

# The Determining Role of Positive and Negative Affect, Life Satisfaction and Self-Esteem Levels of Physical Activity Participants In State Mindfulness For Physical Activity

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## ABSTRACT

**Objectives:** The aim of this study is the determinant role of positive and negative affect, life satisfaction and self-esteem levels of physical activity participants in state mindfulness for physical activity.

**Methods:** This research was conducted with the participation of a total of 261 (age: 30.74 ± 8.68) volunteers from 141 women and 120 men who regularly practice yoga. In addition, the exercise or physical activity experience of the volunteer participants in the study was 4.34 ± 4.88. In the study, besides the Personal Information form created by the researchers as data collection tools, the Life Satisfaction Scale, the Rosenberg Self-Esteem Scale, the State Mindfulness Scale for Physical Activity were used.

**Result and Conclusions:** As a result, it can be said that physical activity participants' Positive affect, life satisfaction and self-esteem levels are positively correlated with state mindfulness. At the same time, it can be said that the negative affect of the participants are negatively related to mindfulness.

**Key words:** Mindfulness, self esteem, life satisfaction, negative affect, positive affect, physical activity

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## INTRODUCTION

There is the need to act in the nature of the human species. Human beings need to act in order to defray their physiological needs. The conditions in which people have confine to the movement of modern life needs. Therefore, although researchers concentrate on subjects such as physical activation, participation in physical activity; They sought to investigate the positive and negative affect, life satisfaction, self-esteem and state mindfulness and similar issues. In the Turkish literature, there is no consensus on the words expressed regarding the meaning of the word 'mindfulness', but it is generally regarded as conscious awareness and it is seen that it is also used in meanings such as wise awareness and non-judgmental awareness. Similarly, Uzun (2019) suggests the word awareness for the Turkish equivalent of mindfulness (Güldal, 2019). Mindfulness; It is defined as being present without judgment and openness in the present moment without mental, physical or environmental stimuli (Bishop et al., 2004; Brown & Ryan, 2003).

In contemporary psychology, mindfulness is seen as a tool to respond best to mental processes that contribute to emotional distress and maladaptive behavior and to increase mindfulness (Alberts & Hülshager, 2015). On the other hand, Brown and Ryan (2003) stated that mindfulness can be thought of as an increased interest in current experience or current reality and mindfulness. When the concept of mindfulness is viewed from the perspective of social relations as well as physical and mental health, it is seen that the interest in its potential benefits has increased at the international level (Janssen et al., 2018). Mindfulness programs, which are being implemented in schools with this increasing interest, are also used as a method to develop new ideas to nourish the physical and mental health and well-being of children and to increase interest in how to develop behavioral habits (Shonkoff, Boyce, & McEwen, 2009).

Previous research (Williams, et al., 2001; Reibel, 2001; Baer, 2003; Davidson, et al., 2003; Robinson, et al., 2003) on the effects of group-based mindfulness interventions (e.g. those with chronic pain, anxiety, eating and major depressive disorders, fibromyalgia, psoriasis or cancer ) has focused on benefits for various patient groups. These studies found that mindfulness reduced stress sensitivity, increased stress management, improved concentration, improved physical endurance, and reduced symptoms of anxiety and depression. New studies (McCarney, et al., 2012; Witkiewitz et al., 2014; Hoge, et al., 2013; Davis, et al., 2015; Black & Slavich, 2016; Mason, et al., 2016; Creswell, 2017) have reported the positive effects of mindfulness interventions on chronic pain, immunity, generalized anxiety disorders, eating disorders, relapse of depression, addiction and fibromyalgia. On the other hand, the concept of life quality, which has a significant role in people's lives, has been a matter of curiosity for researchers. Aşan and Eren (2008) define life quality as the degree to which the individual evaluates the quality of his / her life in a positive way as a whole or, in other words, to what extent the individual enjoys the life he / she is in and manages and expresses his / her feelings about his / her general life. Life quality, within the framework of the culture and importance of the individual; It is defined as an understanding of his life situation in connection with his goals, hopes, standards and desires. Therefore, life quality is the physiological, psychological and social well-being of the person. This kindness; Physical health, mental state, community and relationships with the environment affect (Johnson, et at., 2014). Life satisfaction of the individual is a concept that is most of time based on feeling.

The affect or emotional reaction is a basic indicator of psychological functioning. Two valuable dimensions named Positive Affect (PA) and Negative Affect (NA) have been defined as general factors of emotional experience (Erin &

Scott, 2011). Emotion, in its most known definition, focuses on how the person understands himself with his intuition and how the things he understands affect the person. Accordingly, the concept of emotion plays an important role in how it affects the person while being handled positively and negatively. While positive affect is expressed as a state of excessive joy in the person, negative affect is described as an extreme sadness (Cropanzano, 2003). It has been shown in many studies that physical activity has a positive affect on psychological well-being (PWB) (Ortega et al., 2008; Kristjansson et al., 2010). Participation in physical activity can improve both positive and negative affect and self-esteem of individuals (Calfas & Taylor 1994; Ekeland et al., 2005).

According to Rosenberg (1965), self-esteem states that an individual's essence is reliable, valuable and important, and includes opinions about his essence, love, reward, and liking. Kernis et al., who conducted the most interesting studies using the Rosenberg Self-Esteem Scale, stated that self-esteem variability has a negative relationship with self-report measures such as social acceptance, physical attractiveness, and competence, while it has a positive relationship with the individual's self-consciousness and emotional disorder in social context (Oosterwegel et al., 2001). As physical activity is recognized as an important tool for improving public health, it is recommended to the general population by many medical organizations, including the Centers for Disease Control and Prevention (CDC) and the American College of Sports Medicine (ACSM). Physical activity recommended for the treatment and even prevention of depressive disorders, anxiety, psychiatric diseases; It is also recommended more in non-psychiatric diseases to improve the life quality and to protect and improve mental, physical and mental health (Peluso & Andrade, 2005). Whether participation in physical activity has a positive or negative affect on the mood, life satisfaction and self-esteem of individuals has been examined from various perspectives

(Calfas & Taylor, 1994; Peluso & Andrade, 2005; Kristjansson et al., 2010; Wood et al., 2013). However, it has been observed that there are a limited number of studies examining the relationship between some variables of state mindfulness levels of individuals participating in physical activity. Since the aim of our study is to examine the predictive role of state mindfulness levels on self-esteem, life satisfaction and positive and negative affect, it is about the level of the relationship between variables.

**METHOD**

Since the study aims to examine the predictive role of state mindfulness for physical activity levels on self-esteem, life satisfaction and positive and negative affect, it is about the level of the relationship between variables. It is a descriptive research in correlational survey model. Survey model is a research method used to describe the past and present situations as they are without any effect (Karasar, 2002). In the survey model, it is aimed to analyze the data obtained from a certain number of subjects or objects within a specified time period (Arseven, 2001). The use of the survey model is not difficult because it does not harm the order in the institution where the research is to be conducted and does not cause difficulties for the participants (Kaptan, 1999). The correlational survey model is a research model that aims to determine whether there is a relationship between two or more variables (Karasar, 2002).

**Participants:** This research was conducted with the participation of a total of 261 (age: 30.74 ± 8.68) volunteers, 141 women and 120 men who regularly practice yoga. In addition, the exercise / physical activity experience of the volunteer participants in the study was 4.34 ± 4.88. Information about the participants can be seen in Table 1.

Table 1. Demographic characteristics and information of the participants

Variable		n	%
Gender	Female	141	54
	Male	120	46
How many years have you been doing physical activity / exercise?			
	1-2 years	133	50.9
	3-4 years	44	16.9
	5-6 years	34	13.0
	7 years or above	70	19.2

**Data Collection Tools:** In the research, besides the Personal Information form created by the researchers as the data collection tool, the Life Satisfaction Scale, the Rosenberg Self-Esteem Scale Panas and the State Mindfulness for Physical Activity Scale were used.

**Life Satisfaction Scale:** In determining the life satisfaction of the individuals participating in the study, Diener et al. "Life Satisfaction Scale" developed by (1985) was used. The scale was adapted to Turkish by Köker (1991) and Yetim (1991). The scale is a self-assessment scale consisting of 5 items in Likert type ranging from 1 (Not Appropriate) to 7 (Completely Suitable). Köker (1991) determined that the test-retest consistency coefficient of

the scale, which was applied three weeks apart, was .85 (25). Yetim (1991) uses the corrected split-half value of .75 and KuderRichardson-20.

**Rosenberg Self-Esteem Scale:** The self-esteem scale developed by Rosenberg (1965) was adapted to Turkish by Çuhadaroğlu (1986). The scale consists of 63 items and has 12 sub-scales. The self-esteem subscale consisting of only 10 items was used in this study. In the test arranged according to Guttman measurement method, positive and negative items were listed consecutively. According to the internal evaluation system of the scale, subjects score between 0 and 6. In comparisons with numerical measurements, self-esteem is evaluated as high (0-1

points), medium (2-4 points) and low (5-6 points). A high score indicates a low self-esteem, and a low score indicates a high self-esteem. The validity coefficient of the scale was .71 and the reliability coefficient was .75.

**Positive and Negative Affect Scale:** The Positive and Negative Affect Scale, one of the scales used in the study, was developed by Watson, Clark, and Tellegens (1988). The scale has two sub-scales. 10 items of the scale include positive affect (PA) and the other 10 items include negative affect (NA). The scale consists of a five-point Likert type. Scores that can be taken on both sub-scales of the scale range from 10 to 50. The coefficient of internal consistency (Cronbach Alpha) of the scale was .88 for positive affect and .85 for negative affect. When the test-retest consistency of the scale was examined, it was determined as .47 for positive and negative affect. Gençöz (200) carried out the adaptation study of the scale into Turkish. As a result of the adaptation of the scale to Turkish, a structure with two factors, 10 positive and 10 negative affect items, was revealed as in the original scale. The internal consistency coefficients of the scale were set as .83 for positive affect and .86 for negative affect. In this study, only the negative affect scale was used.

**State Mindfulness Scale For Physical Activity:** Developed by Cox, Ullrich-French and French (2016), the "State Mindfulness Scale For Physical Activity" consists of two sub-scales: body sub-scale (6 items) and mind sub-scale (6 items). It is a measurement tool consisting of 12 items in total. Participants can respond to each item using a response range ranging from 0 (none) to 4 (many). The items are averaged and the higher scores obtained represent the higher mindfulness of the body. When the results regarding the internal consistency reliability of the original form are examined, it is seen that the scale total has a value of 90, mind sub-scale, 90, and body sub-scale, 93. The adaptation of the scale to Turkish culture was made by Bayköse, Arı, and Ceylan (2018). In the validity and reliability study of the Turkish form, it was determined that the scale has sufficient psychometric properties. Regarding the validity of the scale, the Cronbach Alpha was reported to be .84 for both sub-scales, and .87 in total.

**Analysis of Data:** SPSS 22 package program was used for the statistical solutions of the data collected within the framework of the general purposes of the study. Before the analysis process, the data set was examined and it was determined that there was no missing or missing data.

Within the scope of the research, multivariate normal distribution has been tested. Multivariate skewness and kurtosis coefficients can be used as a descriptive method to examine the multivariate normal distribution (Gnanadesikan, 2011). The skewness and kurtosis coefficients of the variables in relation to the distribution of the data have been examined and since these values are within acceptable values (Pallant, 2001; Bollen, 1989), it can be said that the data provide a normal distribution (see Table 2.) The margin of error in the statistical analysis of the data obtained from the research was taken as .05. Frequency and percentage analysis, Pearson product-moment correlation coefficient (r) and multiple linear regression analysis were used to analyze the sub-problems of the study.

In this study, frequency and percentage values of the demographic variables of the research are given. "Is there a relationship between physical activity participants' self-esteem, life satisfaction, and positive and negative affect?" Pearson's product-moment correlation coefficient (r) was calculated in calculating the relationships between variables while solving the problem. "Is mindfulness a significant predictor of self-esteem, life satisfaction, and positive and negative affect of physical activity participants?" While analyzing the problem, mean group scores and .05 significance level were taken into consideration while interpreting the significant differences. The predictive variable of the research; While state creates a mindfulness level, the predicted variables are the self-esteem, life satisfaction and positive and negative affect of the subliminals. Multiple linear regression analysis was performed to determine the predictive levels of independent variables for dependent variables. In the interpretation of the regression analysis, standardized Beta ( $\beta$ ) coefficients and t-test results related to their significance were taken into account. Multiple regression analysis is a form of analysis to estimate the dependent variable with the help of two or more independent variables that are related to the dependent variable. It enables the interpretation of the total variance of the dependent variable with the predictor variables, its statistical significance, the significance of the predictor variables, and the direction of the relationship between the dependent variable and the predictor variables (Büyüköztürk, 2013).

Table 2. Normal distribution analysis of research variables

	$\bar{X} \pm SS$	Skewness	Kurtosis
Body Subscale	3,25±0,77	-1.162	1.162
Mind Subscale	2,88±0,94	-.641	-.404
Life Satisfaction	4,63±1,26	-.424	-.390
Self-Esteem	2,36±0,30	-.018	.697
Pozitive Affect	3,73±0,88	-.534	-.441
Negative Affect	1,99±0,79	1.023	.666

## RESULTS

Table 3 shows the analysis of the difference between men and women. For physical activity, a statistically significant difference was found between the genders in body sub-scale and mind sub-scale of mindfulness ( $p < 0.05$ ). Accordingly, values of females are higher than males in both sub-scale.

The correlation analysis between research variables are given in Table 4. A negative correlation was found between negative affect and mind sub-scale, life satisfaction, and self-esteem variables ( $p < 0.01$ ). There is no relationship between negative affect and body sub-scale. Apart from this relationship, a positive relationship was found between both mindfulness for physical activity

sub-scale and life satisfaction, self-esteem, and positive affect variables.

Table 3. Analysis of the difference between men and women according to research variables

	Female		Male		t	p
	n	$\bar{X} \pm SS$	n	$\bar{X} \pm SS$		
Body Subscale	141	2.99±0.86	120	2.75±1.01	2.095	.037*
Mind Subscale	141	3.38±0.70	120	3.10±0.82	2.943	.004*
Life Satisfaction	141	4.70±1.25	120	4.55±1.27	1.002	.317
Self-Esteem	141	2.38±0.29	120	2.34±0.32	1.030	.304
Positive Affect	141	2.71±0.90	120	3.74±0.86	-0.221	.826
Negative Affect	141	1.93±0.76	120	2.07±0.82	1.389	.166

Table 4. Relationship analysis between research variables

	1	2	3	4	5
Body Subscale	1				
Mind Subscale	.541**	1			
Life Satisfaction	.262**	.300**	1		
Self-Esteem	.198**	.229**	.343**	1	
Positive Affect	.318**	.483**	.534**	.329**	1
Negative Affect	-.083	-.313**	-.211**	-.254**	-.366**

Table 5. State mindfulness as a predictor of self-esteem

Model	R	R <sup>2</sup>	Adj. R <sup>2</sup>	F	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	95,0% Confidence Interval for B	
					B	Std. Error	Beta				Lower Bound	Upper Bound
(Constant)	.245	.060	.053	8.228	2.044	.080			25.388	.000	1.885	2.202
Mind Subscale					.034	.023	.105		1.458	.146	-.012	.079
Body Subscale					.067	.028	.172		2.397	.017	.012	.122

Dependent Variable: self-esteem \*\*p<0,01

Table 6. State mindfulness as a predictor of life satisfaction

Model	R	R <sup>2</sup>	Adj. R <sup>2</sup>	F	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	95,0% Confidence Interval for B	
					B	Std. Error	Beta				Lower Bound	Upper Bound
(Constant)	.322	.104	.097	14.966	2.895	.330			8.775	.000	2.245	3.545
Mind Subscale					.191	.094	.142		2.022	.044	.005	.376
Body Subscale					.365	.115	.223		3.184	.002	.139	.591

Dependent Variable: life satisfaction \*\*p<0.01

Table 7. Mindfulness as a positive affect predictor

Model	R	R <sup>2</sup>	Adj. R <sup>2</sup>	F	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	95,0% Confidence Interval for B	
					B	Std. Error	Beta				Lower Bound	Upper Bound
(Constant)	.488	.238	.232	40.256	1.874	.212			8.818	.000	1.455	2.292
Mind Subscale					.076	.061	.080		1.245	.214	-.044	.195
Body Subscale					.503	.074	.439		6.803	.000	.357	.648

Dependent Variable: positif affect \*\*p<0.01

Table 8. Mindfulness as a negative affect predictor

Model	R	R <sup>2</sup>	Adj. R <sup>2</sup>	F	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	95,0% Confidence Interval for B	
					B	Std. Error	Beta				Lower Bound	Upper Bound
(Constant)	.330	.109	.102	15.742	2.964	.207			14.310	.000	2.556	3.372
Mind Sub-scale					.104	.059	.122		1.752	.081	-.013	.220
Body Sub-scale					-.391	.072	-.379		-5.432	.000	-.533	-.250

Dependent Variable: negative affect \*\*p<0.01

In Table 5, body sub-scale and mind sub-scale, which are sub-scales of state mindfulness for physical activity, are given as predictors of self-esteem. In the model created with state mindfulness for physical activity sub-scales, only

body sub-scale predicts self-esteem approximately 6%. The F value for the model is statistically significant. The self-esteem value detected when sub-scales of mind from the state mindfulness for physical activity sub-scales is

removed is 2.04 (Constant). One unit increase in body sub-scale size changes self-esteem by 0.07. When body sub-scale t values are examined, it is seen that all parameters are significant ( $p < 0.05$ ).

In Table 6, body sub-scale and mind sub-scale, which are sub-scales of state mindfulness for physical activity, are given as the predictor of life satisfaction. In the model created with mindfulness sub-scales predict approximately 10% of life satisfaction. The F value for the model is statistically significant. The life satisfaction value determined without any change in mindfulness is 2.89 (Constant). One unit increase in mind sub-scale size increases life satisfaction by 0.191, and one unit increase in body sub-scale size increases by 0.365. When the t values of the predictors are examined, it is seen that all parameters are significant ( $p < 0.05$ ).

In Table 7, body sub-scale and mind sub-scale, which are sub-scales of state mindfulness for physical activity, are given as the predictor of positive affect. In the model created with mindfulness sub-scales predict positive affect 24%. The F value for the model is statistically significant. Positive affect value detected without any change in mindfulness sub-scales are 1.87 (Constant). One unit of increase in mind sub-scale increases positive affect by 0.08, but this result is not statistically significant. A one-unit increase in body sub-scale increases positive affect by 0.50. When the t values of the predictors are examined, it is seen that only the body sub-scale parameter is significant ( $p < 0.05$ ).

In Table 8, body sub-scale and mind sub-scale, which are sub-scales of state mindfulness for physical activity, are given as the predictor of negative affect. In the model created with mindfulness dimensions, 11% predicts negative affect. The F value for the model is statistically significant. Mindfulness sub-scales positive affect value detected without any change is 2.96 (Constant). One unit increment of mind sub-scale increases negative affect by 0.10. However, this result is not statistically significant. One unit increment in body sub-scale reduces negative affect by -0.39. When the t values of the predictors are examined, it is seen that only the body sub-scale parameter is significant ( $p < 0.05$ ).

## DISCUSSION AND CONCLUSION

The aim of this study was to examine the role of positive and negative affect, life satisfaction, and self-esteem determining state mindfulness of physically active participants. This research was conducted with the participation of a total of 261 volunteers, 141 women and 120 men who regularly practice yoga. When the findings obtained as a result of the study were examined, a statistically significant difference was found between the genders in the dimensions of body mindfulness and mind mindfulness, which are the sub-dimensions of mindfulness for physical activity. According to the findings, the values of women are higher than men in both sub-scale.

When the literature was examined in line with this information, an important study was conducted by Alispahic & Hasanbegovic-Anic (2017) in the sample of participants from Bosnia-Herzegovina, according to the gender variable. In the study, it was stated that there is a significant difference in favor of female participants from

Observing subscale. It was also stated that there is a significant difference in favor of male participants in terms of acting with awareness subscale.

According to previous research in the literature, women in general are much better at observing details and also at multitasking (doing many things at the same time) than men. Generally, women tend to focus more on focusing on a task than men. They are also aware of doing this (Stoet, O'Connor, Conner, & Laws, 2013).

A negative correlation was found between the negative affect variable and the variables of mind subscale, life satisfaction, and self-esteem. It was determined that there was no relationship between the negative affect variable and the body subscale variables. Apart from this relationship, a positive relationship was found between both the mindfulness sub-dimensions for physical activity and the variables of life satisfaction, self-esteem, and positive affect. Body subscale of mindfulness self-esteem has been found to be a positive predictor. It was also found that body and mind subscale are a positive predictor of life satisfaction. In addition, body subscale was found to be a positive predictor of positive affect. Finally, body subscale was found to be a negative predictor of negative affect.

These findings suggest that self-esteem can be a key factor in supporting a positive lifestyle and reducing negative emotion. These findings will allow clinicians and researchers to develop interventions that specifically address and target the processes underlying mindfulness. The theoretical basis of this view is that high mindfulness makes the individual less preoccupied with negative emotions and thoughts, increases self-esteem further, and that improved self-esteem acts as a protective factor for people against feelings associated with anxiety. (Greenberg et al., 1992; Pepping et al., 2013, Taylor & Brown, 1988).

There are some limitations to this research that must be accepted. First, this study had a cross-sectional design that made it difficult to establish a causal relationship between variables. In future research, researchers can undertake a mediation model, longitudinal research, or experimental studies.

As a result, it can be said that physical activity participants' Positive affect, life satisfaction and self-esteem levels are positively correlated with state mindfulness. At the same time, it can be said that the negative affect of the participants are negatively related to mindfulness.

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