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Investigating the Relationship between Athletes' Psychological Needs Thwarting and their Psychological Performance

Erdal KIRIK[1], Mehmet Behzat TURAN[2], Hakkı ULUCAN[3]

[1]Erciyes University Faculty of Sport Sciences, Kayseri, Turkey
https://orcid.org/0009-0000-9739-9254
[2]Erciyes University Faculty of Sport Sciences, Kayseri, Turkey
https://orcid.org/0000-0002-5332-803X
[3]Erciyes University Faculty of Sport Sciences, Kayseri, Turkey
https://orcid.org/0000-0002-0059-1344

Email: erdalkrk27@gmail.com, behzatturan@erciyes.edu.tr, hakkiulucan@erciyes.edu.tr

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Abstract

This study aims to investigate the relationship between athletes' psychological needs thwarting and their psychological performance. A total of 404 athletes, consisting of 145 females and 259 males actively engaged in football, basketball, volleyball, and handball sports in the research. The data were collected through a questionnaire. The questionnaire items were administered through face-to-face interviews conducted by the researcher and online via Google Forms. The research instruments utilized were the Psychological Needs Thwarting Scale, the Psychological Performance Scale, and a researcher-designed personal information form. Upon analysing the present study's findings, there were no significant differences in psychological needs thwarting and psychological performance scale scores based on the variables of sports participation duration and educational background. However, significant differences were found based on the variables of gender, age, and sports discipline. In light of these findings, it is crucial for athletes to effectively manage negative emotional transitions such as anxiety, fear, unhappiness, anger, disappointment, jealousy, resentment, violence, and rage, as they exert a significant impact on competitive success. Therefore, ensuring athletes' internal and external motivation is of pivotal importance. Additionally, in addition to physical training, providing education for athletes to enhance their ability to manage mental processes can be beneficial in improving their performance.

Keywords: Performance, Psychological Needs, Psychological Performance.

Introduction

The success of athletes in any sport does not only depend on their physical abilities or competencies. It is also important that athletes' psychological needs are met as well as their physical and bodily well-being. Meeting psychological needs is one of the most influential factors in achieving sporting success, and athletes must maintain their psychological health and well-being by fulfilling their psychological needs (Cohn et al., 2016).

Individuals whose psychological needs are met tend to exhibit better mental and emotional responses (World Health Organization, 2014). Psychological well-being in athletes is important in determining their sporting performance, in addition to their physical health (Ghaderi et al., 2015). However, it is not sufficient for athletes to solely focus on having good performance to safeguard themselves and build a successful sports career. It also involves psychological processes such as gaining an advantage over competitors, reaching peak performance in training, and enhancing self-confidence (Ryan et al., 2000).

Psychological needs stem from the psychological qualities that individuals require. These qualities include autonomy, competence, and relatedness (Su et al., 2010; Ryan et al., 2000). Autonomy refers to the experience of independence in one's choices and a sense of self-determination. According to Yıldırım et al., (2021), autonomy is a concept that allows individuals to make a choice, decision-making, and agency in interpersonal contexts. Athletes who experience a sense of autonomy in sports can foster their own development and achievements during training and competitions (Gagné, 2009). Competence is the perception of being effective in one's social environment and abilities, while relatedness is the perception of being accepted in one's social relationships and belonging to a particular context (Deci et al., 2000).

Psychological barriers encountered by athletes can directly affect their performance and even hinder the continuation of their sports careers. According to Sucan (2012), psychological barriers that athletes may face refer to anxiety, lack of motivation, and lack of self-confidence, attention deficits, social pressure, and intra-team conflicts. Performance is defined as the meaningful and successful use of an individual's full abilities and capacities, exerting maximum effort in accomplishing assigned tasks (Baser, 1996). Psychological performance refers to the cognitive, emotional, and motivational factors that play a significant role in sports (Abiş, 2022). The mental state and well-being of athletes greatly influence their psychological performance.

The relationship between psychological needs and sporting performance is an important research area that needs to be considered for athletes. Failure to meet athletes' psychological needs can lead to deficiencies in their motivation, feelings of inadequacy, or discomfort. Therefore, addressing athletes' psychological needs is a crucial factor that should be carefully considered for psychological performance and adaptation. In light of this information, the aim of our research is to contribute to the literature on enhancing sporting success, particularly in team sports such as football, basketball, volleyball, and handball, by highlighting the importance of psychological needs that significantly affect athletes' psychological performance.

Material and Methods

Research Design

In the study, descriptive inquiry (questionnaire) and relationship research methods were used, the aim of which was to reveal the current situation. Descriptive research designs are research

methods that aim to describe an existing situation in its own terms, either in the past or present. The researched phenomenon, whether it is an individual or an object, is described as without any attempts to change or influence it. On the other hand, correlational survey designs aim to determine the presence and/or degree of change between two or more variables (Karasar, 2016).

Study Ethics

Given the use of human subjects and the need to protect individual rights, the study followed scientific ethics principles and rules throughout the research process. Prior to conducting the study, ethical approval was obtained from the Ethics Committee of Erciyes University, with reference number 160, on April 25, 2023.

Research Sample

The research sample consisted of athletes who participated in school sports competitions in the categories of juniors and youth (aged between 13 and 19) in the sports of football, basketball, volleyball, and handball in Kayseri during the 2022-2023 academic year. The convenience sampling technique was used in the selection of the sample.

Data Collection Instrument

The research data was collected through a questionnaire. The questionnaire consisted of items that were administered through face-to-face interviews with the researcher and online via Google Forms. The data collection instrument included the Scale of Inhibition of Psychological Needs in Sport, the Scale of Psychological Performance Inventory, and a personal information form prepared by the researcher.

Personal Information Form

The personal information form included variables such as gender, age, sports discipline, duration of sports participation, and educational status of the athletes.

Scale of Inhibition of Psychological Needs in Sport

The scale was developed by Bartholomew et al. (2011). It's was adapted into Turkish by Yıldırım, S. et al. (2022). The scale consists of three subscales (autonomy, competence, relatedness) with a total of 12 items. It utilizes a 7-point Likert scale and is evaluated based on the average score. The Cronbach's alpha reliability coefficients were calculated as 0.70 for the autonomy dimension, 0.82 for the competence dimension, 0.81 for the relatedness dimension, and 0.91 for the overall scale score.

Scale of Psychological Performance Inventory

Developed by Loehr, J.E. (1982), the scale was adapted to Turkish by Erman et al. (2002). It comprises seven subscales (self-confidence, negative energy, attention control, visualization and imagery control, motivation level, positive energy, attitude control) with a total of 42 items. The scale employs a 5-point Likert scale. Scores obtained from the scale require specific attention within the range of 6-19, improvement within the range of 20-25, and indicate a high level of skill within the range of 26-30. The Cronbach's alpha reliability coefficients for the scale are as follows: self-confidence ,737, negative energy ,754, attention control ,761, visualization and imagery control ,761, motivation ,743, positive energy ,747, attitude control ,737, and the overall scale ,776.

Data Analysis

The collected data were analysed using the SPSS software package. Descriptive statistics, frequencies, and percentages were provided as distributions. The normality of the groups was determined by examining the skewness and kurtosis values. The skewness ranged from 0.044 to 1.451, while the kurtosis ranged from 0.073 to 3.842. Based on these values, it was determined that the data were not distributed normally, and therefore, nonparametric tests were chosen for analysis. Kurtosis and skewness values exceeding -1.5 and +1.5 are considered as indicators of non-normal distribution (Tabachnick and Fidel, 2013). For binary comparisons such as gender and educational status, the Mann-Whitney U test was used, while the Kruskal-Wallis H test was employed for comparisons involving three or more variables such as age, sports branch, and exercise duration. Additionally, the Spearman correlation test was conducted to examine the relationship between the scales.

Findings

Table 1. Frequency and Percentage Distribution of Athletes' Demographic Characteristics

Variable		N	%
Gender	Female	145	35.9
	Male	259	64.1
Age	13-14	181	44.8
	15-16	125	30.9
	17-19	98	24.3
Sport Branch	Football	113	28.0
	Basketball	102	25.2
	Volleyball	98	24.3
	Handball	91	22.5
Duration of Sports	1-3 years	185	45.8
	4-6 years	129	31.9
	7-9 years	74	18.3
	10 years and above	16	4.0
Education Status	Middle School	150	37.1
	High School and Equivalent	254	62.9

According to Table 1 it was determined that 35.9% of the athletes were female, 64.1% were male. In terms of age distribution, 44.8% of the athletes were in the 13-14 age range, 30.9% were in the 15-16 age range, and 24.3% were in the 17-19 age range. Furthermore, 28% of the

athletes participated in football, 25.2% in basketball, 24.3% in volleyball, and 22.5% in handball. Regarding the duration of sports participation, 45.8% of the athletes were engaged in sports for 1-3 years, 31.9% for 4-6 years, 18.3% for 7-9 years, and 4% for 10 years or more. In terms of educational status, 37.1% of the athletes were in middle school, and 62.9% were in high school or equivalent education.

Table 2. Descriptive Statistics of Athletes' Scores on the Scale of Psychological Needs Prevention and Psychological Performance Scale

Scale	Sub dimension	N	Min.	Maks.	X±SS	Skewness	Kurtosis	
Prevention of Psychological Needs	**Autonomy**	404	4.00	28.00	7.94±4.56	1,451	2,479	
	Competence	404	4.00	28.00	10.00±5.65	,874	,073	
	Relatedness	404	4.00	28.00	9.02±5.37	1,267	1,298	
Psychological Performance	**Self Confidence**	404	6.00	30.00	15.95±3.07	,781	2,995	
	Negative Energy	404	8.00	30.00	18.22±3.57	,044	,350	
	Attention Control	404	6.00	30.00	19.59±3.77	-,190	,554	
	Visualization and Imagery	404	600	30.00	13.59±4.59	,804	,792	
	Motivation Level	404	6.00	30.00	13.33±3.61	1,286	3,709	
	Positive Energy	404	6.00	30.00	13.65±3.55	1,212	3,842	
	Attitude Control	404	6.00	30.00	13.59±3.76	,963	2,169	

According to Table 2 it was found that the autonomy scores on the Scale of Psychological Needs Prevention were 7.94±4.56, competence scores were 10.00±5.65, and relatedness scores were 9.02±5.37 among athletes. Additionally, on the Psychological Performance Scale, the self-confidence scores were 15.95±3.07, negative energy scores were 18.22±3.57, attention control scores were 19.59±3.77, visualization and imagery control scores were 13.59±4.59, motivation level scores were 13.33±3.61, positive energy scores were 13.65±3.55, and attitude control scores were 13.59±3.76. It was determined that these scores were within the range requiring special attention.

Table 3. Comparison of Psychological Needs Prevention and Psychological Performance Scale Scores according to Gender

Scale	Sub Dimension	Gender	N	Median (25-75)	u	p

Prevention of Psychological Needs	**Autonomy**	Female	145	7 (4-12)	17055,000	,118
		Male	259	6 (4-10)		
	Competence	Female	145	10 (5-14)	16884,500	,091
		Male	259	8 (5-13)		
	Relatedness	Female	145	9 (6-13)	14954,500	**,001**
		Male	259	7 (4-11)		
Psychological Performance	**Self Confidence**	Female	145	16 (14-18)	19014,500	,832
		Male	259	16 (14-17)		
	Negative Energy	Female	145	19 (16-20)	18609,000	,881
		Male	259	18 (16-21)		
	Attention Control	Female	145	20 (17,5-22)	17878,500	,423
		Male	259	20 (17-22)		
	Visualization and Imagery	Female	145	14 (11-18)	14516,500	**,000**
		Male	259	12 (10-15)		
	Motivation Level	Female	145	13 (11-16)	16958,500	,105
		Male	259	13 (11-15)		
	Positive Energy	Female	145	14 (12-16)	16088,000	**,016**
		Male	259	13 (11-15)		
	Attitude Control	Female	145	13 (11-17)	16553,000	**,047**
		Male	259	13 (10-15)		

$p<0.05$

Based on the Table 3 presenting information pertaining to the gender, it was found that there was no significant difference in the autonomy and competence dimensions of the Scale of Psychological Needs Prevention among athletes, while a significant difference was found in the relatedness dimension. Moreover, in the Psychological Performance Scale, there was no significant difference in the self-confidence, negative energy, attention control, and motivation level dimensions, while significant differences were found in the visualization and imagery control, positive energy, and attitude control dimensions.

Table 4. Comparison of Psychological Needs Prevention and Psychological Performance Scale Scores according to Age

Scale	Sub Dimension	Age	n	Median (25-75)	X^2	p	difference
Prevention of Psychological Needs	Autonomy	13-14[a]	181	6 (4-10)	3,288	,349	
		15-16[b]	125	7 (4-11)			
		17-19[c]	98	7 (4-12)			
	Competence	13-14[a]	181	8 (5-12)	8,562	**,036**	b>a
		15-16[b]	125	10 (6-15)			
		17-19[c]	98	9 (5-14)			
	Relatedness	13-14[a]	181	7 (4-12)	2,234	,525	
		15-16[b]	125	7 (4-12,5)			
		17-19[c]	98	8 (5-11)			
Psychological Performance	Self Confidence	13-14[a]	181	16 (14-18)	2,529	,470	
		15-16[b]	125	16 (15-18)			
		17-19[c]	98	15 (14-18)			
	Negative Energy	13-14[a]	181	19 (16-21)	3,111	,375	
		15-16[b]	125	18 (15.5-21)			
		17-19[c]	98	18 (15-21)			
	Attention Control	13-14[a]	181	20 (17.5-22)	2,289	,515	
		15-16[b]	125	19 (17-22)			
		17-19[c]	98	21 (18-22)			
	Visualization and Imagery	13-14[a]	181	13 (11-17)	7,787	,051	
		15-16[b]	125	13 (10-16)			
		17-19[c]	98	12 (10-16)			
	Motivation Level	13-14[a]	181	13 (10.5-15)	6,404	,094	
		15-16[b]	125	13 (12-15)			
		17-19[c]	98	13 (11-15)			
	Positive Energy	13-14[a]	181	13 (12-15.5)	6,404	,816	

		15-16[b]	125	13 (11.5-15)			
		17-19[c]	98	14 (11-15)			
	Attitude Control	13-14[a]	181	13 (11-15)	3,861	,277	

p<0.05

When Table 4 examined according to the age variable, no significant differences were found in the autonomy and relatedness dimensions of the Scale of Psychological Needs Prevention among athletes, while a significant difference was found in the competence dimension. Additionally, no significant differences were found in the self-confidence, negative energy, attention control, visualization and imagery control, motivation level, positive energy, and attitude control dimensions of the Psychological Performance Scale.

Table 5. Comparison of Psychological Needs Prevention and Psychological Performance Scale Scores according to the Sports Branch

Scale	Sub Dimension	Sport Branch	N	Median (25-75)	X^2	p	difference
Prevention of Psychological Needs	**Autonomy**	Football[1]	113	7 (4-11)	1,669	,644	
		Basketball[2]	102	6 (4-10)			
		Volleyball[3]	98	6 (4-10)			
		Handball[4]	91	6 (4-11)			
	Competence	Football[1]	113	9 (5-14)	,562	,905	
		Basketball[2]	102	9 (5-13)			
		Volleyball[3]	98	9 (4-14)			
		Handball[4]	91	8 (4-14)			
	Relatedness	Football[1]	113	8 (4-12)	2,217	,529	
		Basketball[2]	102	7 (4-12)			
		Volleyball[3]	98	7 (4-10.25)			
		Handball[4]	91	8 (5-12)			
Psychological Performance	**Self Confidence**	Football[1]	113	16 (14-17)	9,876	**,020**	**2>1 2>4 3>4**
		Basketball[2]	102	17 (14-18)			
		Volleyball[3]	98	16 (15-18)			
		Handball[4]	91	15 (14-17)			

	Negative Energy	Football[1]	113	18 (15-20.5)	5,445	,142	
		Basketball[2]	102	18 (15-21)			
		Volleyball[3]	98	19 (17-21)			
		Handball[4]	91	19 (16-21)			
	Attention Control	Football[1]	113	19 (17-21.5)	14,578	**,002**	**3>1 3>2 3>4**
		Basketball[2]	102	19 (16-21)			
		Volleyball[3]	98	21 (18.75-23)			
		Handball[4]	91	20 (17-22)			
	Visualization and Imagery	Football[1]	113	12 (9-16)	10,149	**,017**	**2>1 3>1**
		Basketball[2]	102	13 (11-17)			
		Volleyball[3]	98	14 (10.75-17)			
		Handball[4]	91	12 (10-16)			
	Motivation Level	Football[1]	113	13 (10.5-15)	9,359	**,025**	**2>1 2>4**
		Basketball[2]	102	14 (12-16)			
		Volleyball[3]	98	13 (11-16)			
		Handball[4]	91	13 10-15)			
	Positive Energy	Football[1]	113	13 (11-14.5)	3,669	,299	
		Basketball[2]	102	13 (12-16)			
		Volleyball[3]	98	14 (12-15)			
		Handball[4]	91	13 (11-16)			
	Attitude Control	Football[1]	113	13 (11-15)	2,645	,450	
		Basketball[2]	102	14 (11-17)			
		Volleyball[3]	98	13 (11-15)			
		Handball[4]	91	13 (10-16)			

$p<0.05$

When Table 5 examined according to the sports branch variable, no significant differences were found in the autonomy, competence, and relatedness dimensions of the Scale of

Psychological Needs Prevention among athletes. Additionally, no significant differences were found in the negative energy, positive energy, and attitude control dimensions of the Psychological Performance Scale. However, significant differences were found in the self-confidence, attention control, visualization and imagery control, and motivation level dimensions.

Table 6. Comparison of Psychological Needs Prevention and Psychological Performance Scale Scores according to the Exercise Duration

Scale	Sub Dimension	Duration of Sports	N	Median (25-75)	X^2	p
Prevention of Psychological Needs	**Autonomy**	1-3 years	185	6 (4-10)	2,386	,496
		4-6 years	129	7 (4-10)		
		7-9 years	74	7 (4-12)		
		10 years and above	16	6 (4-13.75)		
	Competence	1-3 years	185	8 (5-13)	1,188	,756
		4-6 years	129	9 (5-13)		
		7-9 years	74	9(5-15)		
		10 years and above	16	13 (4-17.75)		
	Relatedness	1-3 years	185	7 (4-12)	1,738	,628
		4-6 years	129	7 (4-12)		
		7-9 years	74	7 (4-11.25)		
		10 years and above	16	10 (5,5-12.5)		
Psychological Performance	**Self Confidence**	1-3 years	185	16 (14-18)	4,486	,214
		4-6 years	129	16 (14-17)		
		7-9 years	74	16 (14-18)		
		10 years and above	16	15 (14-17.75)		
	Negative Energy	1-3 years	185	19 (16-21)	4,253	,235
		4-6 years	129	18 (15.5-20)		

		7-9 years	74	19 (15.75-20.25)		
		10 years and above	16	16 (14-22)		
	Attention Control	1-3 years	185	20 (17-22)	1,475	,688
		4-6 years	129	20 (18-22)		
		7-9 years	74	20 (17-22)		
		10 years and above	16	19 (17-20.75)		
	Visualization and Imagery	1-3 years	185	13 (10-17)	3,623	,305
		4-6 years	129	13 (11-16)		
		7-9 years	74	12 (9-16.25)		
		10 years and above	16	11,5 (9.25-15.75)		
	Motivation Level	1-3 years	185	13 (11-15)	1,883	,597
		4-6 years	129	13 (11-15)		
		7-9 years	74	13 (11-15)		
		10 years and above	16	12 (9-14)		
	Positive Energy	1-3 years	185	14 (11-15.5)	1,483	,686
		4-6 years	129	13 (11-15)		
		7-9 years	74	13 (11-15)		
		10 years and above	16	14 (11.25-16.5)		
	Attitude Control	1-3 years	185	13 (11-16)	1,327	,723
		4-6 years	129	13 (11-15)		
		7-9 years	74	14 (11.75-16)		
		10 years and above	16	12 (11.75-16)		

p>0.05

When Table 6 examined according to the exercise duration variable, no significant differences were found in the autonomy, competence, and relatedness dimensions of the Scale of Psychological Needs Prevention among athletes. Similarly, no significant differences were found in the self-confidence, negative energy, attention control, visualization and imagery control, motivation level, positive energy, and attitude control dimensions of the Psychological Performance Scale.

Table 7. Comparison of Psychological Needs Prevention and Psychological Performance Scale Scores according to the Education Level

Scale	Sub Dimension	Education Status	N	Median (25-75)	u	p
Prevention of Psychological Needs	**Autonomy**	Middle School	150	6 (4-10)	20345,000	,244
		High School and Equivalent	254	6.5 (4-11)		
	Competence	Middle School	150	8 (5-12)	21150,500	,062
		High School and Equivalent	254	9 (5-14)		
	Relatedness	Middle School	150	7 (4-11)	19962,000	,416
		High School and Equivalent	254	7 (4-12)		
Psychological Performance	**Self Confidence**	Middle School	150	16 (14-17.25)	20404,500	,229
		High School and Equivalent	254	16 (14-18)		
	Negative Energy	Middle School	150	19 (17-21)	16999,000	,069
		High School and Equivalent	254	18 (15-20)		
	Attention Control	Middle School	150	20 (17-22)	19162,000	,921
		High School and Equivalent	254	20 (17-22)		
	Visualization and Imagery	Middle School	150	13 (10-16)	17910,000	,313
		High School and Equivalent	254	12,50 (10-16)		
	Motivation Level	Middle School	150	13 (10-15)	20917,500	,098
		High School	254	13 (11-15)		

		and Equivalent				
	Positive Energy	Middle School	150	13 (11-15)	19377,000	,772
		High School and Equivalent	254	13 (11-15)		
	Attitude Control	Middle School	150	13 (11-15)	20576,000	,177
		High School and Equivalent	254	13 (11-16)		

p>0.05

When Table 7 examined according to the variable of educational background, no significant differences were found in the sub-dimensions of athletes' psychological need thwarting scale, including autonomy, competence, and relatedness, as well as in the sub-dimensions of psychological performance scale, including self-confidence, negative energy, attention control, visualization and imagery control, motivation level, positive energy, and attitude control.

Table 8. The Relationship between Athletes' Psychological Needs Thwarting and Psychological Performance Levels

Sub Dimension		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Autonomy[1]	r	1									
	p	.									
Competence[2]	r	,621**	1								
	p	,000	.								
Relatedness[3]	r	,523**	,754**	1							
	p	,000	,000	.							
Self Confidence[4]	r	-,053	,016	-,042	1						
	p	,289	,747	,396	.						
Negative Energy[5]	r	-,136**	-,320**	-,298**	,219**	1					
	p	,006	,000	,000	,000	.					
Attention Control[6]	r	-,199**	-,305**	-,264**	,197**	,520**	1				

	p	,000	,000	,000	,000	,000	.				
Visualization and Imagery[7]	r	,070	,066	,028	,432**	,160**	,220**	1			
	p	,161	,184	,577	,000	,001	,000	.			
Motivation Level[8]	r	,146**	,190**	,119*	,440**	,011	,060	,523**	1		
	p	,003	,000	,017	,000	,831	,225	,000	.		
Positive Energy[9]	r	,131**	,121*	,117*	,399**	,073	,130**	,512**	,547**	1	
	p	,008	,015	,019	,000	,141	,009	,000	,000	.	
Attitude Control[10]	r	,214**	,345**	,311**	,336**	-,211**	-,136**	,444**	,513**	,501**	1
	p	,000	,000	,000	,000	,000	,006	,000	,000	,000	.

$p<0.01^{**}$, $p<0.05$

Table 8 presents the relationship between the scores obtained from the sub-dimensions of athletes' psychological performance scale and the scores obtained from the sub-dimensions of the psychological needs thwarting scale. The correlation analysis revealed insignificant relationships as follows: self-confidence with autonomy (r=-,053, p=,289), competence with autonomy (r=,016, p=,747), relatedness with autonomy (r=-,042, p=,396), visual imagery and control with autonomy (r=,070, p=,161), competence with autonomy (r=,066, p=,184) and relatedness with autonomy (r=,028, p=,577).

Significant negative relationships at a low level were found between negative energy and autonomy (r=-, 136**, p=, 006), competence (r=-, 320**, p=, 000), and relatedness (r=-, 298**, p=, 000). Similarly, low-level negative relationships were observed between attention control and autonomy (r=-, 199**, p=, 000), competence (r=-, 305**, p=, 000) and relatedness (r = -(r=-, 264**, p=, 000).

Furthermore, low positive relationships were identified between motivation level and autonomy (r=, 146**, p=, 003), competence (r=, 190**, p=, 000), and relatedness (r=, 119*, p=, 017). Positive relationships were also observed between positive energy and autonomy (r=, 131**, p=, 008), competence (r=, 121*, p=, 015) and relatedness (r=, 117*, p=, 019). Additionally, attitude control exhibited low-level positive relationships with autonomy (r = (r=, 214**, p=, 000), competence (r=, 345**, p=, 000), and relatedness (r=, 311**, p=, 000).

Discussion and Conclusion

Psychological needs are innate. These needs should not be ignored and on the contrary should be supported in order to reveal the potential of the athletes and to use it during the competition. In line with this information, the literature will be discussed to explore whether the thwarting of athletes' psychological needs affects their psychological performance.

When the table 3 were examined according to the gender variable, significant differences were found in the sub-dimension of relatedness in the psychological needs thwarting scale, while no significant differences were observed in autonomy and competence dimensions ($p < 0.05$). It was found that the averages of female athletes were significantly higher than those of male athletes. Given the literature, Serin (2021), found significant differences in favour of females based on gender in her study on psychological needs among middle school students. Çetiner (2021), Yüksel et al., (2021), and Akbağ (2017) also found significant differences in psychological needs based on gender in their studies. The results of these studies are parallel to the findings of our research. Atıcı (2023), in his study with secondary school students, found no significant differences in psychological needs based on gender. Ilıkkan (2021), Aydın (2020), and Dinçer (2019) also found no significant differences in psychological needs based on gender in their studies. However, these studies' results do not corroborate the findings of our research. Girls are inherently more emotional and can increase their sense of belonging by feeling connected to individuals, communities, or groups (Şirin, 2023). Based on our research, it can be argued that the difference stems from this characteristic. According to the sub-dimensions of the psychological performance scale based on the gender among athletes, significant differences were not observed in the sub-dimensions of self-confidence, negative energy, attention control, and motivation level. However, significant differences were found in the sub-dimensions of visualization and imagery, positive energy, and attitude control. It was observed that the average scores of female athletes were significantly higher than those of male athletes. Considering the literature, Şentürk and Özmutlu (2023), found significant differences in psychological performance favouring female athletes in their study on archers. Gürer et al., (2018), Karademir et al., (2018), and Kızıldağ (2007) also found significant differences in psychological performance based on the gender variable in their respective studies. The results of these studies are consistent with the findings of our research. In contrast, Biricik (2023) found no significant differences based on the gender variable in their study on athletes preparing for the Olympics, focusing on psychological well-being and performance. Abiş (2022), Doğan (2019), and Sucan (2012) also found no significant differences based on the gender variable in their respective studies on psychological performance. The results of these studies are not parallel the findings of our research. It can be argued that the ability of girls to exhibit better visual-spatial skills than boys, and their tendency to be more social, energetic, enjoy their work, and control their internal processes before making decisions, contribute to the emergence of these differences (Güvendi, 2019).

When the table 4 were examined based on the age, significant differences were not found in the sub-dimensions of psychological needs thwarting scale related to autonomy and relatedness, while significant differences were found in the competence dimension ($p<0.05$). It was observed that the averages of athletes in the age range of 15-16 were significantly higher than the averages of athletes in the age range of 13-14. When examining the literature, Yüksel et al., (2021), found significant differences favouring athletes in the age range of 25-28 in their study on athletes engaged in different sports. Kaşka (2022) and Çetiner (2021) also found significant differences in psychological needs based on the age in their respective studies. The results of these studies are consistent with the findings of our research. However, Aras (2019), Sarıdede (2018), Yasul (2016), and Pidecioğlu (2015) did not find significant differences based on the age in their studies. The results of these studies are not parallel the findings of our research. It can be argued that as athletes get older, they have a better understanding of the requirements of their specific sport, gain experience, and become more aware of their abilities, thus becoming more competent (Şirin, 2023). According to our research, it can be suggested that the difference might be attributed to this factor. No significant differences were found based on the age in the sub-dimensions of self-confidence,

negative energy, attention control, visualization and imagery, motivation level, positive energy, and attitude control of the psychological performance scale among athletes. When examining the literature, Gürer et al., (2016), found no significant differences based on the age in their study on athletes preparing for the Olympics regarding psychological performance. Sucan (2012) also found no significant differences based on the age in their study on individual and team sport athletes' psychological performance. The results of these studies are consistent with the findings of our research. According to our research, in team sports such as football, basketball, volleyball, and handball, the creation of more intimate environments, athletes behaving closer and more affectionate towards each other regardless of age, and performance-focused evaluations may contribute to the age having a similar impact on psychological performance. In other words, the age influences psychological performance at a similar level in these sports due to the establishment of more intimate team dynamics and supportive interactions among athletes (Gürer, 2016).

When the table 5 were examined based on the sport discipline, significant differences were not found in the sub-dimensions of psychological needs thwarting scale related to autonomy, competence, and relatedness. Despite the lack of significant differences, it is observed that athletes in the football discipline have higher averages in the sub-dimensions of autonomy and relatedness compared to athletes involved in basketball, volleyball, and handball disciplines. Based on the previous studies literature, Gezer (2018) found no significant differences based on the sport discipline in their study in terms of the psychological needs of university students engaged in individual and team sports. Gülşen et al., (2018) also found no significant differences based on the sport discipline variable in their study on the psychological needs of sports science faculty students engaged in team sports. The results of these studies are consistent with the findings of our research. However, Gezer (2018), found significant differences based on the sport discipline in their study with reference to the psychological needs of students engaged in individual and team sports, favouring individual sport athletes. Yüksel and Orhan (2021), Öner and Cankurtaran (2020), and Yarayan and İlhan (2020) also found significant differences based on the sport discipline in their respective studies. Based on the findings of the present study, it can be suggested that the similarity in psychological needs in team sports disciplines such as football, basketball, volleyball, and handball is due to the nature of team sports (Gezer, 2018). No significant differences were found in the sub-dimensions of negative energy, positive energy, and attitude control in the psychological performance scale of athletes. However, significant differences were detected in the sub-dimensions of self-confidence, attention control, visualization and imagery, and motivation level based on the variable of sports discipline. In the sub-dimension of self-confidence, it was determined that basketball players had significantly higher mean scores compared to football and handball players, and volleyball players had significantly higher mean scores compared to handball players. In the sub-dimension of attention control, it was found that volleyball players had significantly higher mean scores compared to athletes from other sports disciplines. In the sub-dimension of visualization and imagery, it was observed that basketball and volleyball players had significantly higher mean scores compared to football players. In terms of motivation level, it was determined that basketball players had significantly higher mean scores compared to football and handball players. A review of the literature indicates that Kaya and Onağ (2020), found significant differences based on the variable of sports discipline in their study on team athletes. Öztürk (2021) also identified significant differences based on the variable of sports discipline in their research. The findings of our study are in parallel with the results of these studies. Sports disciplines such as football, basketball, volleyball, and handball differ in terms of physical preparation, training style, training periodization, and the psychological readiness of athletes (Gezer, 2018). Therefore, it

can be stated that the differences in self-engagement, focus, and motivation levels among athletes in these sports are influenced by the internal dynamics of these disciplines.

When the table 6 were examined based on the variable of duration of participation in sports no significant differences were found in the sub-dimensions of psychological needs thwarting scale, including autonomy, competence, and relatedness ($p>0.05$). Despite the lack of significant differences, in the sub-dimension of autonomy, it was determined that athletes with a sports participation duration of 4-6 and 7-9 years had higher mean scores compared to those with a duration of 1-3 years and 10 years and above. In the sub-dimensions of competence and relatedness, it was found that athletes with sports participation duration of 10 years and above had higher mean scores than the others. A review of the literature reveals that Batu et al., (2020) did not find significant differences based on the variable of sports participation duration in their study on elite swimmers and psychological needs. Güler (2020), Öner (2019), and Sadıg (2018) did not find significant differences based on the variable of sports participation duration in their respective research. The results of these studies are consistent with the findings of our study. Kaşka (2022), in their research on psychological needs of individuals engaged in fitness exercises, found significant differences favoring individuals with sports participation duration of 4-5 years based on the variable of sports participation duration. Atıcı (2023) and Serin (2021) also found significant differences based on the variable of sports participation duration in their studies. The results of these studies do not align with the findings of our research. In team sports such as football, basketball, volleyball, and handball, as the duration of sports participation increases, experience grows, the requirements of the discipline are realized more extensively, and athletes may neglect their psychological needs as they have already attained a certain level of proficiency (Çırak, 2017). Based on our research, we can conclude that the lack of significant differentiation based on the duration of participation in sports is due to this phenomenon. No significant differences were found in the sub-dimensions of self-confidence, negative energy, attention control, visualization and imagery control, motivation level, positive energy, and attitude control in the psychological performance scale of athletes based on the variable of sports participation duration. As the duration of sports participation increases, athletes may become more focused on learning and developing regarding their sport, and they may become less concerned about future criticisms (Biricik, 2023). Based on our research, we can attribute the lack of significant differentiation based on the duration of participation in sports to this phenomenon.

When the table 7 were examined based on the educational level, no significant differences were found in the sub-dimensions of psychological needs thwarting scale, including autonomy, competence, and relatedness ($p>0.05$). Despite the lack of differences, it was observed that athletes with a high school or equivalent educational level had higher mean scores in the sub-dimensions of autonomy and competence compared to athletes with a secondary school educational level. Kaşka (2022), carried out a study by employing individuals engaged in fitness activities and psychological performance, significant differences were found in favour of individuals with a bachelor's degree in terms of educational level. The results of this study do not align with the findings of our research. According to Öztürk (2021), as educational level increases, individuals are expected to display more autonomous behaviour, make decisions independently, and have different perspectives on events and situations. Based on the results of our study, we can attribute the lack of significant differentiation based on educational level to various factors such as athletes' family environment, cultural background, and expectations from sports. These factors may account for the different characteristics observed among athletes (Öztürk, 2021).

No significant differences were found in the sub-dimensions of self-confidence, negative energy, attention control, visualization and imagery control, motivation level, positive energy, and attitude control in the psychological performance scale of athletes based on the variable of educational level ($p>0.05$). When reviewing the literature, it is found that the studies conducted by Gürer et al., (2018), on the psychological performance of athletes participating in outdoor sports activities and Sucan (2012), on the psychological performance of individual and team athletes did not find significant differences based on educational level. These findings are in line with the results of our research. Additionally, there are studies in the literature that do not support the findings of our study. In a study conducted by Abiş (2022), on the psychological performance of track and field athletes, significant differences were found in favour of athletes with postgraduate education. The results of this study do not align with the findings of our research. As educational level increases, individuals are expected to develop the ability to view events from different perspectives, allowing them to manage their mental processes more effectively (Abiş, 2022). Based on the results of our study, we can attribute the lack of significant differentiation based on educational level to the personality traits, social environment, and family background of the athletes in the sample. It is expected that athletes with higher levels of education will display desired behaviours (Öztürk, 2023).

Considering the table 8, a low level of negative and significant relationships was observed between the sub-dimensions of negative energy and attitude control and the sub-dimensions of autonomy, competence, and relatedness, based on the scores obtained from athletes' Psychological Performance Scale. On the other hand, low level of positive and significant relationships was found between the motivation level, positive energy and attitude control sub-dimensions, and the sub-dimensions of autonomy, competence, and relatedness. Thus, it can be said that as athletes' psychological performance scores increase, their psychological needs decrease. Similar studies in the literature reveal relevant findings. In a study conducted by Abiş (2022), a relationship between psychological performance and mental resilience was identified. Another study by Ekizoğlu (2023), found a negative correlation between psychological performance and mobbing behaviours. Biricik (2023), discovered significant relationships between psychological well-being and athletes' levels of burnout. In addition, studies in the literature indicate that when athletes are socially competent and autonomous, their ability to establish relationships can increase (Bakar, 2022), and when they feel better and have specific goals, they can increase their visualization and imagery abilities (Kara, 2022). However, it has been stated that in situations where negative energies such as lack of self-confidence, stress, anxiety, intense pressure, and lack of motivation are high, not only performance but also other competencies can decrease Sucan (2012). These findings support our research results.

In conclusion, relationships between the psychological needs and psychological performance of athletes participating in team sports such as football, basketball, volleyball, and handball have been found. As athletes' psychological performance increases, their psychological needs decrease. Additionally, it has been found that gender, age, and sports discipline have an impact on psychological needs and psychological performance. The duration of participation in sports and educational level were not found to significantly differentiate in terms of psychological needs and psychological performance.

RECOMMENDATIONS

• It is recommended to take sufficient precautions and provide expert support to enhance athletes' psychological performance.

• This research was conducted on athletes engaged in team sports. Similar and different results can be investigated by conducting further studies on athletes participating in individual sports as well.

• It is anticipated that conducting research with a larger sample size in future studies will contribute to the relevant literature.

• Incorporating different demographic variables into future studies will provide new insights into the field.

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