literature. Kruger et al. (2007) discovered that individuals with normal weight who performed physical activities had better physical abilities than those with overweight. But; Değirmenci (2006) emphasized that individuals with normal weight had significantly lower mean scores of “physical health domain” than obese individuals. Schwimmer et al. (2003) reported that health-related quality of life of the obese children and obese

adolescents was significantly lower than normal weight children and obese adolescents. Besides, Doll et al. (2000) explored that physical functioning decreased with increased BMI values among the English adults. Although there was not a significant difference in the research, it was not an expected result that mean scores of those morbidly obese ( $\bar{X}=14.85$ .) were higher than moderately overweight participants ( $\bar{X}=14.72$ ). These findings may be originating from the fact that morbidly obese participants continuously adopted a passive life style in their daily livings because they may have internalized the decrease in the physical activities in time and may not be aware of their physical inabilities.

Significant differences existed between participants’ BMI and their “psychological health domain” and “environment” of the subscales of the Quality of Life Scale. It may be said that normal weight participants perceived their psychological and environmental factors more positively than moderately overweight participants and morbidly obese participants, and so did slightly overweight participants compared to morbidly obese participants. It is assumed as a generally accepted idea that pleasant physical appearances of the individuals are effective in increased self-confidence and being mentally and psychologically stronger. It may be argued that the participants who were overweight had negative body perception and thus were inclined to get away from positive emotions; which may –in time- affect mental functions negatively -such as thinking, learning, memory and attention- too. Again, it may be suggested that with low weight the participants become more able to use environmental factors such as physical safety and security, transport, home environment and opportunities for recreation / leisure activities. There are studies that support our findings in literature. Kruger et al. (2007) reported that individuals who had low BMI and performed physical activities were mentally more active. In the study of Doll et al. (2000) on adults it was discovered that unproportional weight in body caused negative mental and psychological outcomes.

In the present research, when “social relationships” domain of the Quality of Life Scale of the participants was analyzed, it was discovered that morbidly overweight participants were socially more active than underweight participants and normal weight participants while moderately participants were socially more active compared to normal weight participants and slightly overweight participants.

In the study of Alici and Pmar (2008) it was explored that social functions of the individuals who participated in diet and exercise program increased at

the end of the program due to the decrease in their BMI. Our results concurred with this result which showed that physical appearances of the individuals are important factors in their social relations. It may be concluded that the participants are subjected to social isolation due to their physical appearances caused by overweight; which may affect their social, emotional and sexual abilities negatively, too.

## 5. Conclusion

It was seen in the study that individuals involved in fitness activity in parallel with increase of BMI, self-esteem and quality of life decrease. Having ideal body size of individuals, in terms of their social and mental health can be said to play important role to reach healthy life. In society needs to be improved short and long term policies having scientific content and removing the weight problem interest particularly many segments and creating a healthy society. The future studies may involve comparison of the individuals who have different BMI values and perform physical activities and those who do not. Thus, it may be discovered to what degree physical activities affect self-esteem and quality of life of the individuals with different weights who do sports and who do not.

## Corresponding Author:

PhD. Mehmet Cagri Cetin

Mustafa Kemal University, School of Physical Education and Sports, Department of Physical Education and Sports Teacher, Hatay, Turkey. Tel.: +90-326-245-5205; fax: +90-326-245-5216.

*E-mail address:* [mcetin80@gmail.com](mailto:mcetin80@gmail.com)

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