

## ORIGINAL SCIENTIFIC PAPER

# The Influence of Demographic, Educational, and Athletic Factors on Women's Self-Worth in Physical Activity

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## Abstract

This study aims to answer whether women's self-worth assessments regarding physical activity vary based on age, marital status, education level, and whether or not they have a sports license. A total of 242 women aged 18-60 residing in Türkiye were selected through simple random sampling. The participants were classified into young adults (18-39 years) and middle-aged adults (40-60 years) based on life stages identified in the literature. Data were gathered using the "Women's Physical Activity Self-Worth Inventory (WPASWI)", developed by Huberty et al. (2013) and validated in Turkish by Yurtçiçek and Kömürcü (2019), alongside a demographic questionnaire. The findings revealed significant effects of educational attainment and athletic participation on self-worth. Women with higher education scored higher in knowledge ( $\bar{x}=54.61$ ,  $SD=9.82$ ) and emotional self-worth ( $\bar{x}=45.60$ ,  $SD=8.09$ ) than those with primary education ( $\bar{x}=47.70$ ,  $SD=15.57$  and  $\bar{x}=38.23$ ,  $SD=13.61$ , respectively;  $F(2, 239)=7.110$ ,  $p<.05$ ). Women who held an athlete's license demonstrated greater self-worth ( $\bar{x}=124.75$ ,  $SD=13.30$ ) compared to non-athletes ( $\bar{x}=114.54$ ,  $SD=23.56$ ;  $t=3.53$ ,  $p=.001$ ), with notable differences in knowledge and emotional dimensions but not in the social sub-dimension. These results highlight the role of education and athletic involvement in fostering women's self-worth. Tailored strategies emphasizing personalized and socially inclusive approaches are essential to enhance engagement in physical activity. Promoting regular participation in physical activity remains pivotal to improving well-being and self-worth across diverse demographics.

**Keywords:** *emotional health, social dynamics, educational impact, athletic engagement*

## Introduction

Physical activity involves any bodily movement requiring energy expenditure, encompassing intentional actions like exercise and incidental movements in daily life (Gascoigne et al., 2023; Orhan, 2021). It is defined by the engagement of skeletal muscles and the resulting energy expenditure, often contributing to calorie loss (Broskey et al., 2021; Piggini, 2020). Also, its health benefits are well-established across diverse demographic groups, including variations in age, gender, ethnicity,

and levels of sports participation (Olson et al., 2023; Orhan, 2021). Research consistently highlights its diverse benefits, such as preventing weight gain, enhancing cognitive function, and lowering the risk of chronic conditions like dementia and cancer (Aune et al., 2016; Orhan, 2021; Warburton, Nicol & Bredin, 2006; Waxman, 2004). It also plays a vital role in addressing conditions such as osteoarthritis, high blood pressure, and type 2 diabetes, with obesity being recognized as a significant factor that worsens these health issues (Li et al.,



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2024; Orhan, 2021). Global health guidelines recommend at least 150 minutes of moderate-intensity physical activity per week to optimize these benefits, with adjustments based on individual fitness levels and health conditions (Huberty et al., 2013; Orhan, 2021; WHO, 2018).

Its physical health advantages include that physical activity significantly shapes self-perception through emotional well-being and social connections, especially among women (Huberty et al., 2013; Orhan et al., 2023; Orhan et al., 2024; Robinson et al., 2020; Roh, 2018). Self-worth, a crucial component of self-perception, reflects an individual's overall sense of value and satisfaction (Dvorsky et al., 2019; Tubic & Djordjic, 2015). Studies consistently reveal a strong association between physical activity and enhanced self-worth, with active individuals demonstrating higher self-esteem than their sedentary counterparts (Kılıç & Yıldırım, 2020; Reddon, Meyre, & Cairney, 2017). The positive effect on self-worth, in turn, leads to mental and physical well-being (Hajihosseni, 2015).

Regular physical activity has been shown in studies to be associated with increased self-worth in women and supports their psychological well-being (Huberty et al., 2013; Orhan et al., 2023). It has also been shown to reduce depressive symptoms while enhancing self-esteem in middle-aged populations (Orhan, 2021; Zhang & Tian, 2022). Moreover, early maturation in adolescent girls can lead to a decrease in moderate-to-vigorous physical activity, which may, in turn, lower self-worth (Cumming et al., 2020). Social isolation is also linked to decreased physical activity levels and self-esteem, particularly in older adults (Musich et al., 2022; Schrepft et al., 2019). In some studies, education level is not significantly associated with physical activity-related self-worth, while others highlight that women with lower education levels engage in less leisure-time physical activity, potentially impacting their self-worth indirectly (Kılıç & Yıldırım, 2020; Mitáš et al., 2019; Pop & Ciomag, 2024). Although current studies have highlighted the beneficial effects of physical activity on psychological factors, further research is needed, especially regarding age and gender differences (McAuley, Mihalko, & Bane, 1997; McDonald & Ho, 2002). Understanding how gender dynamics influence perceptions of physical activity and self-worth is crucial for developing targeted strategies to enhance women's overall well-being through participation in physical activity (McDonald & Ho, 2002).

This study aims to answer whether women's self-worth assessments regarding physical activity vary based on age, marital status, education level, and whether or not they have

a sports license. This study seeks to deepen the understanding of the relationship between women's self-worth and physical activity by examining the effects of physical activity on various factors, with a primary focus on self-worth.

**Materials & Methods**

*Research Model*

This study employs a cross-sectional survey model, as described by Cresswell (2012) and Karasar (2012), to assess women's self-worth in physical activity at a specific time. This approach captures current attitudes and opinions without monitoring changes over a period.

*Participants of the Study*

The sample size for this study was calculated using G\*Power 3.1.9.7 (Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany). Based on a two-tailed test, a 0.50 effect size, a 0.05 margin of error, a 95% confidence level, and a 95% power (Faul et al., 2007), the study required a minimum of 210 participants. However, the final sample size exceeded this minimum requirement to account for potential missing data or outliers.

The research population is women between 18 and 60 living in Türkiye, and the sample is 242 women. While selecting the sample of the research, a simple random sampling method was used because the probability of selection of individuals in the universe is the same, and the selection of an individual does not affect the selection of other individuals (Büyükoztürk et al., 2023). While determining the age range of the sample group, life stages in the literature (Erikson, 1993; Robinson, Demetre & Litman, 2017) were used, and the 18-39 age group was defined as a young adult, and the 40-60 age group was defined as a middle adult. Written informed consent was received from all participants of the study. Before starting the research, the present study received approval from the Scientific Research and Publication Ethics Committee of Istanbul Aydın University, Social and Human Sciences (Approval code: 2023/11).

Considering the characteristics of the sample group, the study included 242 women, of whom 159 were young adults aged 18-39, and 83 were middle-aged adults aged 40-60. Among the participants, 147 were married, and 95 were single. Regarding education, 30 participants were primary school graduates, 49 were secondary school graduates, and 163 were higher education graduates. Additionally, 76 participants held an athlete's license, while 166 did not. The percentage distributions of these characteristics are presented in Table 1.

**Table 1.** Percentage distributions of the demographic characteristics of the sample group.

	Age group		Marital Status		Graduation Status		Athlete License				
	n	%	n	%	n	%	n	%			
Young adults	159	65.7	Married	147	60.74	Primary school	30	12.40	With	76	31.4
Middle-aged	83	34.3	Single	95	39.26	Secondary school	49	20.25	Without	166	68.6
					Higher education	163	67.35				

*Data Collection Tool*

In the study, data were collected using the “Women's Physical Activity Self-worth Inventory (WPASWI)”, which was developed by Huberty et al. (2013) to determine women's physical activity self-worth and whose Turkish validity and

reliability were confirmed by Yurtçiçek and Kömürcü (2019). The researchers developed the Personal Information Form to determine the participants' age, marital status, graduation level and whether they have a sports license.

WPASWI is a 37-item multidimensional, four-point

Likert-type scale, with response options ranging from Strongly Disagree (1) to Strongly Agree (4). Total scores range from 37 to 148, with higher scores indicating greater Self-Worth. The inventory comprises three subscales: Knowledge Self-Worth (items 1-16), Emotional Self-Worth (items 17-29), and Social Self-Worth (items 30-37).

To evaluate the scale's validity, Explanatory Factor Analysis (EFA) was conducted, yielding a Kaiser–Meyer–Olkin (KMO) value of 0.90 and a statistically significant Bartlett's test result ( $p < 0.001$ ). The analysis identified a three-factor structure accounting for 42.55% of the total variance, confirming the scale's multidimensionality. Confirmatory Factor Analysis (CFA) further validated the structure, with fit indices of RMSEA=0.049, RMR=0.042, CFI=0.90, IFI=0.90, AGFI=0.83, and GFI=0.86 ( $\chi^2=1120.53$ ,  $df=595$ ,  $p=0.00$ ,  $\chi^2/df=1.88$ ; Yurtççek & Kömürçü, 2019).

Reliability was assessed through internal consistency and split-half reliability. The total scale's Cronbach's alpha was 0.91, with a split-half reliability coefficient of 0.74, both exceeding the accepted threshold of 0.70. Subscale reliabilities ranged from 0.80 to 0.89, demonstrating the scale's robustness (Yurtççek & Kömürçü, 2019). These results confirm that the Turkish version of the WPASWI is valid and reliable for evaluating non-physical aspects of self-worth related to physical activity.

#### Analysis of Data

The data set was first examined in the data analysis, and seven answers outside the age range of 18-60 were deleted. After organizing the data, normality values were examined to determine the analysis method, and since human variability is in question in social sciences, the value of .05 was taken as basis (Coşkun et al., 2020). The data were found to be normally distributed, allowing for the application of parametric statistical methods. Descriptive statistics, including percentages and means, were calculated to summarize participants' demographic characteristics and responses. Inferential statistics included independent samples t-tests to compare groups based on marital status and athlete license status and one-way analysis of variance (ANOVA) to assess differences in self-worth scores across education levels, with post hoc tests identifying specific group differences. Pearson's correlation analysis was also conducted to explore relationships between continuous variables like age and self-worth scores. All analyses were performed using IBM SPSS Statistics (version 25), ensuring the precision and reliability of the statistical computations.

#### Results

Table 2 states that the average score for women's self-worth feelings toward physical activity was 117.75, based on the scale used in the study.

**Table 2.** Descriptive Statistics of Women's Feelings of Self-Worth Towards Physical Activity.

	Self-Worth Total
Valid	242
Mean	117.75
Std. Deviation	21.39
Minimum	37.00
Maximum	148.00

According to Table 3, the t-test results showed no significant relationship between women's age and their self-worth scores related to physical activity ( $t=1.001$ ;  $p > .05$ ). Therefore, women's feelings of self-worth regarding physical activity do not change

according to age. The sub-dimensions of the women's self-worth scale for physical activity were also examined separately. Since there was no significant difference in the sub-dimensions according to age, they are not separately stated in the table.

**Table 3.** Descriptive Statistics and T-test Results of Women's Self-Worth Feelings Total Scores for Physical Activity by Age Variable.

	Age Groups	$\bar{x}$	sd	t	p
Total Score	18-39	118.74	19.08	1.001	.318
	40-59	115.84	25.26		

**Table 4.** Descriptive Statistics and T-test Results of Women's Self-Worth Feelings Total Score for Physical Activity, According to Marital Status Variable.

	Group	$\bar{x}$	sd	t	p
Total Score	Married	117.31	21.98	-0.399	.690
	Single	118.43	20.55		

According to Table 4, the t-test results showed no statistically significant difference in self-worth scores related to physical activity between married and single women ( $t=-0.399$ ;  $p > .05$ ). Sub-dimension analysis also revealed no significant differences by marital status; thus, these results are not detailed in the table.

As shown in Table 5, a one-way analysis of variance revealed a statistically significant difference in self-worth scores

related to physical activity across women's graduation levels ( $F(2, 239)=7.110$ ;  $p < .05$ ). Post hoc analyses indicated significant differences in total scores and the knowledge and emotional sub-dimensions between primary and secondary education and between primary and higher education levels. No significant differences were observed between secondary and higher education levels. Scores in the social sub-dimension were similar across all graduation levels (Table 6).

**Table 5.** Descriptive Statistics and ANOVA Results for Women’s Self-Worth Total Scores in Physical Activity by Graduation Level

Graduation Level	M	SD	F	p
Primary Education	104.80 <sup>ab</sup>	31.85	7.11	.001*
Secondary Education	122.25	19.25		
Higher Education	118.78	18.74		

M - Mean; SD - Standard Deviation; p<.05; a - significant differences between primary and secondary education; b- significant differences between primary and higher education levels.

**Table 6.** Descriptive Statistics and ANOVA Results for Women’s Self-Worth Sub-Dimensions by Graduation Level

Sub-Dimension	Graduation Level	n	M	SD	Group Comparison	Mean Difference (MD)	Standard Error (SE)	p
Knowledge	Primary Education	30	47.70	15.57	Primary vs. Secondary	-7.77	2.47	.008*
	Secondary Education	49	55.47	9.69	Primary vs. Higher	-6.91	2.12	.005*
	Higher Education	163	54.61	9.82	Secondary vs. Higher	0.86	1.74	.884
Emotional	Primary Education	30	38.23	13.61	Primary vs. Secondary	-8.52	2.08	.001*
	Secondary Education	49	46.76	8.28	Primary vs. Higher	-7.36	1.78	.001*
	Higher Education	163	45.60	8.09	Secondary vs. Higher	1.16	1.46	.730
Social	Primary Education	30	18.87	6.35	Primary vs. Secondary	-1.15	1.34	.690
	Secondary Education	49	20.02	5.98	Primary vs. Higher	0.29	1.15	.969
	Higher Education	163	18.58	5.61	Secondary vs. Higher	1.44	0.94	.310
Total	Primary Education	30	104.80	31.85	Primary vs. Secondary	-17.45	4.84	.002*
	Secondary Education	49	122.25	19.25	Primary vs. Higher	-13.98	4.15	.004*
	Higher Education	163	118.78	18.74	Secondary vs. Higher	3.47	3.40	.595

M - Mean; SD - Standard Deviation; p<.05.

Table 7 shows a significant difference in self-worth scores related to physical activity between women with and without an athlete’s license (t=3.526; p<.05). Sub-dimension analysis

indicated significant differences in the knowledge and emotional sub-dimensions, while no difference was observed in the social sub-dimension.

**Table 7.** Descriptive Statistics and T-test Results for Women’s Self-Worth Total and Subscale Scores in Physical Activity by Athlete License Status

Subscale	Group	M	SD	T	p
Total	Having	124.75	13.30	3.53	.001*
	Not Having	114.54	23.56		
Knowledge	Having	58.55	6.59	4.67	.001*
	Not Having	51.81	11.78		
Emotional	Having	47.84	6.12	3.38	.001*
	Not Having	43.58	10.17		
Social	Having	18.36	5.70	-1.00	.318
	Not Having	19.16	5.82		

M - Mean; SD - Standard Deviation; p<.05.

## Discussion

This study found that findings give insight into how physical activity affects women's self-worth and relates to key demographic and personal variables about women who hold an athlete's license and/or have a higher education level. One of the most significant findings of this study is the positive association between educational attainment and self-worth related to Physical activity, particularly in the knowledge and emotional sub-dimensions. Higher education levels demonstrated enhanced self-worth compared to those with primary education. This aligns with previous research suggesting that education fosters a greater understanding of the benefits of physical activity, which can, in turn, enhance feelings of competence and emotional well-being (Mitáš et al., 2019; Zhang & Min, 2022). This relationship may be linked to greater health literacy and awareness among individuals with higher levels of education. Educated individuals may have better access to physical activity benefits and are likelier to adopt healthy lifestyle behaviours, leading to improved self-perceptions (Huberty et al., 2013). Higher education often provides access to social environments that encourage participation in physical activity, enhancing emotional and psychological well-being. Notably, the lack of significant differences in self-worth between secondary and higher education indicates that even basic education can foster a positive perception of physical activity. These findings emphasize the potential to close the gap among individuals with lower education levels by introducing targeted educational programs or interventions that encourage awareness and participation in physical activity.

Holding an athlete's license impacted self-worth, especially in the knowledge and emotional sub-dimensions. Individuals with an athlete's license scored higher in self-worth than those without a license. This finding aligns with previous research emphasizing the role of structured sports participation in developing self-efficacy, discipline, and a sense of accomplishment (Haugen et al., 2011; Ouyang et al., 2020). This relationship can be attributed to the opportunities for skill development, goal-setting, and social interactions organized sports provide. Licensed athletes likely have greater exposure to positive reinforcement and team dynamics, contributing to their emotional and knowledge-based self-worth.

Additionally, participating in sports requires overcoming challenges and reaching milestones, which can boost self-esteem and foster a sense of accomplishment. No significant differences were observed in the social sub-dimension of self-worth. This finding suggests that while sports participation enhances personal and emotional dimensions of self-worth, it may not significantly influence perceived social self-worth. Further research should investigate the extent to which the nature of sports affects the social aspects of self-worth as a function of different attributions for success and failure.

Contrary to expectations, this study found no significant relationship between age, marital status and self-worth in physical activity. These findings differ from many prior studies that have identified age as a key factor influencing self-esteem and physical activity engagement (Cumming et al., 2020; Zhang & Tian, 2022). Findings suggest that self-worth in physical activity is more strongly associated with education and prior sports participation than with demographic variables such as age or marital status (Kılıç & Yıldırım, 2020). There are no significant differences accounted for by differ-

ences in age, however, this could reflect the homogeneity of the sample's activity levels, or cultural factors that normalize physical activity across life stages. Similarly, marital status has no notable effect, this might indicate that social roles and responsibilities do not substantially alter perceptions of self-worth in this context. These results suggest a more individualized approach when promoting lifestyle changes rather than focusing on broad demographic characteristics.

The findings underscore the role of education and sports participation in enhancing self-worth through physical activity. Tailored interventions that address educational disparities and promote access to structured sports programs could significantly improve engagement with physical activity. For example, community-based initiatives that provide education on the benefits of physical activity, and also offer affordable opportunities for the community to participate in sports, may be particularly effective. Future research should explore additional factors influencing women's self-worth, such as socioeconomic status, cultural attitudes, and personal experiences. Integrating qualitative research methods will offer a deeper understanding of women's lived experiences and the challenges faced when participating in physical activity. Longer-term studies are needed to examine how self-worth changes in response to research over time.

The study presents certain limitations. Firstly, there is a constrained exploration of variables, with a focus on age, marital status, education levels, and holding an athlete's license, potentially overlooking other pertinent factors like socioeconomic status, cultural attitudes towards physical activity, or specific life events that could contribute to a more holistic understanding. Secondly, the reliance on a single measurement tool, the WPASWI, although validated, may need to be revised to allow for more profound insight. Employing additional measures or a blend of qualitative and quantitative approaches could enrich the study's perspective and enhance the overall comprehensiveness of the findings.

## Conclusions

The research presented compelling evidence that the level of education significantly affects women's self-worth about physical activity, particularly within the realms of knowledge and emotional response. Women with higher educational attainment tend to have more positive self-perceptions associated with physical activity. Moreover, women who hold an athlete's license report heightened self-worth, especially in knowledge and emotion, underscoring the positive influence of active sports participation on self-image. The study highlights that combining personal preferences and socio-demographic variables shape women's attitudes towards physical activity. To promote physical activity among women and foster an enhanced sense of self-worth, the study advocates for implementing initiatives that cater to personal and societal factors. While these findings should be cautiously applied to the general population, they underscore the need for additional research that factors in age, marital status, and educational background. Regular physical activity is a boon to women's wellness and self-esteem, regardless of personal circumstances. In summary, the study emphasizes the critical role of community support in motivating and sustaining healthy lifestyle choices, acknowledging the substantial benefits that physical activity confers on women's well-being and self-worth.

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**Conflict of Interest**

The authors report no conflict of interest.

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