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ORIGINAL ARTICLE

The Effect of Narcissistic Personality Traits of Athletes on Exercise Addiction

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ABSTRACT

Background. Studies examining the development of exercise addiction point out the relationship between the characteristics that create this behavioral addiction and the personality characteristics of individuals. **Objectives.** This study aims to examine athletes' exercise addiction levels and narcissism levels and to reveal the relationship between narcissism and exercise addiction. **Methods.** The study's sample consisted of 235 ($\bar{X}$=23) athletes, 98 of whom were female and 137 of whom were male, between the ages of 18 and 53, who were involved in fitness, kickboxing, and volleyball sports in Osmaniye province. The research design used a relational survey design, one of the quantitative research methods. **Results.** According to the research results, it was determined that there was a significant difference between exercise addiction and narcissism levels and in the tolerance development and passion sub-dimensions of the exercise addiction scale of athletes according to branches ($p<0.05$). Additionally, a significant difference was observed between exercise duration and exercise addiction ($p<0.05$). Accordingly, it was determined that there was a moderately significant positive relationship between narcissism and exercise addiction ($r=0.493$ $p<0.01$). As a result, narcissism appears to be a significant predictor of exercise addiction ($r^2=0.243$ $p<0.01$). It can be stated that 24% of the total variance regarding exercise addiction is explained by narcissism. **Conclusion.** As a result, narcissism appears to be a significant predictor of exercise addiction. It is essential to identify exercise addiction risk factors to be protected from exercise addiction and to minimize its possible effects. In this way, it is thought that individuals can achieve positive results from exercise.

KEYWORDS: ***Narcissism, Exercise Addiction, Fitness, Volleyball, Kickboxing.***

INTRODUCTION

Physical activity significantly affects cognitive performance and psychological health (1). Physical activity improves executive functioning, such as memory and attention (2). It also promotes relaxation by reducing stress hormones such as cortisol and releasing neurotransmitters such as endorphins that improve mood (3). The interaction of cognitive reasoning with physical activity has been studied and has increased in importance in recent years (4). According to the psychophysiological understanding focusing on mind and body harmony, emotions, thoughts, and mental events affect the cardiovascular activity rate and muscle tension level (5, 6). Furthermore, this interaction sheds light on understanding the complexity of conditions, such as exercise addiction, in the fields of sport and exercise psychology.

Exercise addiction (EA) is a behavioral addiction that has been studied with increasing attention in the field of sport and exercise psychology (7-9). This behavioral addiction is characterized by individuals experiencing loss of control and withdrawal symptoms when they do not exercise (10, 11). Studies have shown that exercise addiction has social, physical, and

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psychological dimensions as well as its behavioral structure (12, 13). In addition, it is possible to classify exercise addiction as primary or secondary. While in primary exercise addiction, doing the exercise itself is enough to reward the individual, in secondary EA, exercise is a way to achieve another goal. For instance, uncontrolled exercise is a weight loss goal for individuals with body image problems (14, 15). The following elements should be present in exercise addiction, per the theoretical model of behavioral addictions: salience factor, which occurs when exercise becomes the most crucial thing; mood modification, which happens when people adopt a coping strategy to regulate their emotions; tolerance, which is a physiological increase in the amount of exercise required to reduce craving; withdrawal, which appears as anhedonia and anxiety when gym activity is suddenly reduced; conflicts between the addicted person and others; and relapse, which is the tendency to periodically revert to earlier patterns of the activity (16, 17). Studies examining the development of exercise addiction point out the relationship between the characteristics that create this behavioral addiction and the personality characteristics of individuals. Research conducted in recent years supports the relationship between personality factors and exercise addiction (7, 18, 19). Discussions between personality factors and exercise addiction highlight one concept in particular: narcissism. It has been stated that personality factors, including narcissism, may be influential in the acquisition and maintenance of addiction (19, 20). Especially one of the striking structures associated with exercise addiction is narcissism (21).

The diagnosis of narcissistic personality disorder is based on traits like excessive self-care, a lack of empathy, and the perception and liking of oneself as superior to others (22). According to the DSM-V, narcissistic individuals must have specific characteristics. These include seeing oneself as very important, desiring unlimited power, success, and beauty, believing that only brilliant people can understand him/her, having an intense desire for admiration and approval, believing that he/she is entitled to special treatment, being manipulative in interpersonal relationships, lacking empathy, believing that everyone envies them, and engaging in arrogant behavior (23).

Besides, both exercise addiction (24) and narcissism (25) are found to be associated with other addictions (e.g., gaming, gambling, sex, shopping, substances, and alcohol). Bruno (16) stated that narcissistic individuals satisfy their urges through repetitive behaviors, thus protecting themselves from a lack of admiration. However, in the Diagnostic and Statistical Manual of Mental Disorders, only gambling and internet gaming disorders are defined as behavioral addictions (23). In addition to the relationship between the concepts of exercise addiction and narcissism and other addictions, it is also examined whether there is a relationship between these two concepts. Cook et al. (26) suggested that narcissism may be an underlying factor in exercise addiction. People who exercise create an environment where they can invest in their bodies and attract attention. This makes the exercise environment very suitable for individuals with narcissistic tendencies who need feelings of approval and admiration from others. Narcissistic features affect individuals' behavioral and physiological responses through psychophysiological pathways (27). Narcissistic individuals look for places to demonstrate their physical abilities, attractiveness, and superiority to prove they are better than others (28). Exercise is ideal for creating this environment for them. Narcissistic individuals are prone to experiencing irritability and anxiety when they lose their sense of control over stressful situations (29). This may predispose them to the risk of exercise addiction, using exercise as a dysfunctional coping mechanism to escape their problems.

Another point is increased endorphins secreted with exercise (30, 31). It is thought that it may be a risk factor for narcissistic individuals to turn to exercise, which will give them this endorphin increase to maintain and increase their mood. Narcissistic individuals are at risk of becoming prone to exercise addiction due to their desire to obtain external rewards in the form of social approval, competition, and appearance improvement in their motivation to exercise (31).

Moreover, exercise is a fantastic way for a person to focus attention on himself. Davis (32), with his work that proves all these, stated that narcissistic individuals exercise to improve their body appearance. Davis (33) suggests that women's excessive exercise is a problem with their body perception. Many studies based on this theory have stated that the rate of exercise addiction is relatively high among bodybuilders (34, 35). Additionally, individuals with high levels of narcissism can try to protect their self-

worth by focusing on their appearance (19). In this context, it is thought that narcissistic individuals with cognitive distortions in terms of body image and self-worth perception will want to meet their need for admiration and approval through exercise. This puts them at risk of exercise addiction. The sense of success and physical competence that comes with regular physical activity increases self-esteem (36, 37). Another point that suggests that narcissistic individuals may be prone to exercise addiction is that they may insist on reaching their ideal body shape due to their perfectionist personality traits.

All these reasons suggest that individuals with narcissistic tendencies may be more prone to exercise addiction. Research has shown that some narcissistic traits carry a risk factor for exercise addiction (38).

In light of all this, there are a limited number of studies examining the relationship between exercise addiction and narcissism. However, the harmful consequences of exercise addiction highlight the importance of identifying risk factors. Therefore, further research may help identify individuals at risk of developing exercise addiction. In this context, the current research aims to examine the exercise addiction and narcissism levels of athletes and reveal the relationship between narcissism and exercise addiction.

We expected that narcissism may have a role in the development of exercise addiction. The logic of this prediction is that exercise may be attractive to narcissistic individuals who want to show themselves off to others for reasons such as athletic performance gained from exercise and perceived physical appearance.

MATERIALS AND METHODS

Research Model. This study, it was aimed to examine the relationship between narcissism levels and exercise addiction in athletes who play sports in volleyball, fitness, and kickboxing branches. In addition, gender, age, sports branch, and duration of sports were compared. In line with the purpose of the research, this research is descriptive research using the correlational survey model, one of the quantitative research methods. In this framework, a research model that aims to determine the existence of co-change between two or more variables has been created.

Research Group. The population of this study consists of athletes in volleyball, fitness, and kickboxing branches. The study population is represented by athletes playing volleyball, fitness, and kickboxing branches in Osmaniye province. The research group consisted of 235 participants (98 Female, 41.7%; 137 Male, 58.3%) who were selected by convenience sampling method from non-random sampling methods. The average age of the participants was determined to be 23.42. Osmaniye Korkut Ata University Social Sciences Research and Publication Ethics Committee approved the research.

Data Collection Method. The "Narcissistic Personality Inventory-13 (NPI-13)" scale was used to determine the narcissism levels of the athletes who voluntarily participated in the study. The "Exercise Addiction Scale" was used to determine the level of exercise addiction. The "Personal Information Form" prepared by the researchers was used to collect information about demographic characteristics such as gender, age, sports branch, and duration of doing sports.

Narcissistic Personality Inventory-13 (NPI-13) Scale: It was developed by Gentile et al. (39), and its validity and reliability study in our country was carried out by Doğan and Çolak (40). Participants stated the frequency of exhibiting the behavior specified by each item on a Likert-type 5-rating scale. The Cronbach alpha internal consistency coefficients calculated based on the item analysis of the scale were calculated as 0.83 for the authority factor, 0.83 for the Pretentiousness factor, and 0.84 for the exploitation factor.

Exercise Addiction Scale: It was developed by Tekkurşun Demir et al. (41). The Exercise Addiction scale was prepared to reveal the level of exercise addiction. Participants indicated their level of satisfaction with each item on a Likert-type 5-rating scale. Cronbach's alpha internal consistency coefficients calculated based on the item analysis of the scale were calculated as 0.83 for factor 1, 0.83 for factor 2, and 0.83 for factor 3.

Data Analysis. Within the scope of the research, the analyses applied for the data obtained from the "Personal Information Form," "Narcissistic Personality Inventory-13 (NPI-13) Scale," and "Exercise Addiction Scale" were performed through the SPSS 26.0 program. Before analyzing the data, the forms obtained were reviewed, and seven questionnaires that were not filled under the instructions or left blank were removed from the research. Two hundred thirty-five questionnaires, which were filled voluntarily and under their purpose, were evaluated as a statistical method during the evaluation of the

obtained data: Descriptive statistics (standard deviation, frequency, arithmetic mean), t-test, one-way analysis of variance (ANOVA), Tukey HSD multiple comparison test from Post Hoc tests to find the source of differentiation, and Pearson correlation analysis to determine the relationships between variables. Simple linear regression analysis was used to calculate the predictability. The significance level was accepted as 0.05 in all analyses. Whether the data met the requirements of the parametric tests was decided by looking at the Skewness and Kurtosis values and the Levene test results. When the Skewness and Kurtosis values of the independent variables were examined in the study, it was decided that the distribution was normal and suitable for a normal distribution, as well as the applicability of the parametric tests.

RESULTS

Descriptive statistics were calculated to determine the narcissistic behaviors and exercise addiction levels of the athletes participating in the study, and the results are shown in Table 1.

Table 1. Findings regarding kurtosis-skewness, mean, standard deviation, and Cronbach alpha values of the scores obtained from the measurement tools

	N	Min.	Max.	Ort.	Ss	Skewness	Kurtosis	α
Narcissism Total	235	7	65	43.62	8.64	0.009	0.682	0.83
Authority	235	4	20	14,32	3.50	-0.365	0.123	0.83
Pretentiousness	235	5	25	16.20	3.74	0.209	0.193	0.83
Exploitation	235	4	20	13.09	3.06	0.052	0.293	0.84
Exercise Addiction Total	235	19	85	59.09	10.10	-0.489	2.100	0.83
Excessive Focus and Emotion Change	235	7	35	27.54	4.67	-1.129	2.674	0.83
Postponement of Social Needs and Conflict	235	6	20	17.35	4.60	0.424	0.162	0.83
Tolerance Development and Passion	235	4	20	14.19	3.38	-0.442	0.261	0.83

When Table 1 was examined, it was determined that the participants' scores obtained from the Narcissistic Personality Inventory-13 Scale varied between 7 and 65; the mean was calculated as 43.62 (±8.64). The scores obtained from the second measurement tool, the Exercise Addiction Scale, also varied between 19 and 85; the mean was 20.63 (±3.02). When the skewness and kurtosis coefficients calculated for the normality assumption of the variables were examined, it was determined that the coefficients showed a normal distribution. When the skewness- kurtosis coefficients calculated for the normality assumption of the variables were examined, it was determined that the coefficients took values between the normal distribution (narcissism: skewness=0.009; kurtosis=0.682; exercise addiction: skewness=-0.489; kurtosis=2.100;) and it was determined that the variables did not deviate excessively from normal.

ANOVA test was performed on the exercise addiction scale of the athletes participating in the study according to their sports branches. The results are shown in Table 2.

When Table 2 was examined, the analysis showed a significant difference in the tolerance development and passion sub-dimension of the athletes' exercise addiction scale according to their sports branches, $F=4.78$, $p<0.05$. In order to find out between which groups the differences between the units are, the Tukey HSD test was performed since the equality of variances was ensured, and it was determined that there was a significant difference between fitness athletes, Kick Boxing and Volleyball players, $p<0.05$. According to the results, it was determined that the mean of fitness athletes ($\bar{X}=13.34$) was lower than Kick Boxers ($\bar{X}=14.72$) and volleyball players ($\bar{X}=14.72$) in the sub-dimension of tolerance development and passion.

ANOVA test was performed on the exercise addiction scale according to the exercise frequency of the athletes participating in the study. The results are shown in Table 3.

Table 2. ANOVA results of exercise addiction scores in athletes according to sport branch

Scale Exercise Addiction	Sport Branch	N	X̄	SS	F	sd	p	Significant Difference
Excessive Focus and Emotion Change	Volleyball	79	26.83	5.15	1.80	2	0.168	
	Kick Boxing	66	28.30	3.88				
	Fitness	90	27.60	4.71				
Postponement of Social Needs and Conflict	Volleyball	79	17.55	4.92	1.27	2	0.285	
	Kick Boxing	66	17.90	4.52				
	Fitness	90	16.77	4.35				
Tolerance Development and Passion	Volleyball	79	14.72	4.06	4.78	2	0.05*	Fitness
	Kick Boxing	66	14.72	2.61				Fitness
	Fitness	90	13.34	3.06				Kick Boks Voleybol

*: p<0.05, **: p<0.01

Table 3. ANOVA results of exercise addiction scores in athletes according to Frequency of Exercise

Scale Exercise Addiction	Frequency of Exercise (Minutes)	N	X̄	SS	F	sd	p	Significant Difference
Excessive Focus and Emotion Change	0-30	23	24.78	4.98	6.149	3	0.000**	61-90 m. 91 or more m.
	31-60	48	26.31	5.12				91 or more
	61-90	106	27.92	4.09				0-30 m. 31-60 m.
	91 or more	58	28.94	4.56				0-30 m. 31-60 m.
Postponement of Social Needs and Conflict	0-30	23	14.56	3.61	9.78	3	0.000**	91 or more m.
	31-60	48	16.41	4.10				91 or more m.
	61-90	106	17.08	4.27				91 or more m.
	91 or more	58	19.74	4.96				0-30 m. 31-60 m. 61-90 m.
Tolerance Development and Passion	0-30	23	11.48	3.70	11.133	3	0.000**	61-90 m. 91 or more m.
	31-60	48	13.04	3.15				61-90 m. 91 or more m.
	61-90	106	14.67	3.02				0-30 m. 31-60 m.
	91 or more	58	15.37	3.26				31-60 m.

*: p<0.05, **: p<0.01

The results of the analysis show that there is a significant difference in the exercise addiction of the athletes according to the duration of exercise. In order to find out which groups had the differences, the Tukey HSD test was performed since the equality of variances was ensured. The exercise addiction scale was found to be F=6.149 in the sub-dimension of excessive focus and emotion change. It was found that there was a significant difference between athletes who exercised for 0-30 minutes (X̄=24.78) and those who exercised for 61-90 minutes (X̄=27.92) and over 91 minutes (X̄=28.94). According to the results, it was determined that athletes who exercised for more than 91 minutes (X̄=28.94) had higher averages than athletes who exercised for 0-30 minutes and 61-90 minutes. In the Postponement of Social Needs and Conflict sub-dimension of the exercise addiction scale, F=9.78, p<0.001. Those who exercised 91 minutes or

more ($\bar{X}$=19.74) were found to have a significant difference between all groups in the sub-dimension of Tolerance Development and Passion, F=11.133. It was found that there was a significant difference between athletes who exercised for 0-30 minutes ($\bar{X}$=11.48) and those who exercised for 61-90 minutes ($\bar{X}$=14.67) and over 91 minutes ($\bar{X}$=15.37).

ANOVA test was performed on the exercise addiction and narcissism scale according to the competition status of the athletes. The results are shown in Table 4.

The results of the analysis show that there is a significant difference in the total scores of the exercise addiction and narcissism scales of the athletes according to the competition level of the athletes. In order to find out between which groups the differences between the units were between, the Tukey HSD test was performed since the equality of variances was ensured. In the exercise addiction scale, F=5.44, p<0.05. It was determined that there was a significant difference between athletes who participated in competitions professionally ($\bar{X}$=63.38) and amateur athletes ($\bar{X}$=58.95) and athletes who never participated in competitions ($\bar{X}$=57.29) p<0.05. According to the results, it was determined that the averages of athletes who participated in competitions professionally were higher than those of amateur athletes and athletes who never participated in competitions.

Table 4. ANOVA results of exercise addiction scores in athletes according to the competitive situation

Scale	Competition Status	N	$\bar{X}$	SS	F	sd	p	Significant Difference
Exercise Addiction	Never competed	92	57.29	8.60	5.44	2	0.005*	Professional
	Amateur	101	58.95	11.03				Professional
	Professional	42	63.38	9.78				Never competed-Amateur
Narcissism	Never competed	92	43.23	8.29	3.08	2	0.048*	-
	Amateur	101	42.76	8.55				Professional
	Professional	42	46.57	9.20				Amateur

*: p<0.05

In the narcissism scale, F=3.08 p<0.05. It was determined that there was a significant difference between athletes who participated in competitions professionally ($\bar{X}$=46.57) and amateur athletes ($\bar{X}$=42.76) and athletes who never participated in competitions ($\bar{X}$=43.23) p<0.05. According to the results, it was determined that the averages of athletes who participated in competitions professionally were higher than those of amateur athletes and athletes who never participated in competitions. The relationship between athletes' narcissism levels (authority, pretentiousness, exploitation) and exercise addiction (excessive focus and emotional change, postponement of individual needs, and conflict) is shown in Table 5.

The Pearson Correlation Coefficient was used to examine the relationship between narcissism behaviors and exercise addiction of athletes. According to Table 5, it was determined that there was a statistically significant positive relationship between narcissism total score and exercise addiction total score (r=0.493, p>0.01). Narcissism sub-dimensions were found to have a statistically significant positive relationship with all sub-dimensions of exercise addiction at a moderate level. Simple linear regression analysis was used to predict athletes' exercise dependence. The results are shown in Table 6.

When the analysis results are analyzed, it is seen that narcissism is a significant predictor of exercise addiction. It can be stated that 24% of the total variance of exercise addiction is explained by narcissism level.

DISCUSSION

According to the one-way ANOVA test performed to determine whether there is a relationship between exercise duration and exercise addiction, it was determined that there was a significant difference between exercise duration and exercise addiction (P<0.01). A significant difference was found in all sub-dimensions of the exercise addiction scale, depending on the exercise duration. In this situation, as the exercise duration increased, the athletes' scores in all sub-dimensions of the exercise addiction scale increased. This result can

be caused by individuals with high addiction levels being more likely to engage in exercise in their leisure time than individuals with low addiction levels. Research results prove this (42-44).

Table 5. The relationship between athletes' narcissism levels and exercise addiction

N=235		1	2	3	4	5	6	7	8
Narcissism Total	r	1.000							
	p								
Authority	r	0.858	1.000						
	p	0.000							
Pretentiousness	r	0.850**	0.586**	1.000					
	p	0.000	0.000						
Exploitation	r	0.801	0.559**	0.506**	1.000				
	p	0.000	0.000	0.000					
Exercise Addiction Total	r	0.493**	0.438**	0.357**	0.452**	1.000			
	p	0.000	0.000	0.000	0.000				
Excessive Focus and Emotion Change	r	0.403**	0.367**	0.313**	0.335**	0.831**	1.000		
	p	0.000	0.000	0.000	0.000	0.000			
Postponement of Social Needs and Conflict	r	0.364**	0.328**	0.234**	0.367**	0.776**	0.373**	1.000	
	p	0.000	0.000	0.000	0.000	0.000	0.000		
Tolerance Development and Passion	r	0.418**	0.354**	0.316**	0.389**	0.797**	0.564**	0.443**	1.000
	p	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Average		43.62	14.32	16.20	13.09	59.09	27.54	17.35	14.19
Standard Deviation		8.64	3.50	3.74	3.06	10.10	4.67	4.60	3.38

**: p<0.01

Table 6. Results of simple linear regression analysis for predicting athletes' exercise addiction

Variable	B	Standard Error	Beta	t	p
Egzersiz Bağımlılığı	33.97	2.963		11.464	0.00
Narcissism	0.576	0.067	0.493	8.641	0.00
R=0.493 R^2=0.243 p=0.00					

According to the Tukey test, one of the post-hoc tests, it was determined that there was a significant difference according to branches in the 'Tolerance Development and Passion' sub-dimension of the exercise addiction scale. There were significant differences between fitness, kickboxing, and fitness and volleyball. We thought this might be related to a passion for sports. This study stated that volleyball players showed higher passion scores than fitness players on the passion sub-dimension of the exercise addiction scale. Passion for sports is an essential factor in predicting exercise addiction. Studies have shown higher levels of passion in team sports athletes than in individual sports (45). Similar to the outcomes of this study, Lodovico et al. (46) have shown in their studies that individuals who engage in ball sports (10.4%) show a higher rate of exercise addiction than those who do fitness (8.2%).

In our research, it was seen that the average score of kickboxing athletes from exercise addiction was the same as that of volleyball players. This situation applies to those who engage in sports that require endurance. This point of the research has parallel results with studies showing that the risk of Exercise addiction is higher in endurance athletes (47, 48).

Bingöl (49), in his research, found a significant difference between sports branches and exercise addiction scores (p<0.05). According to this result, It was observed that exercise addiction rates were high in endurance sports (Muay Thai μ=75.94, Boxing μ=75.66, Volleyball μ=74.06 branches).

Pearson correlation analysis was used to examine the relationship between narcissism and exercise addiction. According to the research results, it was determined that there was a positive and moderately significant relationship between narcissism and exercise addiction. (0.493). In line with our research outcomes, Bruno et al. (16) examined the relationship between exercise addiction and narcissism with 120 fitness athletes. It has been determined that narcissism and self-esteem are risk factors for exercise addiction for athletes with an average age of 31. In another study, Miller and Mesagno (19) found that

narcissism and perfectionism had a significant and positive relationship with exercise addiction in 90 fitness athletes who exercised regularly. According to the results of the simple linear regression analysis performed to predict the exercise addiction of athletes, it can be stated that 24% of the total variance regarding exercise addiction is explained by narcissism. When the analysis results are examined, it is seen that narcissism is a significant predictor of exercise addiction.

According to the results of one-way ANOVA, which was conducted to determine the effect of the competition level of athletes on exercise addiction, it was found that those who do sports at the professional level have a higher average score on the exercise addiction scale than those who compete at the amateur level and athletes who have never competed. Similar to the results of this study, Cicioğlu et al. (50), in their study investigating the effect of sports activity level on exercise addiction, observed that professional athletes are more likely to acquire exercise addiction. In another study examining the effect of competition level on exercise addiction, it was determined that athletes competing at the national level faced a 7.6 percent risk of exercise addiction, and this rate increased as the level of competition increased (51).

The findings of this research reveal the interaction of cognitive reasoning with physical activity, that is, the harmony of body and mind. The interaction of cognitive reasoning with physical activity also reveals our study's harmony of body and mind. Narcissistic individuals, who think they are superior and privileged to others, want a more ideal physical perception (52). Their cognitive mindset forces them to be physically strong and beautiful (19). The study of Vaalayi et al. (53) can be an example of the interaction between mind and body, where mental functions physically affect the quality of behavior. In the study, it was determined that low-intensity exercise reduced the decline in cognitive functions by reducing the effects of partial sleep deprivation in athletes. In line with the research results of Vaalayi et al. (53), Ren et al. (54) concluded that both physical and mental activity were more effective than alone at improving physical fitness.

CONCLUSION

As a result, narcissism appears to be a significant predictor of exercise addiction. It is essential to identify exercise addiction risk factors to be protected from exercise addiction and to minimize its possible effects. In this way, it is thought that individuals can achieve positive results from exercise.

Future studies may examine the risk factor of narcissism regarding exercise addiction in terms of gender. In particular, the physical fitness offered by exercise is linked to perceived masculinity.

In addition, it is recommended that mindfulness therapies focusing on the mind-body connection be used in the future to recognize and reduce the risk of exercise addiction in narcissistic individuals.

APPLICABLE REMARKS

- It is essential to recognize narcissistic personality traits to prevent a tendency towards exercise addiction.
- This is to prevent exercise from being drawn into unhealthy areas.
- When the relationship between these two concepts is realized, support can be received from mental health experts to ensure that individuals can create a balanced exercise routine.

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AUTHORS' CONTRIBUTIONS

Study concept and design: Ahmet Ferdi Koç. Acquisition of data: Ahmet Ferdi Koç, Kürşat Hazar. Analysis and interpretation of data: Ahmet Ferdi Koç, Merve Rumeysa Alpay. Drafting the manuscript: Ahmet Ferdi Koç, Merve Rumeysa Alpay. Critical revision of the manuscript for important intellectual content: Kürşat Hazar. Statistical analysis: Ahmet Ferdi Koç. Administrative, technical, and material support: Kürşat Hazar. Study supervision: Kürşat Hazar.

CONFLICT OF INTEREST

The authors mention no "Conflict of Interest" in this study.

ETHICAL CONSIDERATION

Osmaniye Korkut Ata University Scientific Research and Publication Ethics Directive was unanimously decided by the members

participating in the meeting to give this document as the "Ethics Committee Approval Document" for the research.

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FINANCIAL DISCLOSURE

The authors have no financial interests related to the material in the manuscript.

ARTIFICIAL INTELLIGENCE (AI) USE

There was NO use of artificial intelligence (AI) for preparation, writing, or editing this manuscript.

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