



Year : 2025
Volume : 9
Issue : 2
Pages : 153-167

The Mediating Role of Positive Self-Perception on Psychological Distress, Empathy and Mental Toughness in Athletes

Sermin Ağralı Ermiş¹  Nisanur Canikli Temel²  Rabia Yıldız Öztürk³  Ebru Dereceli⁴ 

¹Aydın Adnan Menderes University, Faculty of Sports Sciences, Aydın-Türkiye, s.agrali.ermis@adu.edu.tr, <https://orcid.org/0000-0002-9653-233X>

²Aydın Adnan Menderes University, Faculty of Sports Sciences, Aydın-Türkiye, ncanikli@adu.edu.tr, <https://orcid.org/0000-0002-7736-8247>

³Mersin University, Faculty of Sports Sciences, Mersin-Türkiye, rbyldz1@gmail.com, <https://orcid.org/0000-0003-0911-6459>

⁴Aydın Adnan Menderes University, Faculty of Sports Sciences, Aydın-Türkiye, edereceli@adu.edu.tr, <https://orcid.org/0000-0002-7021-1001>

✉Corresponding Author: edereceli@adu.edu.tr

Please cite this paper as follows:

Ağralı Ermiş, S., Canikli Temel, N., Yıldız Öztürk, R. & Dereceli, E. (2025). The Mediating Role of Positive Self-Perception on Psychological Distress, Empathy and Mental Toughness in Athletes. *International Journal of Recreation and Sport Science*, 9(2), 153-167. <https://doi.org/10.46463/ijrass.1694950>

Article History

Received:

09.05.2025

Accepted:

11.08.2025

Available online:

17.10.2025



ABSTRACT

This study employed a relational and predictive correlational design within the framework of quantitative research. To examine the mediating role of positive self-perception, regression analyses were conducted to determine predictive relationships among variables. The sample consisted of 303 athletes studying at a state university in the Aegean Region during the fall semester of 2024. Data were collected via an online questionnaire approved by the ethics committee and distributed through Google Forms. All scales used were previously adapted into Turkish with confirmed psychometric properties. The Oxford Positive Self Scale, Empathy in Sports Environment Scale, DASS-21, and Mental Toughness Scale showed acceptable reliability (Cronbach's $\alpha > 0.70$) and construct validity based on previous studies. Internal consistency was recalculated and found to be adequate. Data were analyzed using SPSS with independent t-tests, ANOVA, Pearson correlation, and simple linear regression. Results revealed significant positive correlations between positive self-perception and both empathy and mental toughness, and a negative correlation with psychological distress. Regression analyses showed that positive self-perception significantly predicted empathy and mental toughness and helped reduce psychological distress, highlighting its important role in athletes' psychological and social-emotional functioning.

Keywords: Athlete, self-perception, distress, empathy, mental toughness

INTRODUCTION

In contemporary sports, not only athletes' physical performance but also their psychological resilience and cognitive-emotional processes are considered critical determinants of athletic success (Overtraining, 2002; Gould & Dieffenbach, 2002). The concept of self is a multidimensional construct that encompasses individuals' perceptions of themselves, the attributes to which they assign value, and the evaluations they develop regarding their personal characteristics (Mann et al., 2004). This concept includes various cognitive and emotional processes such as how individuals perceive who they are, how they differentiate themselves from others, and how they interpret their self-

worth. It also involves beliefs individuals hold as true about themselves and the influence of these beliefs on their attitudes (Yavuzer, 2001). In this context, a positive self-perception, which reflects individuals' favorable beliefs and perceptions about themselves, is closely associated with athletes' mental health, empathic tendencies, and levels of mental toughness. Positive self-concept encompasses belief in one's own value and competence and is regarded as a fundamental component of subjective well-being (Freeman et al., 2023).

Empathy is defined as the ability to accurately understand and internalize another person's emotional and cognitive state. In this process, an individual adopts the perspective of

another, approaches situations from their viewpoint, and attempts to comprehend their emotions deeply (Sur, 2025). The understanding of empathy developed by Carl Rogers in the 1970s conceptualizes empathy not merely as emotional resonance but also as a communicative process. According to this approach, empathy involves the conscious effort of an individual to place themselves in another's position, striving to understand their experiences accurately and conveying this understanding to the other party (Dökmen, 2013). Therefore, empathy is considered a dynamic form of interaction grounded in mutual understanding and insight.

In sports settings, empathy plays a crucial role in ensuring healthy team communication, fostering effective leadership behaviors, and cultivating positive group dynamics. The literature indicates that individuals with high levels of self-concept are better able to accurately assess and interpret the emotions of others (Erkuş & Yakupoğlu, 2001). This suggests a potentially significant relationship between empathic capacity and self-perception.

On the other hand, mental toughness is a multidimensional construct that represents various psychological characteristics enabling individuals to achieve success and maintain high performance in the face of adversity. This construct encompasses the cognitive and emotional competencies that allow individuals to function effectively under pressure, stress, and uncertainty (Clough et al., 2002). Mental toughness is a key factor in achieving success in both individual and team sports. Individuals with a high level of positive self-concept are known to be more resilient in the face of challenges, cope more effectively with negative emotions, and pursue their goals with greater determination (Madrigal et al., 2013). Similarly, research has demonstrated an inverse relationship between positive self-concept and psychological distress (Koçyiğit et al., 2024). Negative emotional states such as depression, anxiety, and stress are more prevalent among individuals with low levels of positive self-concept, while positive beliefs about the self have been identified as a protective factor in reducing such psychopathological symptoms (Lovibond & Lovibond, 1995; Sarıçam, 2018).

This study aims to examine the mediating role of positive self-concept in the relationships between psychological distress, empathy, and mental toughness among athletes. The findings are expected to contribute to the development of intervention programs in the field of sport psychology and to the implementation of supportive practices that promote athletes' mental well-being.

METHOD

Research Model

This study employed a correlational survey model, one of the quantitative research methods. Quantitative research is a scientific approach based on measurement and observation, involving repeatable and objective data collection and analysis processes, and interpreting results through

statistical methods (Johnson & Christensen, 2008). The correlational survey model aims to determine the level of association between variables and to reveal these relationships through quantitative data (Karasar, 2022).

Study Group

The study group consisted of 303 university student-athletes actively participating in various sports disciplines during the Fall semester of 2024 at a public university in the Aegean Region. The participants had experience in sports at amateur, semi-professional, or professional levels, and the sample demonstrated a heterogeneous structure in terms of gender, type of sport, and years of experience.

Data Collection Tools

The data used in this study were collected via an online questionnaire following ethical committee approval. Google Forms was used to reach the participants, and the introduction section of the form provided information regarding the purpose of the study, voluntary participation, and confidentiality principles. Participants filled out the form after giving informed consent. Completing the measurement instruments took approximately 10–15 minutes, and individuals responded freely without any external guidance. Of the total 307 responses collected, 4 were excluded from the dataset due to missing data or outliers, resulting in analyses being conducted on 303 valid responses. The characteristics of the measurement tools used are outlined below:

Personal Information Form: Participants were asked to provide demographic and background information such as gender, age, type of sport, and level of sports experience. These data were used to describe the sample and to create subgroups for comparisons between variables.

Oxford Positive Self Scale: The scale, originally developed by Freeman et al. (2023), was adapted into Turkish by Koçyiğit et al. (2024). It is a self-report instrument designed to assess individuals' positive cognitions. The adaptation process involved bilingual experts in the field, and included forward and back translation to ensure semantic equivalence. Necessary revisions were made in line with expert opinions, and the final Turkish version of the scale was created. The scale comprises 8 items and employs a 5-point Likert scale (0 = Do not believe, 1 = Slightly believe, 2 = Moderately believe, 3 = Strongly believe, 4 = Completely believe). Total scores range from 0 to 32, and the scale contains no reverse-coded items.

Empathy in Sports Scale: Developed and validated by Erkuş and Yakupoğlu (2001), the Empathy in Sports Scale (ESS) measures empathy specifically in sports settings. The scale includes two subdimensions, with internal consistency coefficients (Cronbach's alpha) calculated for each. Items 1, 5, 7, 9, and 11 assess emotional empathy in sports, while items 2, 3, 4, 6, 8, 10, 12, 13, 14, 15, and 16 measure cognitive empathy or perspective-taking in sports.

Depression, Anxiety, Stress Scale – 21 (DASS-21): Originally developed by Lovibond and Lovibond (1995) as a 42-item scale and later adapted into Turkish by Sarıçam (2018), this version of the scale includes 21 items across three subscales: depression, anxiety, and stress. The items are rated on a 4-point Likert scale and reflect negative emotional symptoms. Validity and reliability studies conducted in clinical samples yielded Cronbach's alpha values of .87 for depression, .85 for anxiety, and .81 for stress. In non-clinical samples, the reliability coefficients were .68, .66, and .61 respectively for the same subscales. Scoring is not based on total points but is interpreted according to ranges determined by the researcher, as presented in the evaluation table.

Mental Toughness Scale: The Mental Toughness Scale, developed by Madrigal et al. (2013) and adapted into Turkish by Erdoğan (2016), was designed to assess athletes' levels of mental toughness within a sports context. The scale comprises 11 items and demonstrates a unidimensional structure. Participants respond to each item using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). In the validity and reliability study conducted by Erdoğan (2016), the internal consistency coefficient (Cronbach's alpha) was found to be 0.87. Additionally, the test-retest reliability coefficient was determined to be 0.79, indicating that the scale demonstrates strong reliability and consistency over time. Confirmatory factor analysis (CFA) results supported the unidimensional structure of the scale in the Turkish sample as well.

Validity and Reliability

All measurement instruments used in this study were

RESULTS

Table 1. Socio-Demographic Characteristics of Participants

Variable	n	%
Gender	Male	104
	Female	199
Level of Sports Experience	Amateur (1–3 years)	196
	Semi-Professional (3–5 years)	50
	Professional (5+ years)	57
Type of Sport	Individual	200
	Team	103
Total	303	100.0

Table 1 presents the demographic characteristics of the participants. Of the 303 individuals who constituted the study sample, 65.7% were female and 34.3% were male, indicating a predominance of female athletes in the study. Regarding the level of sports experience, 64.7% of the participants were classified as amateur (1–3 years), 16.5% as

previously adapted into Turkish, and their psychometric properties were confirmed through prior research. The Oxford Positive Self Scale, the Empathy in Sports Environment Scale, the Depression Anxiety Stress Scale-21 (DASS-21), and the Mental Toughness Scale demonstrated acceptable levels of internal consistency in earlier studies (Cronbach's $\alpha > 0.70$).

In the present study, internal consistency coefficients (Cronbach's alpha) were recalculated for each scale and found to be within acceptable limits. In addition, the construct validity of the instruments was supported by confirmatory factor analyses reported in the adaptation studies. These results confirm that the tools used are both valid and reliable for use with Turkish athlete populations.

Data Analysis

The data were analyzed using the SPSS statistical software package within a 95% confidence interval and a significance level of 0.05. After transferring the initial 307 responses into the digital environment, 4 cases identified as outliers were excluded from the dataset. Consequently, all analyses were conducted on data from 303 participants. The skewness and kurtosis values obtained in the study ranged between -1.5 and +1.5, indicating that the data met the assumption of normal distribution (Tabachnick & Fidell, 2013). The statistical methods employed in the analysis included descriptive statistics, independent samples t-test, one-way ANOVA, Pearson correlation analysis, regression analysis, and the Tukey post hoc test.

semi-professional (3–5 years), and 18.8% as professional (5 years or more): This distribution suggests that the majority of the sample consists of individuals in the early stages of their athletic careers. In terms of sport type, 66.0% of the participants were engaged in individual sports, while 34.0% were involved in team sports

Table 2. Distribution of Scores on the Oxford Positive Seld Scale, Empathy in Sports Scale, Depression, Anxiety, Stress Scale and Mental Toughness Scale

Dimension	N	Mean	SD	Skewness	Kurtosis	Min	Max
Competence	303	6.11	1.55	-0.466	-0.214	0.00	8.00
Resilience	303	6.20	1.60	-0.514	-0.073	0.00	8.00
Enjoyment	303	6.03	1.56	-0.271	-0.804	2.00	8.00
Character	303	6.74	1.49	-1.089	0.901	0.00	8.00
Oxford Positive Self Total (OPSS)	303	25.09	5.03	-.381	-0.567	9.00	32.00
Emotional Empathy	303	17.20	2.79	-1.115	1.098	7.00	20.00
Perspective Taking	303	33.20	6.68	-0.271	-0.114	11.00	44.00
Empathy in Sports Total (ESS)	303	50.40	8.42	-0.272	-0.297	26.00	64.00
Stress	303	14.34	3.63	0.578	1.027	7.00	27.00
Anxiety	303	14.58	4.53	0.555	0.391	7.00	28.00
Depression	303	13.67	4.3	0.586	0.722	7.00	28.00
DASS-21 Total	303	42.60	11.29	0.507	0.737	21.00	82.00
Mental Toughness Total (MTS)	303	42.46	8.48	-0.625	1.043	11.00	55.00

Table 2 presents the distribution of scores obtained from the measurement instruments used in the study. According to the findings, the participants' mean score on the Oxford Positive Self Scale was 25.09 ± 5.03 . For the Empathy in Sports Scale, the average score was 50.40 ± 8.42 . On the Depression, Anxiety, and Stress Scale (DASS-21), the participants had a mean score of 42.60 ± 11.29 . Regarding the Mental Toughness Scale, the mean score was determined to be 42.46 ± 8.48 . When the skewness and kurtosis values of the scores from the measurement tools were examined, all values fell within the range of -1.5 to +1.5. Therefore, it can be stated that the data met the assumption of normal distribution. Based on this, parametric statistical tests were employed in the data analysis process.

Table 3. Gender-based Differences in Scores on the Oxford Positive Self Scale, Empathy in Sports Scale, Depression, Anxiety, Stress Scale and Mental Toughness Scale

Variable	Gender	N	Mean	SD	Sf	t	p
Competence	Male	104	6,34	1,53	301	1.904	0.06
	Female	199	5,98	1,55			
Resilience	Male	104	6,44	1,55	301	1.877	0.06
	Female	199	6,08	1,61			
Enjoyment	Male	104	6,09	1,65	301	0.482	0.63
	Female	199	6,00	1,51			
Character	Male	104	6,62	1,64	301	-1.014	0.31
	Female	199	6,80	1,41			
Oxford Positive Self Total (OPSS)	Male	104	25,50	5,18	301	1.022	0.30
	Female	199	24,88	4,98			
Emotional Empathy	Male	104	17,02	2,80	301	-0.791	0.43
	Female	199	17,29	2,79			
Perspective Taking	Male	104	35,13	5,40	301	3.707	0.00
	Female	199	32,19	7,07			
Empathy in Sports Total (ESS)	Male	104	52,16	7,44	301	2.647	0.00
	Female	199	49,49	8,76			
Stress	Male	104	14,07	3,44	301	-0.945	0.34
	Female	199	14,49	3,72			
Anxiety	Male	104	13,85	4,82	301	-2.021	0.04
	Female	199	14,95	4,34			
Depression	Male	104	12,75	4,28	301	-2.782	0.00
	Female	199	14,16	4,13			
DASS-21 (Total)	Male	104	40,68	11,31	301	-2.158	0.03
	Female	199	43,61	11,17			
Mental Toughness Total (MTS)	Male	104	43,53	8,68	301	1.591	0.11
	Female	199	41,90	8,34			

The analyses indicate that there were no significant gender-based differences in the overall scores of the Oxford Positive Self Scale ($t = 1.022$, $p > 0.05$) or in the subdimensions of Competence ($t = 1.904$, $p > 0.05$), Resilience ($t = 1.877$, $p > 0.05$), Enjoyment ($t = 0.482$, $p > 0.05$), and Character ($t = -1.014$, $p > 0.05$). However, a significant gender-based

difference was found in the overall scores of the Empathy in Sports Scale ($t = 2.647$, $p < 0.05$) as well as in the Prediction subdimension ($t = 3.707$, $p < 0.05$). No significant difference was observed in the Emotional Empathy subdimension ($t = -0.791$, $p > 0.05$).

In the Depression, Anxiety, and Stress Scale (DASS-21), significant gender differences were observed in the overall score ($t = -2.158$, $p < 0.05$) and in the Anxiety ($t = -2.021$, $p < 0.05$) and Depression ($t = -2.782$, $p < 0.05$) subdimensions. However, there was no significant difference in the Stress subdimension ($t = -0.945$, $p > 0.05$).

Finally, no significant gender-based difference was found in the overall scores of the Mental Toughness Scale ($t = 1.591$, $p > 0.05$).

Table 4. Age-based Differences in Scores on the Oxford Positive Self Scale , Empathy in Sports Scale, Depression, Anxiety, Stress Scale and Mental Toughness Scale

Variables	N	r	p
Competence	303	,040	0.48
Resilience	303	,046	0.42
Enjoyment	303	,047	0.42
Character	303	,017	0.76
Oxford Positive Self Scale (Total)	303	,046	0.42
Emotional Empathy	303	-,013	0.82
Prediction	303	-,016	0.78
Empathy in Sports Scale (Total)	303	-,017	0.77
Stress	303	-,121	0.03
Anxiety	303	-,121	0.03
Depression	303	-,105	0.06
Depression, Anxiety and Stress Scale (Total)	303	-,127	0.02
Mental Toughness Scale (Total)	303	,034	0.55

The analysis shows that there were no significant differences in the scores based on age for the overall Oxford Positive Self Scale ($r = 0.046$; $p > 0.05$) as well as for the subscales of Competence ($r = 0.040$; $p > 0.05$), Resilience ($r = 0.046$; $p > 0.05$), Enjoyment ($r = 0.047$; $p > 0.05$), and Character ($r = 0.017$; $p > 0.05$).

Similarly, for the Sport Environment Empathy Scale, no significant differences were found based on age for the overall score ($r = -0.017$; $p > 0.05$) as well as for the subscales of Emotional Empathy ($r = -0.013$; $p > 0.05$) and Prediction ($r = -0.016$; $p > 0.05$).

However, for the Depression, Anxiety, and Stress Scale, there were significant differences based on age in the overall score ($r = -0.127$; $p < 0.05$), as well as for the Stress ($r = -0.121$; $p < 0.05$) and Anxiety ($r = -0.121$; $p < 0.05$) subscales. On the other hand, the Depression subscale ($r = -0.105$; $p > 0.05$) did not show any significant difference based on age.

Finally, the Mental Toughness Scale did not show any significant difference based on age either ($r = 0.105$; $p > 0.05$).

Table 5. Differences in Oxford Positive Self-Concept Scale, Sports Environment Scale, Depression , Anxiety Stress Scale

Dimensions	Factor	KT	df	KO	F	p	AF
Competence	Between Groups	57,946	2	28,973	12,968	0.00	1-2,3
	Within Groups	670,239	300	2,234			
	Total	728,185	302				
Resilience	Between Groups	58,372	2	29,186	12,247	0.00	1-2,3
	Within Groups	714,941	300	2,383			
	Total	773,314	302				
Enjoyment	Between Groups	26,898	2	13,449	5,685	0.00	1-2,3
	Within Groups	709,702	300	2,366			
	Total	736,601	302				
Character	Between Groups	8,080	2	4,040	1,805	0.16	
	Within Groups	671,353	300	2,238			
	Total	679,432	302				
Oxford Positive Self Scale (Total)	Between Groups	535,746	2	267,873	11,197	0.00	1-2,3
	Within Groups	7177,283	300	23,924			
	Total	7713,030	302				
Emotional Empathy	Between Groups	49,141	2	24,570	3,191	0.04	1-2
	Within Groups	2310,173	300	7,701			
	Total	2359,314	302				
Prediction	Between Groups	1869,080	2	934,540	24,090	0.00	1-2,3
	Within Groups	11638,233	300	38,794			
	Total	13507,314	302				
Empathy in Sports Scale (Total)	Between Groups	2499,889	2	1249,945	19,822	0.00	1-2,3
	Within Groups	18917,365	300	63,058			
	Total	21417,254	302				
Stress	Between Groups	97,899	2	48,950	3,780	0.02	2-3
	Within Groups	3885,018	300	12,950			
	Total	3982,917	302				
Anxiety	Between Groups	67,448	2	33,724	1,644	0.19	
	Within Groups	6152,321	300	20,508			
	Total	6219,769	302				
Depression	Between Groups	34,209	2	17,104	,952	0.38	
	Within Groups	5388,095	300	17,960			
	Total	5422,304	302				
DASS (Total)	Between Groups	567,041	2	283,521	2,242	0.10	
	Within Groups	37933,223	300	126,444			
	Total	38500,264	302				
Mental Toughness Scale (Total)	Between Groups	1740,413	2	870,206	13,056	0.00	1-2,3
	Within Groups	19995,039	300	66,650			
	Total	21735,452	302				

Groups: 1: Amateur (1-3 years), 2: Half amateur (3-5 years), 3: Profesional(5 years and above)

Analysis shows that the scores obtained from the Oxford Positive Self-Scale total ($F_{2,300}=11.197$, $p<0.05$), Competence ($F_{2,300}=12.968$, $p<0.05$), Resilience ($F_{2,300}=12.247$, $p<0.05$), and Enjoyment ($F_{2,300}=5.685$, $p<0.05$) sub-dimensions differ significantly according to participants' sports experience level. However, no difference was observed in the Character ($F_{2,300}=1.805$, $p>0.05$) sub-dimension. The scores obtained from the Sport Environment Empathy Scale total ($F_{2,300}=19.822$, $p<0.05$), Emotional Empathy ($F_{2,300}=3.191$, $p<0.05$), and Prediction ($F_{2,300}=24.090$, $p<0.05$) sub-dimensions significantly differ according to the sports experience level. It was found that the scores obtained from the Depression, Anxiety, Stress Scale total ($F_{2,300}=2.242$, $p>0.05$), as well as the Anxiety ($F_{2,300}=1.644$, $p>0.05$) and Depression ($F_{2,300}=0.952$, $p>0.05$) sub-dimensions, do not significantly differ according to the sports experience level. However, the scores obtained from the Stress ($F_{2,300}=3.780$, $p<0.05$) sub-dimension were found to differ significantly. The scores obtained from the Mental Resilience Scale total ($F_{2,300}=13.056$, $p>0.05$) do not differ significantly according to the sports experience level.

Competence Sub-dimension: Amateur (1-3 years) (Mean: 5.79, SD: 1.59) vs Semi-Professional (3-5 years) (Mean: 6.62, SD: 1.32) shows a significant difference in favor of Semi-Professional (3-5 years). Amateur (1-3 years) (Mean: 5.79, SD: 1.59) vs Professional (5 years and more) (Mean: 6.77, SD: 1.23) shows a significant difference in favor of Professional (5 years and more).

Resilience Sub-dimension: Amateur (1-3 years) (Mean: 5.88, SD: 1.64) vs Semi-Professional (3-5 years) (Mean: 6.70, SD: 1.32) shows a significant difference in favor of Semi-Professional (3-5 years). Amateur (1-3 years) (Mean: 5.88, SD: 1.64) vs Professional (5 years and more) (Mean: 6.87, SD: 1.35) shows a significant difference in favor of Professional (5 years and more).

Enjoyment Sub-dimension: Amateur (1-3 years) (Mean: 5.81, SD: 1.53) vs Semi-Professional (3-5 years) (Mean: 6.46, SD: 1.54) shows a significant difference in favor of Semi-Professional (3-5 years). Amateur (1-3 years) (Mean: 5.81, SD: 1.53) vs Professional (5 years and more) (Mean: 6.42, SD: 1.55) shows a significant difference in favor of Professional (5 years and more).

Oxford Positive Self-Scale Total: Amateur (1-3 years) (Mean: 24.11, SD: 5.00) vs Semi-Professional (3-5 years) (Mean: 26.80, SD: 4.80) shows a significant difference in favor of Semi-Professional (3-5 years). Amateur (1-3 years) (Mean: 24.11, SD: 5.00) vs Professional (5 years and more) (Mean: 26.98, SD: 4.55) shows a significant difference in favor of Professional (5 years and more).

Emotional Empathy Sub-dimension: Amateur (1-3 years) (Mean: 16.93, SD: 2.90) vs Semi-Professional (3-5 years) (Mean: 18.00, SD: 2.93) shows a significant difference in favor of Semi-Professional (3-5 years).

Prediction Sub-dimension: Amateur (1-3 years) (Mean: 31.38, SD: 6.60) vs Semi-Professional (3-5 years) (Mean: 37.16, SD: 5.20) shows a significant difference in favor of Semi-Professional (3-5 years). Amateur (1-3 years) (Mean: 31.38, SD: 6.60) vs Professional (5 years and more) (Mean: 35.98, SD: 5.69) shows a significant difference in favor of Professional (5 years and more).

Sport Environment Empathy Scale Total: Amateur (1-3 years) (Mean: 48.32, SD: 8.28) vs Semi-Professional (3-5 years) (Mean: 55.16, SD: 6.97) shows a significant difference in favor of Semi-Professional (3-5 years). Amateur (1-3 years) (Mean: 48.32, SD: 8.28) vs Professional (5 years and more) (Mean: 53.42, SD: 7.51) shows a significant difference in favor of Professional (5 years and more).

Stress Sub-dimension: Semi-Professional (3-5 years) (Mean: 13.28, SD: 3.74) vs Professional (5 years and more) (Mean: 15.19, SD: 4.46) shows a significant difference in favor of Professional (5 years and more).

Mental Resilience Scale Total: Amateur (1-3 years) (Mean: 40.70, SD: 8.07) vs Semi-Professional (3-5 years) (Mean: 45.34, SD: 8.73) shows a significant difference in favor of Semi-Professional (3-5 years). Amateur (1-3 years) (Mean: 40.70, SD: 8.07) vs Professional (5 years and more) (Mean: 46.01, SD: 7.95) shows a significant difference in favor of Professional (5 years and more).

Table 6. Distribution of Scores from the Oxford Positive Self Scale, Sport Environment Empathy Scale, Depression, Anxiety, Stress Scale and Mental Toughness Scale According to Type of Sport

Variable	Sport Type	N	X	S	Sd	t	p
Competence	Individual	200	5,95	1,57	301	-2.557	0.01
	Team	103	6,42	1,47			
Resilience	Individual	200	6,03	1,68	301	-2.595	0.01
	Team	103	6,53	1,36			
Enjoyment	Individual	200	5,93	1,60	301	-1.656	0.09
	Team	103	6,24	1,46			
Character	Individual	200	6,62	1,58	301	-2.046	0.04
	Team	103	6,99	1,30			
Oxford Positive Self Scale (Total)	Individual	200	24,53	5,24	301	-2.736	0.00
	Team	103	26,19	4,49			
Emotional Empathy	Individual	200	16,95	2,89	301	-2.180	0.03
	Team	103	17,68	2,53			
Prediction	Individual	200	31,71	6,71	301	-5.696	0.00
	Team	103	36,10	5,61			
Empathy in Sports Scale (Total)	Individual	200	48,66	8,40	301	-5.239	0.00
	Team	103	53,79	7,37			
Stress	Individual	200	14,52	3,66	301	-1.171	0.24
	Team	103	14,00	3,56			
Anxiety	Individual	200	14,86	4,47	301	-1.495	0.13
	Team	103	14,03	4,63			
Depression	Individual	200	13,97	4,20	301	-1.685	0.09
	Team	103	13,10	4,27			
DASS (Total)	Individual	200	43,35	11,17	301	1.611	0.10
	Team	103	41,15	11,42			
Mental Toughness Scale (Total)	Individual	200	41,66	8,26	301	-2.314	0.02
	Team	103	44,02	8,72			

The analyses indicate that the scores obtained from the Oxford Positive Self Scale overall ($t = -2.736, p < 0.05$), as well as from its subdimensions of Competence ($t = -2.557, p < 0.05$), Resilience ($t = -2.595, p < 0.05$), and Character ($t = -2.046, p < 0.05$), differ significantly according to the participants' type of sport. However, no significant difference was observed in the Enjoyment subdimension ($t = -1.656, p > 0.05$).

For the Sport Environment Empathy Scale, the total score ($t = -5.239, p < 0.05$) and the Prediction subdimension ($t = -5.696, p < 0.05$) showed significant differences based on type of sport, while the Emotional Empathy subdimension ($t = -2.180, p > 0.05$) did not.

In the Depression, Anxiety, and Stress Scale, the overall score ($t = 1.611, p > 0.05$), as well as the Stress ($t = -1.171, p > 0.05$), Anxiety ($t = -1.495, p > 0.05$), and Depression ($t = -1.685, p > 0.05$) subdimensions, did not show any significant differences based on the type of sport.

However, the scores from the Mental Toughness Scale ($t = -2.314, p < 0.05$) differed significantly according to the type of sport.

Table 7. Relationships Between the Scores of the Oxford Positive Self Scale, Empathy in Sports Scale, Depression, Anxiety, Stress Scale and Mental Toughness Scale

	OPSS (Total)	OPSS (Total)	OPSS (Total)	OPSS (Total)
OPSS (Total)	1			
OPSS (Total)	,550*	1		
ESS (Total)	-,296*	-,120*	1	
DASS (Total)	,674*	,542*	,304*	1

OPSS: Oxford Positive Self Scale ESS: Emphaty in Sports Scale DASS-21: Depression Anxiety Stress Scale-21

Based on the findings, a significant positive correlation was found between the Oxford Positive Self Scale and the Empathy in Sports Scale ($r = .550$; $p < 0.05$). A significant negative correlation was identified between the Oxford Positive Self Scale and the Depression, Anxiety, Stress Scale ($r = -.296$; $p < 0.05$). Additionally, a significant positive correlation was observed between the Oxford Positive Self Scale and the Mental Toughness Scale ($r = .674$; $p < 0.05$).

A significant negative correlation was also found between the Empathy in Sports Scale and the Depression, Anxiety, Stress Scale ($r = -.120$; $p < 0.05$). Furthermore, the Empathy in Sports Scale was positively and significantly associated with the Mental Toughness Scale ($r = .542$; $p < 0.05$). Lastly, a significant positive correlation was identified between the Depression, Anxiety, Stress Scale and the Mental Toughness Scale ($r = .304$; $p < 0.05$).

Table 8. Examination of the Casual Relationship Between the Oxford Positive Self Scale and the Sport Enviroment Empathy Scale

	$\beta 1$ (%95 CI)	Std. Error	$\beta 2$	t	p	Correlation
Constant	27.391	2.053		13.342	<0.001	
Positive Self	0.917	0.080	0,550	11.436	<0.001	0,550

F= 130.792; $p < 0.001$; $R^2 = .303$; SE= 7.04; 1= Unstandardized Coefficient, 2: Standardized Coefficient

A simple linear regression model was created to predict sport environment empathy based on positive self. The calculated regression model was found to be statistically significant

($F_{1,301} = 130.792$, $p < 0.001$), with an R^2 value of 0.303. A one-unit increase in positive self results in a 0.917 increase in sport environment empathy.

Table 9. Examination of the Causality Between the Oxford Positive Self Scale and the Mental Resilience

	$\beta 1$ (%95 CI)	Std. Error	$\beta 2$	t	p	Correlation
Constant	14.077	1.830		7.691	<0.001	
Positive Self	1.131	0.071	0,674	15.823	<0.001	0,674

F= 250.362; $p < 0.001$; $R^2 = .454$; SE= 6.27; 1= Unstandardized Coefficient, 2: Standardized Coefficient

A simple linear regression model was created to predict mental resilience based on positive self. The calculated regression model was found to be statistically significant

($F_{1,301} = 250.362$, $p < 0.001$) with an R^2 of 0.454. Each unit increase in positive self results in a 1.131 increase in mental resilience.

Table 10. Examination of the Causality Between the Oxford Positive Self Scale and the Depression, Anxiety, and Stress Scale

	$\beta 1$ (%95 CI)	Std. Error	$\beta 2$	t	p	Correlation
Constant	59.181	3.150		18.790	<0.001	
Positive Self	-,660	,123	-0.296	-5.368	<0.001	-0.296

F= 28.811; $p < 0.001$; $R^2 = .087$; SE= 10.80; 1= Unstandardized Coefficient, 2: Standardized Coefficient

A simple linear regression model was created to predict psychological distress based on positive self. The calculated regression model was found to be statistically significant ($F_{1,301} = 28.811$, $p < 0.001$) with an R^2 of 0.087. A one-unit increase in positive self results in a decrease of -0.660 in psychological distress.

DISCUSSION AND CONCLUSION

In this study, the mediating role of positive self-perception on psychological distress, empathy, and mental resilience in athletes was examined. The findings were discussed by comparing them with similar studies in the literature, and the results regarding the effects of positive self-perception on

psychological distress, empathy, and mental resilience were interpreted in light of theoretical foundations.

The analyses revealed that the total score and sub-dimensions of the Oxford Positive Self-Perception Scale did not differ significantly based on gender. This finding aligns with some studies in the literature (Demir & Murat, 2017; Sevindik, 2015), but differs from others (Doğan, 2011; Gentile et al., 2009; Zeigler-Hill & Myers, 2012; Demirtaş, 2018; Erdoğan, 2017; Özen Karataştan, 2022; Kabal, 2019). Both similar and differing results suggest that positive self-perception is relatively independent of individuals' gender roles. In particular, in young adult samples, where positive self is more reliant on internal resources and individual awareness, it may indicate that this variable is more related to personal development processes rather than gender-based differentiation.

Regarding the total score of the Sport Environment Empathy Scale, a significant difference was found between male and female participants, especially in the prediction dimension. However, no significant gender difference was found in the emotional empathy dimension. Studies with similar and different results to ours can be found in the literature (Almak, 2019; Eraslan, 2016; Sur, 2025; Rueckert & Naybar, 2008; Koçak, 2018; Prois, 2011; Çelikel et al., 2020; Karabulut, 2023; Tsai & Fung, 2005). The difference in empathy levels in the sports environment based on gender may be linked to individuals' gender roles, the competitive nature of the sports environment, and the functionality of empathy dimensions. However, the varying results suggest that factors such as the type of sport, experience duration, cultural features, and measurement tools used may lead to differences.

When evaluated in terms of psychological distress levels, depression and anxiety scores significantly varied according to gender, whereas no significant difference was found in stress levels. Mental resilience scores did not show any significant difference according to gender. Our findings indicate that female participants had higher levels of depression and anxiety compared to male participants, which is a commonly encountered situation in the literature (Bashir et al., 2020; Darol & Karapınar, 2022; Örgen et al., 2020; Sever & Özdemir, 2020). Thus, the significant gender differences in depression and anxiety levels can be interpreted as being influenced by biopsychosocial factors. On the other hand, the lack of significant gender differences in stress and mental resilience suggests that these variables are more shaped by individual factors.

The correlation analyses revealed that there was no significant difference based on the participants' age in the general score and sub-dimensions of the Oxford Positive Self-Perception Scale. Similarly, no significant age-related differences were found in the general score and sub-dimensions of emotional empathy and prediction in the Sport Environment Empathy Scale. On the other hand, the findings regarding psychological distress levels showed that stress and anxiety scores were negatively related to age. However,

no significant relationship was found between depression scores and age. No significant difference was found in terms of mental resilience scores based on age. A review of the literature reveals that, although no study has combined the scales used in our study, there are studies where each scale has been used individually, some of which overlap with our findings while others yield different results (Cicioğlu et al., 2019; Nicholls et al., 2009; Karabulut & Pular, 2016; Aygün & Karayol, 2024; Yenel et al., 2023; Paksoy, 2021; Sadıq, 2018; Demir & Türkeli, 2019). As a result, our study and the literature suggest that age does not have a direct effect on positive self-perception and empathy skills in the sports environment. However, the observed decrease in stress and anxiety levels with increasing age is noteworthy, indicating that psychological well-being may have a dynamic relationship with age.

The analyses indicated that the level of sports experience created significant differences in many psychological variables. The total score of the Oxford Positive Self-Perception Scale, along with the sub-dimensions of competence, resilience, and enjoyment, showed significant differences according to sports experience level. However, no significant difference was found in the character sub-dimension. According to the Tukey test results, these differences appeared particularly between amateur athletes and semi-professional and professional athletes, in favor of the professionals. Studies supporting the effect of sports experience on psychological skills are available in the literature (Şahinler, 2021; Sağ et al., 2024; Vealey & Greenleaf, 2001; Aldemir et al., 2011). Similarly, significant differences in the general score of the Sport Environment Empathy Scale and the sub-dimensions of emotional empathy and prediction were observed according to sports experience level, with the highest scores being obtained by professional and semi-professional athletes. Likewise, studies in the literature show that as the level of sports experience increases, empathetic tendencies also increase or remain unchanged (Beyaz, 2016; Dorak & Vurgun, 2006; Akpınar et al., 2018). Regarding psychological distress, only a significant difference was found in the stress dimension, with professional athletes having higher stress levels. No significant difference was found in the anxiety and depression sub-dimensions according to experience level. A study conducted by Şeker (2014) examined the levels of depression, anxiety, and stress among wrestlers in training centers and found a significant relationship between their anxiety and depression levels and their age. Additionally, a significant relationship was found between their stress levels and years of sport experience. These findings suggest that sports experience may influence stress levels, indicating that stress is more directly related to sports experience, whereas more complex explanations may be needed for psychological structures such as anxiety and depression.

Regarding mental resilience, a significant increase in mental resilience levels was observed as sports experience increased. In particular, amateur athletes had lower resilience scores compared to semi-professional and professional

groups. These results suggest that sports experience can be an important factor in the development of positive psychological attributes such as positive self-perception, empathy, and mental resilience. In conclusion, while the level of sports experience plays an important role in strengthening individuals' positive psychological attributes, it should be considered that psychological distress, such as stress, may increase at higher levels of sport. Therefore, the impact of sports experience on psychological well-being should be considered in conjunction with both developmental and contextual variables.

The analyses in this study revealed that the type of sport has significant effects on certain psychological variables. Specifically, the general score of the Oxford Positive Self-Perception Scale, along with its sub-dimensions of competence, resilience, and character, showed significant differences in favor of team sports. However, no significant differences were observed in the enjoyment sub-dimension between the two sport types. Additionally, athletes participating in team sports scored significantly higher in the general and prediction dimensions of the Sport Environment Empathy Scale compared to those involved in individual sports. However, no significant difference was found in the emotional empathy dimension. These findings suggest that individuals engaged in team sports may have an advantage over those in individual sports in terms of social-cognitive skills and positive self-perception.

In terms of the Depression, Anxiety, and Stress Scale, no significant differences were found between sport types. However, the Mental Resilience Scale revealed significant differences in favor of team sports, suggesting that team sports might be effective in enhancing mental resilience. These results align with similar studies (Rathore, 2018; Demir et al., 2020; Demir, 2019; Acar et al., 2023; Dorak & Vurgun, 2006; Orhan, 2018), which demonstrate that the type of sport can have varied effects on athletes' psychological characteristics. While team sports may provide advantages in developing social and psychological skills such as empathy and mental resilience, individual sports may be more beneficial for fostering individual skills like emotional intelligence.

A significant positive relationship was found between the Oxford Positive Self-Perception Scale and the Sport Environment Empathy Scale. This indicates that individuals with higher positive self-perception tend to have stronger empathetic tendencies. Additionally, a negative significant relationship was observed between positive self-perception and levels of depression, anxiety, and stress, suggesting that positive self-perception may serve as a protective factor against psychological distress. The strong positive relationship between positive self-perception and mental resilience indicates that a positive self-view can support an individual's psychological resilience.

Similarly, a positive and significant relationship was found between the Sport Environment Empathy Scale and mental resilience, suggesting that social-emotional skills are linked to psychological resilience. Interestingly, a weak but significant negative relationship was observed between empathy and psychological distress, indicating that individuals with higher empathy are more likely to experience lower levels of psychological distress. Conversely, a positive significant relationship was found between mental resilience and psychological distress, suggesting that resilience is associated not only with positive psychological traits but also with the ability to cope with difficult emotional situations.

Regression analyses examining the predictive power of positive self-perception on empathy revealed a significant and strong relationship. The findings suggest that individuals who feel competent, resilient, and valuable are more likely to exhibit positive empathetic attitudes. This underscores the importance of positive self-perception in developing empathy and enhancing social relationships in sports settings.

Similarly, regression analysis investigating the effect of positive self-perception on mental resilience revealed a statistically significant and strong relationship. The findings indicate that individuals with positive self-evaluations are better equipped to cope with challenges and exhibit higher levels of mental resilience. This reinforces the notion that positive self-perception is a key factor in fostering psychological resilience.

Additionally, analysis of the effect of positive self-perception on psychological distress revealed a significant relationship, suggesting that individuals with positive self-perception may be more effective at reducing levels of stress, anxiety, and depression. While the explanatory power is limited, these results imply that positive self-perception may play a protective role in maintaining mental health.

In conclusion, the study examined the relationships between positive self-perception, empathy, mental resilience, and psychological distress in athletes, emphasizing their structural interrelations within a theoretical framework. The results revealed that positive self-perception significantly enhances empathy and mental resilience while playing a protective role in reducing psychological distress. Moreover, sport experience and sport type were found to influence the development of positive psychological traits, although they may have complex effects on certain psychological distress variables. The study suggests that positive self-perception is a fundamental factor supporting an individual's psychological resilience and social-emotional skills, and interventions in sports environments should focus on strengthening this construct to promote psychological well-being.

Author Contributions

S.A.E: data collection. N.C.T. & R.Y.Ö. data analysis and original draft preparation. E.D: review and editing. All authors have read and agreed to the published version of the manuscript.

Funding

This research received no external funding.

Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Committee for Social and Human Sciences Research at Aydın Adnan Menderes University on 03 October 2024, with decision number 18/02 (Reference No: 31906847/050.04.04-10).

Informed Consent Statement

Informed consent was obtained from all participants involved in the study. Participation was voluntary, and confidentiality was ensured.

Data Availability Statement

The datasets generated and analyzed during the current study are available from the corresponding author on reasonable request.

Acknowledgments

The authors would like to thank Aydın Adnan Menderes University, Faculty of Sport Sciences, for providing the academic environment that facilitated this research. Special thanks are also extended to all participants who contributed to the study.

Conflicts of Interest

The authors declare no conflict of interest.

REFERENCES

- Acar, K., Mor, H., Karakaş, F., Baynaz, K., & Mor, A. (2023). Takım ve bireysel sporcuların empatik eğilimleri ile prososyal-antisosyal davranışları arasındaki ilişki. *Gazi Beden Eğitimi ve Spor Bilimleri Dergisi*, 28(2), 150–159. <https://doi.org/10.53434/gbesbd.1211102>
- Akpınar, Ö., Çolakoğlu, T., Akpınar, S., & Kahraman, A. (2018). An examination of empathy levels in athletics athletes. *Journal of International Social Research*, 11(60). <https://doi.org/10.17719/jisr.2018.2912>
- Aldemir, G. Y., Biçer, T., & Kale, E. K. (2011). The effect of imagery training on self-perception in elite football players. *CBÜ Journal of Physical Education and Sport Sciences*, 6(1), 1–15. <https://doi.org/10.5505/cbjes.2011.16831>
- Almak, M. (2019). *Determining the empathy tendencies of national volleyball referees* [Master's thesis, Ondokuz Mayıs University, Institute of Health Sciences, Department of Sport Sciences].
- Aygün, G., & Karayol, M. (2024). Investigation of the relationship between exercise addiction and depression, anxiety, and stress levels in individuals exercising in fitness centers. *International Journal of Sport Exercise and Training Sciences (IJSETS)*, 10(1), 62–72. <https://doi.org/10.18826/ijsetsabd.1314690>
- Bashir, T. F., Hassan, S., Maqsood, A., Khan, Z. A., Issrani, R., Ahmed, N., & Bashir, E. F. (2020). The psychological impact analysis of novel COVID-19 pandemic in health sciences students: A global survey. *European Journal of Dentistry*, 14(S 01), S91–S96. <https://doi.org/10.1055/s-0040-1719211>
- Beyaz, Ö. (2016). *An investigation of empathic tendency and empathic skill levels of pre-service teachers studying in the department of physical education and sports teaching: The case of Anadolu University* [Master's thesis, Anadolu University].
- Çelikel, B. H., Aksu, A., & Sezer, S. Y. (2020). Evaluation of empathy levels in adolescent athletes in sports. *The Journal of Turk & Islam World Social Studies*, 7(25), 148–154. <https://doi.org/10.29228/TIDSAD.42885>
- Cicioğlu, H. İ., Demir, G. T., Bulğay, C., & Çetin, E. (2019). Exercise addiction levels of elite athletes and students of faculty of sports sciences. *Journal of Addiction*, 20(1), 12–20. <https://dergipark.org.tr/en/download/article-file/656534>
- Clough, P. J., Earle, K., & Sewell, D. (2002). Mental toughness: The concept and its measurement. In I. Cockerill (Ed.), *Solutions in sport psychology* (pp. 32–45). London: Thomson Publishing.
- Darol, E. S., & Karapınar, A. (2022). The relationship between gender, marital status and diseases arising from stress. *Sakarya Medical Journal*, 12(2), 263–272. <https://doi.org/10.31832/smj.1093762>
- Demir, G. T., & Türkeli, A. (2019). Investigation of exercise addiction and mental toughness levels of students in the faculty of sports sciences. *Journal of Sports Science Research*, 4(1), 10–24. <https://doi.org/10.25307/jssr.505941>
- Demir, İ. (2019). *Investigation and comparison of psychological characteristics of individuals participating in team and individual sports* (Master's thesis, Niğde Ömer Halisdemir University, Institute of Social Sciences, Department of Physical Education and Sports).
- Demir, İ., İbiş, S., & Miçoğulları, B. O. (2020). Examination and comparison of psychological characteristics of individuals participating in team and individual sports. *Journal of Physical Education and Sport Sciences*, 22(2), 55–70. <https://doi.org/10.1016/j.sbspro.2010.07.189>
- Demir, R., & Murat, M. (2017). An investigation of pre-service teachers' happiness, optimism, meaning in life and life satisfaction. *International Journal of Society Researches*, 7(13). <https://doi.org/10.26466/opus.347656>
- Demirtaş, A. S. (2018). Predictive role of emotion regulation strategies and self-esteem on happiness. *Turkish*

- Studies, 13(11).
<https://doi.org/10.7827/TurkishStudies.13465>
- Doğan, T. (2011). Two-dimensional self-esteem: Adaptation of the self liking/self-competence scale into Turkish, a validity and reliability study. *Education and Science*, 36(162), 126–137.
<https://doi.org/10.15390/ES.2011.982>
- Dökmen, Ü. (2013). *Communication conflicts and empathy in art and daily life*. Remzi Publishing.
- Dorak, F., & Vurgun, N. (2006). The relationship between empathy and team unity in terms of team sports. *Spormetre Journal of Physical Education and Sport Sciences*, 4(2), 73–77.
https://doi.org/10.1501/Sporm_00000000060
- Eraslan, M. (2016). Analysis of emotional intelligence and empathic tendency levels in youth according to variables age, gender, and doing sports. *Kastamonu Journal of Education*, 24(4), 1839–1852.
<https://doi.org/10.1111/joop.12053>
- Erdoğan, B. (2017). *Investigation of the relationship between happiness, compassion and aggression in adults* (Master's thesis). Council of Higher Education Thesis Center (Thesis No: 485544).
- Erdoğan, N. (2016). Mental Toughness Scale (MTS): Adaptation to Turkish, validity and reliability study. *International Journal of Science Culture and Sport*, 4(SI 2), 652–664.
<https://doi.org/10.14486/IntJSCS588>
- Erkuş, A., & Yakupoğlu, S. (2001). Development of the Empathy in Sports Environment Scale (ESES). *Hacettepe University Journal of Sport Sciences*, 12(1), 22–31.
<https://dergipark.org.tr/tr/download/article-file/151416>
- Freeman, D., Rosebrock, L., Loe, B. S., Saidel, S., Freeman, J., & Waite, F. (2023). The Oxford Positive Self Scale: Psychometric development of an assessment of cognitions associated with psychological well-being. *Psychological Medicine*, 53(15), 7161–7169.
<https://doi.org/10.1017/S0033291722003969>
- Gentile, B., Grabe, S., Dolan-Pascoe, B., Twenge, J. M., Wells, B. E., & Maitino, A. (2009). Gender differences in domain-specific self-esteem: A meta-analysis. *Review of General Psychology*, 13(1), 34–45.
<https://doi.org/10.1037/a0013689>
- Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches*. New York: Sage.
- Kabal, D. (2019). *A study on teachers' lifelong learning tendencies and happiness levels (The case of Kocaeli)* (Master's thesis, Sakarya University).
- Karabulut, E. O. (2023). Determination of the empathic tendency levels and fear of being evaluated as immortal among licensed table tennis athletes, and examination of the relationship with different variables. *Mediterranean Journal of Sport Science*, 4(1 – Special Issue for the 100th Anniversary of the Republic), 1165–1176.
<https://doi.org/10.38021asbid.1375367>
- Karasar, N. (2002). *Scientific research method: Concepts, principles, and techniques* (in Turkish). Ankara: Nobel Publishing.
- Koçak, İ. (2018). *An investigation of empathy skills of elite athletes in combat sports in terms of various variables* (Master's thesis, Gazi University, Institute of Educational Sciences, Department of Physical Education and Sports Teaching).
- Kocygıt, B., Ceco, G., Deniz, M. E., & Satıcı, S. A. (2024). Turkish adaptation of Oxford Positive Self Scale: Association with psychological distress, subjective vitality and psychological well-being. *Personality and Individual Differences*, 224, 112629.
<https://doi.org/10.1016/j.paid.2023.112629>
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33(3), 335–343.
[https://doi.org/10.1016/0005-7967\(94\)00075-U](https://doi.org/10.1016/0005-7967(94)00075-U)
- Madrigal, L., Hamill, S., & Gill, D. L. (2013). Mind over matter: The development of the Mental Toughness Scale (MTS). *The Sport Psychologist*, 27(1), 62–77.
<https://doi.org/10.1123/tsp.27.1.62>
- Mann, M. M., Hosman, C. M., Schaalma, H. P., & De Vries, N. K. (2004). Self-esteem in a broad-spectrum approach for mental health promotion. *Health Education Research*, 19(4), 357–372.
<https://doi.org/10.1093/her/cyg041>
- Nicholls, A. R., Polman, R., Levy, A., & Backhouse, S. H. (2009). Mental toughness in sport: Achievement level, gender, age, experience and sport type differences. *Personality and Individual Differences*, 47(1), 73–75.
<https://doi.org/10.1016/j.paid.2009.02.006>
- Orhan, S. (2018). *The relationship between emotional intelligence and mental toughness in individual and team athletes* (Master's thesis, Marmara University, Institute of Health Sciences).
- Örgev, C., Biçer, İ., Demir, H., Aydın, O. A., Şen, E., & Özyaral, O. (2020). The psychological impact of the COVID-19 pandemic on university students in Turkey: A foundation university case. *Journal of International Health Sciences and Management*, 4(12), 25–33.
<https://dergipark.org.tr/en/download/article-file/1314856>
- Overtraining, U., Gould, D., & Dieffenbach, K. (2002). Overtraining, underrecovery, and burnout in sport. In M. Kellmann (Ed.), *Enhancing recovery: Preventing underperformance in athletes* (pp. 25–35). Champaign, IL: Human Kinetics.
- Özen Karataştan, S. (2022). *An investigation of perceived stress, self-esteem, and happiness levels among adolescents involved and not involved in performing arts* (Master's thesis, Istanbul Gelisim University, Institute of Graduate Education).
- Paksoy, S. M. (2021). *An investigation of exercise addiction levels among university students studying in the field of sports sciences (The case of Kahramanmaraş)* (Master's thesis, Sütçü İmam University, Institute of Health Sciences).

- Proios, M. (2011). Relationship between student perceived conduct in physical education settings and "unfair" play. *International Journal of Applied Sports Sciences*, 23(2), 421-440. <https://doi.org/10.24985/ijass.2011.23.2.421>
- Rathore, M. S. (2018). A comparative study of mental toughness of team and individual players of different schools of Gwalior. *International Journal of Yogic*, 3(2), 357-358. <https://www.theyogicjournal.com/pdf/2018/vol3issue2/PartF/3-2-49-997.pdf>
- Rueckert, L., & Naybar, N. (2008). Gender differences in empathy: The role of the right hemisphere. *Brain and Cognition*, 67(2), 162-167. <https://doi.org/10.1016/j.bandc.2008.01.002>
- Sadiq, B. J. (2018). *Investigation of the exercise dependence of athletes' Kick Boxing, Taekwondo and Muay Thai*(Master's thesis, Firat University, Institute of Health Sciences, Department of Physical Education and Sports).
- Sağ, S., Yağdı, M. F., & Güçlü, M. (2024). Psychological flexibility in sports: Associations with general self-efficacy and self-esteem. *International Bozok Journal of Sports Sciences*, 5(1), 214-232. <https://dergipark.org.tr/tr/download/article-file/4268655>
- Şahinler, Y. (2021). Examination of athletes' psychological skill levels. *İğdir University Journal of Sports Sciences*, 4(1), 8-18. <https://doi.org/10.48133/igdirsb.1008467>
- Sarıçam, H. (2018). The psychometric properties of the Turkish version of Depression Anxiety Stress Scale-21 (DASS-21) in health control and clinical samples. *Journal of Cognitive Behavioral Psychotherapy and Research*, 7(1), 19-30. <https://doi.org/10.5455/JCBPR.274847>
- Sever, M., & Özdemir, S. (2020). The experience of being a student during the coronavirus (COVID-19) period: A photovoice study. *Society and Social Work*, 31(4), 1653-1679. <https://doi.org/10.33417/tsh.778615>
- Sevindik, D. (2015). *The relationship between religiosity and happiness in middle-aged individuals: The case of Denizli*(Master's thesis). Council of Higher Education Thesis Center (Thesis No: 396038).
- Sur, M. (2025). *An investigation of the relationship between high school students' levels of empathic tendency and sportsmanship behaviors*(Master's thesis).
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston, MA: Pearson.
- Tsai, E., & Fung, L. (2005). Sportspersonship in youth basketball and volleyball players. *The Online Journal of Sport Psychology*, 7(2), 37-46.
- Vealey, R. S., & Greenleaf, C. A. (2001). Seeing is believing: Understanding and using imagery in sport. In J. M. Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* (4th ed., pp. 247-288). Mountain View, CA: Mayfield.
- Yavuzer, H. (2001). *Parent-child* (14th ed.). Istanbul: Remzi Publishing House
- Yenel, İ. F., Tapşın, F. O., & Özdemir, E. (2023). An investigation of university students' attitudes toward sports and their empathy levels. *The Journal of Academic Social Science*, 17(139), 265-276. <https://doi.org/10.29228/ASOS.68471>
- Zeigler-Hill, V., & Myers, E. M. (2012). A review of gender differences in self-esteem. In S. P. McGeown (Ed.), *Psychology research progress. Psychology of gender differences* (pp. 131-143). Hauppauge, NY, US: Nova Science Publishers.