

(ISSN: 2602-4047)

Uyar, Y. (2023). The Relationship Between Social Physique Anxiety and Self-Confidence: A Research On Elite Ice Hockey Players, *International Journal of Eurasian Education and Culture*, 8(21), 896-912.

DOI: http://dx.doi.org/10.35826/ijoecc.677

Article Type (Makale Türü): Research Article

THE RELATIONSHIP BETWEEN SOCIAL PHYSIQUE ANXIETY and SELF-CONFIDENCE: A RESEARCH ON ELITE ICE HOCKEY PLAYERS

Yalçın UYAR Asst. Prof, Ankara University, Ankara, Turkey, yuyar@ankara.edu.tr ORCID: 0000-0002-9786-5849

Received: 01.02.2023 Accepted: 20.05.2023 Published: 01.06.2023

ABSTRACT

The aim of this study is to examine the relationship between social physique anxiety and selfconfidence in elite ice hockey players. This research is quantitative research and has been prepared according to the principles of the screening model. The population of the research consists of 221 ice hockey players who played in the Turkish Ice Hockey Federation U18 and U20 leagues in the 2020-2021 season. The research sample consists of 112 ice hockey players selected by convenience sampling method from the specified universe. In the study, the personal information form including questions about the demographic information of the participants, the social appearance anxiety scale developed by Hart et al., (2008) and adapted to Turkish by Doğan (2010), and the self-confidence scale developed by Akın (2007) were used. Cronbach Alpha coefficients were used for the reliability of the measurement tools, and the skewness and kurtosis values were examined for the normality distribution of the data. Pearson Correlation Analysis was used to determine the relationship between social physique anxiety and selfconfidence, while differences between groups were determined by independent sample t-test and OneWay Anova. In the study, it was observed that there was a statistically significant difference in the social physique anxiety scale only according to the gender variable, while no significant difference was found in any of the other variables and scales. In addition, it was observed that there was a low-level negative relationship between social physique anxiety and self-confidence levels of elite ice hockey players.

Keywords: Social physique anxiety, self-confidence, ice hockey players

INTRODUCTION

Humans are social beings and social acceptance is one of the most important motivation sources for humans (Arkin, 1981). People generally want to look good physically and make a positive impression on others because a good appearance in social life provides various advantages both psychologically and socially (Urbatsch, 2018). Therefore, physical appearance has always had an important place in social life. While a good physical appearance is an advantage, physical dissatisfaction can cause discomfort. The realization that others evaluate one's body negatively is defined as social physique anxiety. Social physique anxiety is a type of anxiety that arises when one's physical appearance is or is likely to be evaluated by others, and it is especially related to the physical characteristics of the person such as body structure, shape, body fat ratio, and muscle structure (Hart et al., 1989). Fields related to physical activity such as sports, exercise, and physical education are also social in nature, and the form and function of the body are of great importance in these environments. For this reason, social physique anxiety has been a frequently studied subject in areas related to physical activity (Sabiston et al., 2014). Hart et al. (1989) stated that social physique anxiety is related to body image and body dissatisfaction. However, developing literature has revealed a wide variety of dimensions of the subject. Social physique anxiety has been discussed in many different sample groups, associating it with eating behaviors, body dissatisfaction, dating anxiety, self-esteem and self-presentation (Crawford & Eklund, 1994; Lantz et al., 1997; Niven et al., 2009; Eriksson et al., 2008; Hagger & Stevenson, 2010; Russell & Cox, 2003; Sicilia et al., 2016; Schlenker & Leary, 1982). Studies have reported that social physique anxiety can lead to a number of harmful psychological and physiological consequences, from eating disorders to depression, from the urge to be thin to cosmetic surgery (Mohammadi et al., 2015; Krane & Ark., 2001; Brianne, 2014; Alcaraz-Ibanez & Sicilia, 2020).

Self-confidence is probably one of the most important factors for people striving for excellence in sports or trying new activities (Graydon, 1997). While Feltz (1988) defines self-confidence as "one's belief that they can achieve a goal successfully", Ferguson (1996) defines self-confidence as "one's belief that they know how to do something and that they have the ability to achieve something". In other words, people are in a continuous learning process and gain various ideas about their abilities through the decisions they make. Beliefs developed regarding these abilities are defined as self-confidence (Park et al., 2007). Self-confidence is one of the psychological factors that is thought to affect sports performance and is called the most critical cognitive factor in sports (Gill, 1986). In sports literature, the most common concept used in relation to the concept of self-confidence is Bandura's (1977) self-efficacy theory. Bandura defines self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations". In other words, while self-efficacy is mostly used to express one's belief about one's abilities to perform a certain activity or achieve a certain result, self-confidence is defined as one's general beliefs about one's own abilities (Bandura, 1995; Graydon, 1997). In other words, while self-confidence is a more general expression of belief in success, self-efficacy refers to self-confidence stemming from a skill specific to a particular field (George, 1994).

The most basic psychological variable for success in sports is self-confidence. When athletes feel safe, they are more ready to transform their sportive potential into high performance (Kuloor & Kumar, 2020). Confident athletes have full faith in what they can achieve. In this respect, they strive to obtain the physical and mental skills that need to be fulfilled. Athletes who lack self-confidence doubt whether they are good enough or whether they have the necessary qualifications for success (Plakona et al., 2014). For this reason, athletes constantly endeavour to make their self-confidence levels stable and resistant in order to regulate the ups and downs in their performance and to overcome negative situations that may affect their performance such as being injured or suspended (Bačanac et al., 2011) because self-confidence is one of the most important elements for sustainable success in sports. In a study conducted by La Fratta et al., (2021) to measure some physiological and psychological parameters that occur in athletes before the competition, it was seen that the self-confidence levels of the team athletes who won the competition were significantly higher in the precompetition measurements compared to the team athletes who lost the competition. In a study conducted by Lengkana et al., (2018), it was found that self-confidence had a 20% effect on the success of elite athletes. Although it is believed that success increases self-confidence, the opposite is often true: good performance is a "result" of self-confidence. In other words, self-confidence is both the cause and the result of success in sports (Plakona et al., 2014).

It is stated that people with high self-confidence have lower general anxiety levels, are more successful in coping with stress, and have higher job and life satisfaction (Ireland et al., 1992). In addition, it is stated that high self-confidence increases athletes' motivation levels and reduces anxiety symptoms making it easier for them to manage their emotional reactions, (Lundqvist et al., 2011; Siekanska & Wojtowicz, 2020; Junli et al., 2021). Self-confidence is the most consistent factor in distinguishing between highly successful and less successful athletes. People who believe in their abilities and have high self-confidence experience less anxiety. Moreover, when anxiety levels rise, they tend to interpret it as encouraging rather than discouraging (Plakona et al., 2014). In a study conducted by Wiggins et al., (2005) to determine the anxiety and burnout levels of female ice hockey players and football players, it was found that female ice hockey players and football players with high self-confidence had lower anxiety levels. In a study conducted by Javaid et al., (2016) on elite athletes to examine the effect of anxiety and self-confidence on sportive performance, it was found that anxiety and self-confidence are predictors of sportive performance. The aim of this study is to examine the relationship between social physique anxiety and self-confidence in elite ice hockey players. Studies in which multidimensional psychological analyzes are carried out in ice hockey are rarely encountered in literature (Géczi et al., 2008). In the literature review, no other study on social physique anxiety and self-confidence levels of ice hockey players was found. The problem statement of this research is "Is there a relationship between social physique anxiety and self-confidence levels of elite ice hockey players?" has been a question. The sub-problems of the research are as follows:

1- Do the social physique anxiety and self-confidence levels of elite ice hockey players differ according to gender?

- 2- Do the social physique anxiety and self-confidence levels of elite ice hockey players differ according to age?
- **3-** Do the social physique anxiety and self-confidence levels of elite ice hockey players differ according to the duration of doing licensed sports variable?

METHOD

Research model

This research is quantitative research and has been prepared according to the principles of the screening model. In the scanning model, a past or present situation is tried to be revealed in its current form. Data such as "documents, statistics, images, or pictures" are tackled and interpreted within a system (Karasar, 2020). In quantitative research, "phenomena are objectified by abstracting from the processes and factors in their environment". Then, these phenomena are converted into observable and measurable units (Erdoğan, 2003), allowing the comparison and interpretation of the relationships between different groups or variables (Büyüköztürk et al., 2016).

Study group

The population of the research consists of 221 ice hockey players who played in the Turkish Ice Hockey Federation U18 and U20 leagues in the 2020-2021 season. The universe calculation of the relevant leagues is calculated according to the league status of the Turkish Ice Hockey Federation and the number of teams in the league (TBHF, 2022). The sample of the study consists of 112 ice hockey players selected by convenience sampling method from the specified universe. The study was filled out by the participants through the online form. Before the study, the "clarified consent form" was read by the participants, and those who agreed to participate in the study were included in the study. Participant information is given in Table 1.

Variables	Subgroups	Frequency	%	
Gender	Female	51	45,5	
-	Male	61	54,5	
Age	Ages 17 and under	85	75,9	
_	Ages 18 and over	27	24,1	
Duration of Doing Licensed	3 years and less	46	41,1	
Sports	Between 4-6 years	38	33,9	
-	7 years and above	28	25	
Total		112	100	

Table 1. Demographic variables

Data collection tools

In the study, a personal information form including questions about the demographic information of the participants, social physique anxiety scale, and self-confidence scale were used. The social physique anxiety scale was developed by Hart et al., (2008) and adapted to Turkish by Doğan (2010) along with its validity and

reliability. The "Fear of Negative Evaluation Scale" was used for the concordance validity of the social physique anxiety scale and the correlation between the two scales was found to be .60. For the reliability of the scale, the Cronbach Alpha internal consistency coefficient was checked, and the Cronbach Alpha coefficient for the whole scale was calculated as .93. The scale, which was prepared in a 5-point Likert type, consists of a single dimension of 16 items. The lowest 16 and the highest 80 points can be obtained from the scale. A high score on the scale indicates high social physique anxiety, while a low score indicates low social physique anxiety. The self-confidence scale, which was developed, and found valid and reliable by Akın (2007) was prepared in 5 Likert type and consists of 33 items and 2 sub-dimensions. The "Coopersmith Self-Esteem Inventory" was used for the congruent validity of the self-confidence scale and the correlation coefficient between the two scales was found to be .87. For the reliability of the scale, the Cronbach Alpha internal consistency coefficient was checked, and the Cronbach Alpha coefficient for the whole scale was calculated as .91. The lowest 33 and the highest 165 points can be obtained from the scale. A high score on the scale indicates a high level of self-confidence, and a low score indicates a low level of self-confidence. There is no reverse-scored item in any of the scales.

Data analysis

In the research, the analyzes were analyzed through the SPSS package program. Before the analysis, missing or incorrect forms were determined and excluded from the study. Skewness and Kurtosis were used for the normal distribution of the data, and Cronbach's Alpha (α) values were used for representation. As a result of the normality test, Skewness (.228) and Kurtosis (.453) values changed between -2 and +2, and it was determined that they showed normal distribution in the past (Şencan, 2002). Reliability analysis, on the other hand, was made separately for the overall scales and sub-dimensions. The Cronbach's Alpha (α) value of the social perspective measure was found (.963). While Cronbach's Alpha (α) coefficient was found (.960) for the overall self-confidence structure, it was established as (.927) for the internal self-confidence sub-dimension and (.923) for the external self-confidence measure. It shows that corridors obtained from Cronbach's Alpha (α) coefficients are in high perception (Kayış, 2013). The normality and visual test results of the data are given in Table 2. In the study, the independent sample t-test was used to determine the differences between paired groups, OneWay ANOVA test was used to determine the differences between multiple groups, and the LSD test was used to determine from which group the significant difference originated. In the study, Pearson correlation analysis was conducted in order to determine whether there is a significant relationship between social physique anxiety and self-confidence levels of elite ice hockey players and to determine the direction and strength of this relationship. The margin of error in the study was taken as 0.05. Ethics committee approval was obtained for the study with the ethics committee decision of Ankara University Ethics Committee dated 29.11.2021 and numbered 19-215.

Scales	N	Skewness	Kurtosis	(α)
Social Physique Anxiety Scale	112			,963
Self-Confidence Scale	112		452	,960
Self-Confidence Scale Sub-Dimensions	Ν	,228	,453	
Internal Self-Confidence	112			,927
External Self-Confidence	112			,923

Table 2. Findings of Normality and Reliability

FINDINGS

The data obtained from the scale were analyzed according to the demographic variables of elite ice hockey players. Tables related to the data obtained as a result of these analyzes are given below.

Scales	Gender	Ν	x	SD	t	df	Р*
Social Physique	Female	51	2,39	1,01566	2,716		*800 <i>,</i>
Anxiety Scale	Male	61	1,91	,85593			
Calf Caufidanaa Caala	Female	51	4,02	,75791	,217	110	
Self-Confidence Scale	Male	61	3,99	,66052		110	,828
Internal Self-	Female	51	3,95	,80053	,074		
Confidence	Male	61	3,94	,67955			,941
External Self-	Female	51	4,08	,74310	,360		
Confidence	Male	61	4,03	,69674			,719

Table 3.	t-test	Findings	by	Gender	Variable
----------	--------	----------	----	--------	----------

(P*<0,05).

Table 3 shows that, according to the gender variable, the overall self-confidence scale [t=,217, p<0.05], the internal self-confidence sub-dimension [t=074, p<0.05] and the external self-confidence sub-dimension [t=, 360, p<0.05], no significant difference was found. In the social physique anxiety scale, it was determined that female's social physique anxiety levels (\bar{x} =2.39) were higher than male's (\bar{x} =1.91) [t= 2.716, p<0.05].

Table 4.	t-test	Findings	by Age	Variable
----------	--------	----------	--------	----------

Scales	Age	Ν	x	SD	t	df	Ρ*
Social Physique	Ages 17 and under	85	2,17	,97266	,734		,464
Anxiety Scale	Ages 18 and over	27	2,01	,91935			
Self-Confidence Scale	Ages 17 and under	85	3,97	,74434	-,761	110	
Self-Confidence Scale	Ages 18 and over	27	4,09	,55796		110	,448
Internal Self-	Ages 17 and under	85	3,91	,77351	-,880		
Confidence	Ages 18 and over	27	4,06	,59060			,377
External Self-	Ages 17 and under	85	4,03	,75341	-,577		
Confidence	Ages 18 and over	27	4,12	,58680			,565

(P*<0,05).

Table 4 shows that, it is seen that none of the scales and subscales according to the age variable (general social physique anxiety scale [t=734, p<0.05], overall self-confidence scale [t=-,761, p<0.05], internal self-confidence subscale dimension [t=-,880, p<0.05] and external self-confidence sub-dimension [t=-,577, p<0.05]) no statistically significant difference was found.

Scales	Groups	x	Sum of Square	df	Mean Square	F	P*	Difference (LSD)
Social	3 Years and Less (a)	2,12						
Physique	Between 4-6 years (b)	2,24	,986		,493			
Anxiety Scale	7 years and Above (c)	2,00	100.956 101,942		,926	,532	,589	-
Self-	3 Years and Less (a)	3,97						
Confidence	Between 4-6 years (b)	4,00	,108		,054	,107	800	-
Scale	7 years and Above (c)	4,05	54,814 54,922		,503		,899	
	3 Years and Less (a)	3,92	,334	2				
Internal Self-	Between 4-6 years (b)	3,91	59,418	109	,167	,306		-
Confidence	7 years and Above (c)	4,04	59,752	111	,545		,737	
	3 Years and Less (a)	4,03	,057					
External Self-	Between 4-6 years (b)	4,08	56,747		,028	,054		-
Confidence	7 years and Above (c)	4,06	56,804		,521		<i>,</i> 947	

Table 5. Anova Test Results According to Duration of Doing Licensed Sports

(P*<0,05).

Table 5 shows that, no scale and sub-dimension (social physique anxiety scale overall [F(2,109)=,532,p<0.05], self-confidence scale [F(2,109)=,107,p] according to the variable of licensed duration of doing sports) <0.05], internal self-confidence sub-dimension [F(2,109)=,306,p<0.05], external self-confidence sub-dimension [F(2,109)=,054,p<0.05]) no statistically significant difference was found .

Table 6. Social Physique Anxiety Scale and Self-Confidence Scale Pearson Correlation Analysis Results

Scales	Social Physique Anxiety Scale	Self-Confidence Scale -,267*	
Social Physique Anxiety Scale	1		
Self-Confidence Scale	-,267*	1	

(P*<0,05).

As a result of the Pearson Correlation analysis, it was determined that there was a low, negative (r = -.267; p<0.05) significant relationship between the social physique anxiety levels and self-confidence levels of elite ice hockey athletes (Alpar, 2016).

CONCLUSION and DISCUSSION

According to the gender variable, no significant difference was found in the general and sub-dimensions of the self-confidence scale. This may be the result of the natural dynamics of the sport of ice hockey because ice hockey is a high-intensity contact sport in which players can reach a speed of 48 km per hour, with in-game features such as agility, coordination, and aggressive stick use (Benson et al., 2005). For this reason, ice hockey players, whether men or women, have to be strong both mentally and physically. In a study conducted by Theberge, (2003) on adolescent ice hockey girls, the participants emphasized the need to be fearless and aggressive, as well as a strong body structure in ice hockey. Therefore, due to the nature of ice hockey, it is very difficult for athletes with low self-confidence to continue doing this sport for a long time. In addition, the fact that all the athletes participating in our study were elite-level athletes may have been effective in the absence of a significant difference in the gender parameter. In a study conducted by Soltani et al., (2013) to determine

the self-confidence levels of elite and non-elite volleyball players, it was found that the self-confidence levels of elite volleyball players were statistically significantly higher than those of non-elite volleyball players. In addition, when the literature is examined, studies in sports-related fields showing that there is no statistically significant difference according to the gender parameter draw attention (Cengiz et al., 2023; Karataş et al., 2022; Gürer, 2017; Krane & Williams, 1994). The findings of the studies given above, and the findings of our study comply with each other. However, in a meta-analysis study by Lochbaum et al., (2022), which included 41 articles from 15 countries on self-confidence and sportive performance, it was found that gender and the type of sport (individual or team) had an effect on the self-confidence of the athlete. When the literature is examined, although there are mostly studies demonstrating that men's self-confidence levels are higher than women's (Mansell & Turner, 2022; Toktas & Baş, 2019; Javaid et al., 2016; Aygün & Öztaşyonar, 2019), there are also studies demonstrating that women's self-confidence levels are higher than that of men's (Taşkın, 2020; Bostancı et al., 2019).

A statistically significant difference was observed in the social physique anxiety scale. It was determined that the social physique anxiety levels of elite female ice hockey players (\bar{x} =2.39) were higher than male ice hockey players (\bar{x} =1,91) [t= 2,716, p<0.05]. This situation may be a result of the pressure that women should always look beautiful and well-groomed as a reflection of consumer society. Oğuz (2010) states that women have to constantly think about how they look due to social pressure, they feel constantly under surveillance, and this situation turns into a desire to be liked by others over time. In a study conducted by Kowalski, et al., (2006) to determine coping strategies of adolescents with social physique anxiety, it was found that women developed a total of 1051 coping strategies, whereas men reported only 473 coping strategies. The fact that women develop more coping strategies with social physique anxiety can be seen as another indicator of the plurality of women's concerns about this situation. When the literature is examined, it is noteworthy that there are studies showing that women's social physique anxiety levels are higher than men's (Lantz et al., 1997; Mastro et al., 2016; Robinson & Lewis, 2016; Korajlija et al., 2017). Studies above support the findings of our study. In addition, in a meta-analysis study by Sabiston et al., (2014) that included 126 articles on physical activity and social physique anxiety, with strength, muscularity, and body fat ratio, while women associated it only with body fat ratio.

No statistically significant difference was found in any scale and sub-dimension according to the age variable. Studies have shown that age has an effect on self-confidence, and the level of self-confidence increases as age increases (Buğdaycı et al., 2016; Alejo et al., 2020; Yamak et al., 2022). The lack of significant difference in the age variable in our study may be due to the fact that all of the participants were 20 years old or younger than 20 years old. As a matter of fact, in another study conducted by Aygün & Öztaşyonar (2019) on ice hockey players, it has been found that self-confidence differs according to age, and ice hockey players aged 26 and above have the highest self-confidence level among age groups. Although the literature findings suggest that age is an effective parameter on self-confidence, there are also studies showing that there is no significant difference between self-confidence and age (Cengiz et al., 2023; Musa, 2020; Doğan, 2022; Taşkin, 2020; Çoban

et al.,2020; Strachan & Munroe-Chandler, 2006). The findings of our study show similarities with the studies given above. On the other hand, there are also studies in literature showing that there is a significant difference between self-confidence and age (Gürer, 2017; Pınar et al.,2018). From this point of view, although there are more studies in the literature showing that self-confidence increases as age increases, the findings to the contrary are that the relationship between self-confidence and age in the field of sports is not certain, and this relationship may differ according to the branch, age of performance or the type of sport (team or individual).

Studies have revealed conflicting results between social physique anxiety and age parameter. This may be due to the fact that the sample groups of studies on age and social physique are generally selected from adolescents and women (Kroon et al., 2022; Venetsanou & Ioannidou,2019; Sabiston et al., 2007). When the literature is examined, it is seen that the results revealed generally manifest as two different findings. The first of these findings is that the level of social physique anxiety is high at younger ages, and social physique anxiety decreases when age increases (Hagger & Stevenson, 2010; Mcauley et al., 1995; Hagger et al., 2010). The second is that there is no relationship between age and social physique anxiety (Frederick & Morrison, 1996; Musa, 2020; Kalyva et al., 2021; Türker et al., 2018; Göksel et al., 2018; Çakır & Karaağaç, 2021; Yalçın & Kurnaz, 2021). The findings of our study are similar to those of studies showing that there is no relationship between age and social showing that there is no relationship.

No statistically significant difference was found in any of the scales and sub-dimensions according to the licensed duration of doing sports variable. Ice hockey is a competitive sport with one of the highest injury rates among sports branches (Mosenthal et al., 2017). It is stated that the experience gained in competitive sports contributes more to the self-confidence levels of the athletes and their belief in themselves (Comeig et al.,2016; Munroe-Chandler et al.,2008). The fact that there was no difference in the findings of our study in terms of the variable of years of playing a licensed sport may be a result of the reflection of the competitive structure of ice hockey on the players. It is noteworthy that there are studies that show that there is no significant difference between the duration of licensed sports and self-confidence, especially in studies conducted in sports-related fields in recent years (Çoban et al., 2020; Toktas & Baş, 2019; Musa, 2020; Mutlu et al., 2016). The findings of our study are similar to the results of the study given above. However, Bandura (1977) argued in his theory of self-efficacy that "learning through experience that an individual can overcome obstacles with a determined effort after a set of failures has a great effect on self-confidence and this will happen depending on a process". In addition, Feltz & Petchlikoff (1983) stated that self-confidence in sports is based on continuity and that continuing without giving up is effective on self-confidence. In this context, some studies in the field of sports suggest that more experienced athletes have higher self-confidence levels, contrary to our study, and support the above-mentioned opinions (Tomé-Lourido et al., 2019; Bostancı et al.,2019; Lane et al.,1995; Buğdaycı et al., 2016; Zisi, et al., 2009).

Studies demonstrate that physical activity or sports are directly related to social physique anxiety, and individuals participating in physical activity or sports have low levels of social physique anxiety (Haase &

Prapavessis, 2001; Bissell & Porterfield, 2006; Üstün, 2020). In addition, it has been stated that the social physique anxiety levels of the athletes competing in sports where aesthetic appearance and weight are important such as figure skating and gymnastics are higher than the athletes competing in sports that do not have the concern of aesthetic appearances, such as basketball, football or ice hockey (Sabiston et al., 2014; Gay et al., 2011). Ice hockey is a difficult sport that requires a high level of gliding skills, muscle-nerve coordination, and physical conditioning (Goto & Menetrey, 2022). The fact that there was no significant difference in our study according to the licensed duration of doing sports may be due to the fact that the ice hockey players participating in our study have been doing this sport for a long time, which requires complex physical features, without any aesthetic concerns. When the literature is examined, it is noteworthy that there are studies showing that there is no statistically significant difference according to the variable of the duration of doing licensed sports (Türker et al., 2018; Var et al., 2018; Musa, 2020). The findings of our study are similar to the results of the study given above.

As a result of Pearson Correlation analysis, a statistically significant relationship was found. It has been observed that there is a low-level, negative relationship between the social physique anxiety levels of elite ice hockey players and their self-confidence levels. In other words, it can be said that social physique anxiety levels and self-confidence levels of elite ice hockey players are inversely proportional, as their social physique anxiety levels increase, their self-confidence levels decrease, or as their self-confidence levels increase, their social physique anxiety symptoms and helps to turn emotional reactions into positive situations. In the study conducted by Musa (2020) to examine the social physique anxiety and self-confidence levels of individuals who do sports in fitness centers, it has been found that there is a high, negative relationship between social physique anxiety and self-confidence levels. The findings of this study and our study show similarity.

Consequently, it was observed that there was a low level of negative relationship between social physique anxiety and self-confidence levels of elite ice hockey players, and as their social physique anxiety levels increased, their self-confidence levels decreased. In addition, while there was no statistically significant difference in all and sub-dimensions of the self-confidence scale according to the gender variable of elite ice hockey players, it was observed that the social physical anxiety levels of women were higher than men. In addition, there was no statistically significant difference in any scale or sub-dimension according to age and licensed sports branch. In general, it was seen that elite ice hockey players had low levels of social appearance anxiety (\bar{x} =2.13) and high self-confidence (\bar{x} =4.00).

SUGGESTIONS

This study is carried out only on ice hockey players who have played in the U18 and U20 leagues. The same study can be applied to ice hockey players aged 20 and above so that the results obtained can be compared in a healthy way. In addition, studies can be designed to compare the social physique anxiety and self-confidence levels of athletes engaged in different types of team or individual sports and ice hockey players. When the

literature on the field of sports is examined, it is seen that most of the studies aimed at measuring social physique anxiety have been conducted on adolescent women. These studies can be carried out especially on elder athletes who do active sports or on male and female athletes who completed their active sports life.

ETHICAL TEXT

This article followed the journal writing rules, publication principles, research and publication ethics, and ethical journal rules. The author is responsible for any violations that may arise regarding the article. Ankara University Ethics Committee obtained the ethics committee approval of the article with the decision dated 29.11.2021 and numbered 19- 215.

Author(s) Contribution Rate: The author's contribution to this article is 100%.

REFERENCES

- Arkin, R.M. (1981). Self-presentational styles. In J.T. Tedeschi (Ed.), Impression management theory and socialpsychological research (pp. 31 1-333). New York: Academic Press ISBN: 9781483260549
- Alcaraz-Ibanez, M., & Sicilia, A. (2020). Analysis of the dynamic relationship between social physique anxiety and depressive symptoms in young adults. *Journal of Applied Developmental Psychology*, 66, 101085. https://doi.org/10.1016/j.appdev.2019.101085
- Alejo, A. A., Aidar, F. J., Matos, D. G. D., Santos, M. D. D., Silva, D. D. S., Souza, R. F. D., ... & Silva, A. N. D. (2020).
 Does pre-competitive anxiety interfere in the performance of boxing athletes in Brazil? A pilot study. *Revista Brasileira de Medicina do Esporte, 26*, 139-142. DOI:10.1590/1517-869220202602218943
- Alpar, C. (2016). Spor sağlık ve eğitim bilimlerinden örneklerle uygulamalı istatistik ve geçerlik güvenirlik. Detay Yayıncılık. ISBN: 6055681870, 9786055681876
- Akın, A. (2016). Öz-Güven Ölçeği'nin Geliştirilmesi ve Psikometrik Özellikleri . Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi , 7 (2).
- Aygün, M., & Öztaşyonar, Y. (2019). Buz hokeyi sporcularının sportif sürekli kendine güven özelliklerinin incelenmesi. *Spormetre Beden Eğitimi ve Spor Bilimleri Dergisi*, *17*(3), 202-212. DOI: 10.33689/spormetre.508266
- Bačanac, Lj.; Petrović, N.& Manojlović, N. (2011). Psychological basis in coaching of young athletes, Beograd: Republic Sport Agency.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84, 191-21. https://doi.org/10.1037/0033-295X.84.2.191
- Bandura, A. (1995). Exercise of personal and collective efficacy in changing societies. *Self-efficacy in changing societies*, *15*, 334. https://doi.org/10.1017/CBO9780511527692.003
- Benson, B. W., & Meeuwisse, W. H. (2005). Ice hockey injuries. *Epidemiology of pediatric sports injuries: Team sports*, *49*, 86-119. Doi: 10.1159/000085393

- Bissell, K. L., & Porterfield, K. H. (2006). Who's got game?: exposure to sports and entertainment media and social physique anxiety in division i female athletes. *Journal of Sports Media*, 1(1), 19-49. DOI:10.1353/jsm.0.0011
- Brianne, O. (2014). The Effects of a social-evaluative body image threat on shame, social physique anxiety, body dissatisfaction and cortisol responses in university men.
- Buğdaycı, S., Gürer, B., Demir, H., & Abakay, U. (2016). Examination of self-confidence of individuals interested in mountaineering and search and rescue. *European Journal of Physical Education and Sport Science*. http://dx.doi.org/10.46827/ejpe.v0i0.291
- Büyüköztürk, Ş., Çakmak, E. K., Özcan, Ö.E., Karadeniz, Ş. & Demirel, F. (2016). Bilimsel araştırma yöntemleri (21. Baskı). Ankara: Pegem Akademi.
- Bostancı, Ö., Karaduman, E., & Mayda, M. H. (2019). Investigation of self confidence levels in elite extreme athletes. *Physical education of students*, *23*(3), 106-111. https://doi.org/10.15561/20755279.2019.0301
- Cengiz, C., Erduran, M. M., & Bozkus, T. (2023). Investigation of the relatonship between dance self-efficacy and self-confidence of folk dancers. *International Journal of Education Technology and Scientific Researches*, 8(21), 89-110. DOI: http://dx.doi.org/10.35826/ijetsar.575
- Comeig, I., Grau-Grau, A., Jaramillo-Gutiérrez, A., & Ramírez, F. (2016). Gender, self-confidence, sports, and preferences for competition. *Journal of Business Research*, 69(4), 1418-1422. DOI:10.1016/j.jbusres.2015.10.118
- Crawford, S., & Eklund, R.C. (1994), Social physique anxiety, reasons for exercise, and attitudes toward exercise settings. Journal of Sport and Exercise Psychology 16: 70-82.
- Çakır, E., & Karaağaç, G. (2021). Spor salonlarına giden bireylerin sağlıklı beslenme tutumları ve sosyal görünüş kaygı düzeylerinin belirlenmesi. *Atatürk Üniversitesi Beden Eğitimi ve Spor Bilimleri Dergisi, 23*(3), 1-10. ISSN: 1302-2040
- Çoban, O., Baykan, E., Gürkan, O., & Yildirim, M. (2020). The analysis of football players' percentages of shot on target and levels of self-confidence in different leagues. *African Educational Research Journal*, 8(3), 586-596. DOI: 10.30918/AERJ.83.20.128
- Doğan, T. (2010). Sosyal Görünüş Kaygısı Ölçeği'nin (SGKÖ) Türkçe uyarlaması: geçerlik ve güvenirlik çalışması. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *39*(39), 151-159.
- Erdoğan, İ. (2003). Pozitivist metodoloji: Bilimsel araştırma tasarımı istatistiksel yöntemler analiz ve yorum. ERK: Ankara.
- Eriksson, L., Baigi, A., Marklund, B., & Lindgren, E. C. (2008). Social physique anxiety and sociocultural attitudes toward appearance impact on orthorexia test in fitness participants. *Scandinavian journal of medicine* & science in sports, 18(3), 389-394.DOI: 10.1111/j.1600-0838.2007.00723.x
- Ferguson, L. M. (1996). Preceptors enhance students' self-confidence.Nursing Connections, 9(1), 49-61.
- Feltz, D. L. (2007). Self-confidence and sports performance. studies, 33(41), 50-66.

- Feltz, D. L., & Petlichkoff, L. (1983). Perceived competence among interscholastic sport participants and dropouts. *Canadian Journal of Applied Sport Sciences, 8*(4), 231–235.
- Frederick, C. M., & Morrison, C. S. (1996). Social physique anxiety: Personality constructs, motivations, exercise attitudes, and behaviors. *Perceptual and motor skills*, *82*(3), 963-972.DOI: 10.2466/pms.1996.82.3.963
- Gay, J. L., Monsma, E. V., & Torres-McGehee, T. M. (2011). Developmental and contextual risks of social physique anxiety among female athletes. *Research quarterly for exercise and sport*, *82*(2), 168-177.DOI: 10.1080/02701367.2011.10599744
- Gürer, B. (2017). The research about reasons of mountaineers' attend to ice climbing and its effects on their self-confidence. *European Journal of Education Studies*.DOI http://dx.doi.org/10.46827/ejes.v0i0.945
- George, T. R. (1994). Self-confidence and baseball performance: A causal examination of self-efficacy theory. *Journal of sport and exercise psychology*, *16*(4), 381-399.
- Géczi, G., Bognár, J., Tóth, L., Sipos, K., & Fügedi, B. (2008). Anxiety and coping of hungarian national ice hockey players. *International Journal of Sports Science & Coaching*, 3(2), 277-285.
 DOI:10.1260/174795408785100716
- Graydon, J. (1997). Self-confidence and self-esteem in physical education and sport. *Researching women and sport*, 68-79.
- Gill, D.L. (1986). Psychological dynamics of sport. Champaign, IL: Human Kinetics.
- Goto, K., & Menetrey, J. (2022). Ice Hockey. In *Epidemiology of Injuries in Sports* (pp. 83-87). Berlin, Heidelberg: Springer Berlin Heidelberg. DOI:10.1007/978-3-662-64532-1_13
- Göksel, A.G., Caz, Ç., Yazıcı, Ö.F. & Zorba, E. (2018). Spor hizmeti alan bireylerin sosyal görünüş kaygısı ve öznel mutluluklarının incelenmesi. *Gaziantep Üniversitesi Spor Bilimleri Dergisi*, 3(3): 88-101. DOI: 10.31680/ gaunjss.434184
- Haase, A. M., Prapavessis, H., & Owens, R. G. (2002). Perfectionism, social physique anxiety and disordered eating: A comparison of male and female elite athletes. *Psychology of Sport and Exercise*, 3, 209–222. doi:10.1016/S1469-0292(01)00018-8. https://doi.org/10.1016/S1469-0292(01)00018-8
- Hagger, M. S., & Stevenson, A. (2010). Social physique anxiety and physical self-esteem: Gender and age effects. *Psychology and Health*, *25*(1), 89-110.DOI: 10.1080/08870440903160990
- Hagger, M. S., Stevenson, A., Chatzisarantis, N. L., Gaspar, P. M. P., Ferreira, J. P. L., & Ravé, J. M. G. (2010).
 Physical self-concept and social physique anxiety: Invariance across culture, gender and age. *Stress and Health*, 26(4), 304-329. DOI:10.1002/smi.1299
- Hart, E. A., Leary, M. R., & Rejeski, W. J. (1989). Tie measurement of social physique anxiety. *Journal of Sport* and exercise Psychology, 11(1), 94-104. DOI: https://doi.org/10.1123/jsep.11.1.94
- Hart, T. A., Flora, D. B., Palyo, S. A., Fresco, D. M., Holle, C. & Heimberg, R. G. (2008). Development and examination of the Social Appearance Anxiety Scale. Assessment 15(1), 48-59. DOI: 10.1177/1073191107306673

- Ireland, R.D.,Hitt, M. A. & Williams, J.C.(1992). Self-confidence and decisiveness: pre requisites for effective management in the 1990s, *Business Horizons*, 35: 1, January–February, 36-43. https://doi.org/10.1016/0007-6813(92)90113-N
- Javaid, H., Ahmed, J., Ahmed, A. S., & Sarwer, S. (2016). Anxiety and self confidence as predictors of athletic performance. *Journal of administrative y Business Studies*, 1(1).
- Junli, L. I. U., Tianyuan, L. I. U., & Jinglan, S. U. N. (2021). The impact of self-confidence, self-motivation and competitive state anxiety on attentional control in athletes in China. *Revista De Psicología Del Deporte* (*Journal of Sport Psychology*), 30(1), 31-48.
- Kalyva, S., Yannakoulia, M., Koutsouba, M., & Venetsanou, F. (2021). Disturbed eating attitudes, social physique anxiety, and perceived pressure for thin body in professional dancers. *Research in Dance Education*, 1-12. DOI:10.1080/14647893.2021.1940124
- Karasar, N. (2020). Bilimsel araştırma yöntemi (35. Baskı). Ankara: Nobel Akademik Yayıncılık.
- Karatas, I., & Oktem, T. (2022). Investigation of the relationships between self confidence levels and job finding anxiety of faculty of sports sciences students. *Education Quarterly Reviews*, 5(1), 291-302. DOI: 10.31014/aior.1993.05.01.440
- Kroon, R., Neumann, D. L., Piatkowski, T. M., & Moffitt, R. L. (2022). How the physical appearance of companions affects females with high or low social physique anxiety: a virtual reality exercise study. *Virtual Reality*, 1-11.https://doi.org/10.1007/s10055-022-00676-w
- Kayış, A. (2013). Kalaycı, Ş.(Ed.)(2006). SPSS Uygulamalı Çok Değişkenli İstatistik Teknikleri. Ankara: Asil Yayın Dağıtım. İlköğretim Online, 12(1), 1-6.
- Kuloor, H., & Kumar, A. (2020). Self-confidence and sports. *International Journal of Indian Psychology*, 8(4). DOI: 10.25215/0804.001
- Krane, V., Stiles-Shipley, J. A., Waldron, J., & Michalenok, J. (2001). Relationships among body satisfaction, social physique anxiety, and eating behaviors in female athletes and exercisers. *Journal of sport behavior*, 24(3).
- Krane, V., & Williams, J. M. (1994). Cognitive anxiety, somatic anxiety, and confidence in track and field athletes: The impact of gender, competitive level and task characteristics. *International Journal of Sport Psychology*.
- Korajlija, A. L., Blažev, D., Blažev, M., & Blažev, V. (2017). Social physique anxiety among bodybuilders. *Collegium antropologicum*, *41*(3), 247-254.
- Kowalski, K. C., Mack, D. E., Crocker, P. R., Niefer, C. B., & Fleming, T. L. (2006). Coping with social physique anxiety in adolescence. *Journal of Adolescent Health*, 39(2), 275-e9. https://doi.org/10.1016/j.jadohealth.2005.12.015
- La Fratta, I., Franceschelli, S., Speranza, L., Patruno, A., Michetti, C., D'Ercole, P., ... & Pesce, M. (2021). Salivary oxytocin, cognitive anxiety and self-confidence in pre-competition athletes. *Scientific Reports*, *11*(1), 16877. DOI: 10.1038/s41598-021-96392-7

- Lane, A., Terry, P., & Karageorghis, C. (1995). Antecedents of multidimensional competitive state anxiety and self-confidence in duathletes. Perceptual and Motor Skills, 80, 911-919. DOI: 10.2466/pms.1995.80.3.911
- Lantz, C. D., Hardy, C. J., & Ainsworth, B. E. (1997). Social physique anxiety and perceived exercise behavior. *Journal of Sport Behavior*, 20(1), 83.
- Lengkana, A. S., Tangkudung, J., & Asmawi, M. (2018). The effect of power limbs, speed reaction, flexibility and self confidence on the achievement of elite athletes athletic west java in the track number. *JIPES-Journal of Indonesian Physical Education and Sport*, *4*(2), 20-25. DOI:10.21009/JIPES.042.03
- Lochbaum, M., Sherburn, M., Sisneros, C., Cooper, S., Lane, A. M., & Terry, P. C. (2022). Revisiting the selfconfidence and sport performance relationship: a systematic review with meta-analysis. *International Journal of Environmental Research and Public Health*, *19*(11), 6381. DOI: 10.3390/ijerph19116381
- Lundqvist C, Kentta G, Raglin J. (2011). Directional anxiety responses in elite and sub-elite young athletes: intensity of anxiety symptoms matters. *Scand J Med Sci Sports*.21:853–62. DOI: 10.1111/j.1600-0838.2010.01102.x
- Mansell, P. C., & Turner, M. J. (2022). Testing the REBT-I model in athletes: Investigating the role of selfconfidence between irrational beliefs and psychological distress. *Psychology of Sport and Exercise*, 63, 102284. DOI:10.1016/j.psychsport.2022.102284
- Mastro, S., Zimmer-Gembeck, M. J., Webb, H. J., Farrell, L., & Waters, A. (2016). Young adolescents' appearance anxiety and body dysmorphic symptoms: Social problems, self-perceptions and comorbidities. *Journal* of Obsessive-Compulsive and Related Disorders, 8, 50-55. https://doi.org/10.1016/j.jocrd.2015.12.001
- McAuley, E., Bane, S. M., Rudolph, D. L., & Lox, C. L. (1995). Physique anxiety and exercise in middle-aged adults. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *50*(5), P229-P235. DOI: 10.1093/geronb/50b.5.p229
- Mohammadi, M. N., Assadollahi, E., & Niazifar, M. (2015). Social physique anxiety and its relation with body dysmorphic disorder. *The European Journal of Social & Behavioural Sciences*. DOI: 10.15405/ejsbs.157.
- Mosenthal, W., Kim, M., Holzshu, R., Hanypsiak, B., & Athiviraham, A. (2017). Common ice hockey injuries and treatment: a current concepts review. *Current sports medicine reports*, *16*(5), 357-362. DOI: 10.1249/JSR.0000000000000000002
- Munroe-Chandler, K., Hall, C., & Fishburne, G. (2008). Playing with confidence: The relationship between imagery use and self-confidence and self-efficacy in youth soccer players. *Journal of sports sciences*, *26*(14), 1539-1546. DOI:10.1080/02640410802315419
- Musa. M. (2020). Fitness merkezlerinde spor yapan bireylerin sosyal görünüş kaygısı ve özgüven düzeylerinin bazı değişkenlere göre incelenmesi. *Beden Eğitimi ve Spor Bilimleri Dergisi, 14*(3), 503-518.
- Mutlu, T. O., Öntürk, Y., Karafil, A. Y., Zorba, E., Bingöl, E., & Kaya, K. (2016). Analysis on the self-confidence perceptions of university students playing tennis in sports. *General Information About Sstb Journal*, (18).17-28. DOI: 10.17363/SSTB.20161816489

- Niven, A., Fawkner, S., Knowles, A. M., Henretty, J., & Stephenson, C. (2009). Social physique anxiety and physical activity in early adolescent girls: The influence of maturation and physical activity motives. *Journal of Sports Sciences*, *27*(3), 299-305. DOI: 10.1080/02640410802578164
- Oğuz, G.Y. (2010). Güzellik kadınlar için nasıl vaade dönüşür: kadın dergilerindeki kozmetik reklamları üzerine bir inceleme. *Selçuk İletişim*, *6*(3), 184-195.
- Park, L.E., Crocker, J., & Kiefer, A.K. (2007). Contingencies of self-worth, academic failure and goal pursuit. *Personality and Social Psychology Bulletin* 33(11): 1503-1517. DOI: 10.1177/0146167207305538
- Plakona, E., Parčina, I., Ludvig, A., & Tuzović, A. (2014). Self-confidence in sport. Sport Science, 7(1), 47-5.
- Pinar, S. E., Yildirim, G., & Sayin, N. (2018). Investigating the psychological resilience, self-confidence and problem-solving skills of midwife candidates. *Nurse education today*, 64, 144-149. DOI: 10.1016/j.nedt.2018.02.014
- Robinson, A., & Lewis, V. (2016). Social physique anxiety: an exploration of influence on sporting confidence and participation. *Journal of Applied Biobehavioral Research*, *21*(1), 46-59. https://doi.org/10.1111/jabr.12046
- Russell, W. D., & Cox, R. H. (2003). Social physique anxiety, body dissatisfaction, and self-esteem in college females of differing exercise frequency, perceived weight discrepancy, and race. *Journal of Sport Behavior*, *26*(3), 298.
- Sabiston, C. M., Sedgwick, W. A., Crocker, P. R. E., Kowalski, K. C., & Mack, D. E. (2007). Social physique anxiety in adolescence: An exploration of influences, coping strategies, and health behaviors. *Journal of Adolescent Research*, *22*(1), 78-101. https://doi.org/10.1177/0743558406294628
- Sabiston, C. M., Pila, E., Pinsonnault-Bilodeau, G., & Cox, A. E. (2014). Social physique anxiety experiences in physical activity: a comprehensive synthesis of research studies focused on measurement, theory, and predictors and outcomes. *International Review of Sport and Exercise Psychology*, 7(1), 158-183. https://doi.org/10.1080/1750984X.2014.904392
- Schlenker, B. R., & Leary, M. R. (1982). Social anxiety and self-presentation: A conceptualization model. Psychological bulletin, 92(3), 641. https://doi.org/10.1037/0033-2909.92.3.641
- Sicilia, Á., Sáenz-Alvarez, P., González-Cutre, D., & Ferriz, R. (2016). Social physique anxiety and intention to be physically active: A self-determination theory approach. *Research quarterly for exercise and sport*, *87*(4), 354-364. doi: 10.1080/02701367.2016.1213351
- Siekanska, M., & Wojtowicz, A. (2020). Impulsive athlete as a self-regulated learner. Can self-confidence and a positive social attitude change a developmental inhibitor into a growth catalyst?. *Journal of Physical Education and Sport*, *20*(2), 623-629. DOI:10.7752/jpes.2020.02091
- Soltani, H., Reddy, K. S., & Hojati, Z. (2013). State and trait self confidence among elite and non-elite volleyball players in Iran. *Advances in Environmental Biology*, 283-288. ISSN 1995-0756
- Strachan, L., & Munroe-Chandler, K. (2006). Using imagery to predict self-confidence and anxiety in young elite athletes. *Journal of Imagery Research in Sport and Physical Activity*, 1(1). DOI:10.2202/1932-0191.1004
- Şencan, H. (2002). Bilimsel Yazım, İstanbul Üniversitesi İşletme Fak. Yayınları, İstanbul.

- Taşkin, A. K. (2020). Comparison of self-confidence levels of folk players and sedentary university students-the sample of Yozgat province, Turkey. *European Journal of Alternative Education Studies*, *5*(2). DOI: http://dx.doi.org/10.46827/ejae.v5i2.3435
- TBHF (2022). https://l24.im/hHq. Accesed: 27 March 2023.
- Theberge, N. (2003). "No fear comes" adolescent girls, ice hockey, and the embodiment of gender. *Youth & Society*, *34*(4), 497-516. https://doi.org/10.1177/0044118X030340040
- Toktas, S., & Bas, M. (2019). Investigation of the relationship between the self-confidence and motivation of high school students participating school sport contests. *Universal Journal of Educational Research*, 7(2), 472-479. DOI:10.13189/ujer.2019.070220
- Tomé-Lourido, D., Arce Fernández, C., & Ponte Fernández, D. (2019). The relationship between competitive state anxiety, self-confidence and attentional control in atletes. *Revista de psicología del deporte*, *28*(2), 0143-150.
- Türker, A., Yusuf, E. R., Eroğlu, S. Y., Şentürk, A., & Durmaz, M. (2018). Spor yapan bireylerin sosyal görünüş kaygısı ve benlik saygısının incelenmesi. *Muş Alparslan Üniversitesi Uluslararası Spor Bilimleri Dergisi*, 2(1), 8-15.
- Urbatsch, R. (2018). Things are looking up: Physical beauty, social mobility, and optimistic dispositions. *Social Science Research*, *71*, 19-36. https://doi.org/10.1016/j.ssresearch.2018.01.006
- Üstün, N. A. (2020). Social physical anxiety and nutritional attitude in athlete and non-athlete university students. *Progress in nutrition*, 22(2), 1-22. DOI: https://doi.org/10.23751/pn.v22i2-S.10471
- Venetsanou, F., & Ioannidou, C. (2019). Social physique anxiety, disturbed eating attitudes and behaviors, and perceived pressure for thin body in competitive Rhythmic and Aerobic Gymnasts. *Science of Gymnastics Journal*, *11*(3), 331-342. DOI: https://doi.org/10.52165/sgj.11.3.331-342
- Var, L., Karabulut, E. O., & Atasoy, M. (2018). Examination of social appearance anxiety levels of senior taekwondo athletes studying at university. *International Journal of Eurasia Social Sciences*, 9(33), 1434-1451.
- Wiggins, M. S., Lai, C., & Deiters, J. A. (2005). Anxiety and burnout in female collegiate ice hockey and soccer athletes. *Perceptual and motor skills*, *101*(2), 519-524. DOI: 10.2466/pms.101.2.519-524
- Yamak, B., Koçak, M., Aybek, A., & Kusan, O.(2022). Comparison of self-confidence of individual and team athletes. *European Journal of Molecular & Clinical Medicine*, *9*(07). ISSN 2515-8260
- Yalçın, Y., & Kurnaz, H. K. (2021). Spor merkezlerine üye olan bireylerin duygusal yeme ve sosyal fizik kaygı düzeylerinin incelenmesi. İnsan ve Toplum Bilimleri Araştırmaları Dergisi, 10(4), 3818-3833. https://doi.org/10.15869/itobiad.984252
- Zisi, V., Giannitsopoulou, E., Vassiliadou, O., Pollatou, E., & Kioumourtzoglou, E. (2009). Performance level, abilities and psychological characteristics in young junior rhythmic gymnasts: the role of sport experience. *International Quarterly of Sport Science*, *4*, 1-13.