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An Investigation of the Relationship Between Imagery and Sportive Confidence in Volleyball Athletes*

Yılmaz ÇAKICI[1†], Aslıhan ARSLANGÖRÜR[1]
[1]Tekirdağ Namık Kemal University, Faculty of Sport Sciences, Tekirdağ

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Abstract

The aim of this research is to examine the relationship between imagery in sports and the sportive confidence in athletes who play volleyball. 277 elite athletes who play volleyball, from 3 league levels (1st League, 2nd League, and Super League) between the ages of 18 and 35 (23.32 ± 4.16), of which 157 are women (21.78 ± 3.54), and 120 are men (25.33 ± 4.04) form the sample population of the research. Personal Information Form, Imaging Inventory, and Continuous Sportive Self-Confidence Inventory were applied to collect data. Independent T-test was applied to examine the distribution of the scores of sub-dimensions of imaging in sports and sportive confidence according to the variables gender, status of national team participation, and athlete's age, and Tukey HSD test with One-Way ANOVA was applied to examine the distribution according to active years in sports, age, and league level. After the findings from the analysis, it was determined that there was a meaningful difference between the sub-dimensions of imaging in sports and sportive confidence scores according to the variables of age, gender, sports age, the status of national team participation, league level, and active years in sports ($p<0.05$).
Keywords: Imagery, Sportive confidence, Volleyball

Voleybol Sporcularında İmgeleme ve Sportif Güven Arasındaki İlişkinin İncelenmesi

Öz

Bu araştırmanın amacı voleybol oynayan sporcularda imgeleme ile sportif güven arasındaki ilişkinin incelenmesidir. Araştırmanın çalışma grubu elit düzeyde voleybol oynayan 3 lig düzeyinden (1. Lig, 2. Lig ve Süper Lig) yaşları 18 ile 35 arasında değişen (23.32±4.16) 157 kadın (21.78±3.54) ve 120 erkek (25.33±4.04) olmak üzere toplam 277 sporcudan oluşmaktadır. Veri toplama amacı ile tüm katılımcılara Kişisel Bilgi Formu, Sporda İmgeleme Envanteri ve Sürekli Sportif Kendine Güven Envanteri uygulanmıştır. Sporda imgeleme alt boyutları ile sportif güven arasındaki puanlarının cinsiyet, millilik durumu ve spor yaşı değişkenine göre dağılımını incelemek için independent-samples t-testi, sporcuların profesyonel sporculuk yılı, yaş ve lig düzeyi değişkenine göre incelemek için de One-Way ANOVA ile Tukey HSD testi uygulanmıştır. Analiz bulgularının sonucunda araştırmaya katılan sporcuların sporda imgeleme alt boyutları ile sportif güven puanları arasında yaş, cinsiyet, spor yaşı, millilik durumu, lig düzeyi ve profesyonel sporculuk yılı değişkenleri arasında anlamlı bir fark olduğu saptanmıştır ($p<0.05$).
Anahtar Kelimeler: İmgeleme, Sportif güven, Voleybol

* This study is derived from the second author's master thesis, completed under the supervision of the 1st author.
† **Corresponding Author:** Yılmaz Çakıcı, **E-mail:** ycakici@nku.edu.tr

INTRODUCTION

In today's sports, productivity can be defined as the psychological, biomechanical, and physiological capacity that athletes demonstrate during movement. The ability of athletes to achieve high-level success depends on the renewal of both their physiological and psychological capacities (Konter, 2003). Therefore, it is crucial for athletes to be open to cognitive and emotional development as much as physical development (Andersen, 2000). In this context, it is of great importance for coaches and athletes to engage in activities that contribute to their holistic development, encompassing sensory, motor, physical, and mental aspects (Morris et al., 2005).

Mental imagery or visualization is one of the most important psychological techniques for enhancing an athlete's performance in the field of sports psychology. Visualization exercises, when combined with efforts to improve technical, tactical, and motor skills, support athletes' development in various areas. The simulation of real experiences in the mind is presented as visualization experiences. In other words, even without real-life experiences, we can feel the movements, taste, smell, and hear what we imagine. In sports, visualization is not only used for skill development but also for enhancing cognitive, behavioral, and effective expressions (Hall, 2001). Players and coaches can use imagery to develop strategies or tactics before a match. Planning and considering alternatives can have a positive effect on an athlete’s decision-making process. Coaches can use imagery to decide on strategies to eliminate threats that arise during a match (Morris et al., 2005). In order to benefit most effectively from imagery experiences or training, they need to be carried out together with physical training and periodized within themselves (Burton & Raedeke, 2008). Using imagery involves closing your eyes and clearing your mind, but it can also be practiced by keeping a journal, watching a movie, listening to music, or watching a favorite athlete play (Smith & Kays, 2010). These different approaches integrating the senses, emotions, and cognitive processes makes imagery more holistic and a comprehensive mental practice.

The positive impact of mental skill training on performance in sports is highly significant. Visualization is recognized as an important tool for elevating performance throughout the entire competition. Athletes can visualize and feel themselves performing an activity during competition (Konter, 2006). Therefore, studies in sports psychology extensively include the concept of visualization (İkizler & Karagözoğlu, 1997). In this vein, mentally rehearsing or imagining performance of skills, strategies or scenarios have been key concepts in sports psychology.

An athlete's psychological state broadly influences their performance. When this idea is emphasized, it suggests that athletes and coaches should give psychological training as much importance as physical training. Within psychological training, mental rehearsal is seen as one of the most valuable methods for enhancing performance and readiness for competitions (Weinberg & Gould, 2003). Athletes that vividly picturing successful outcomes can improve their actual performance, increase confidence and reduce anxiety.

In this context, the aim of this research is to determine whether there is a relationship between imagery and athletic confidence among athletes playing in the professional leagues of the Turkish Volleyball Federation, considering various variables such as age, years of playing sports, gender, years as a professional athlete, national team status, and league level. Although imagery/visualization is among the most preferred psychological skill training methods, there are few studies in the literature concerning visualization and athletic confidence. This study, encompassing elite-level athletes, is expected to make a significant contribution to the literature.

When examining both domestic and international literature, it is evident that various studies have been conducted on visualization. In a study by Kendall et al. (1990), it was found that internal dialogue, visualization, and relaxation had a positive effect on basketball players' defensive performance. Similarly, research conducted by Callow, Hardy, and Hall (2002) on badminton players revealed that visualization increased athletes' confidence levels. Another study by Ramezani (2009) with professional and amateur volleyball players found that visualization during training increased players' self-confidence and individual movement capacity. Similarly, Orlick and Partington (1988) determined that a high number of Canadian Olympic athletes used visualization and were willing to do it regularly.

In another study examining the effect of visualization on self-confidence and anxiety performance in acrobatic gymnasts, Marshall and Gibson (2017) found that visualization increased athletic self-confidence but had no effect on athletic success and anxiety. Another research conducted with participants in a skating championship found that the use of visualization increased athletic confidence levels and reduced competition anxiety (Vadocz et al., 1997). Research with badminton players showed that visualization increased athletes' confidence levels (Callow, 2001). Recently, Budnik-Przybylska et al., (2022) examined the relationship between temperament traits, general imagery use tendency, and self-confidence in sports. The results reveal that self-confidence in sports is explained by a small minority through temperament and general imagery use, but specifically through general imagery use and the negative dimensions of temperament-emotionality. Concisely, general imagery makes clear the relationship between emotionality and self-confidence only in individual sports athletes.

In another study conducted currently, Grasel-Barbosa et al., (2023) conducted a study to examine the interplay between sport confidence and competitive performance among adolescent athletes. The study involved 519 athletes aged 14 to 19 who completed various instruments measuring sport confidence, social support, sport imagery, and subjective social status. It was shown that there were significant direct effects between sport confidence and social support, age, sport experience, performance, subjective social status and sport imagery. There was a significant positive direct effect of sport imagery on sport performance. Athletes who engage more in sport imagery tend to have better performance.

In Turkey, a study carried out by Ağılönü (2014) examined the imagination and problem-solving skills of athletes in various sports and found a significant positive relationship between motivational specific visualization, cognitive visualization, motivational general mastery scores, and years of engaging in sports. Ayaş (2019) examined the effect of visualization on athletic confidence in female athletes and found no significant difference in the scores of athletes on the sports visualization inventory sub-dimensions based on the variable of years of engaging in sports.

In another study, Çetinkaya (2015) found that the continuous sports confidence levels of athletes aged 26-30 significantly differed from those of athletes aged 20 and below. Accordingly, it was stated that the average scores of participants in the 26-30 age range were higher than those of participants aged 20 and below. On the other hand, Bilgin (2011) revealed through his study that self-confidence score averages significantly varied according to age, and this difference was observed between adolescents aged 16 and below and those aged 17 and above. Additionally, it was concluded that there was an increase in self-confidence levels parallel to age.

In a study conducted by İnan and colleagues (2017), which examined the continuous sports confidence among tennis players in terms of various variables, it was concluded that the sports confidence level of male athletes was higher than that of female athletes. The average score obtained from the continuous sports self-confidence scale by male participants was found to be higher than the average score of females. Savaş (2019), on the other hand, investigated whether the total score and sub-dimensions of sports imagery and the total score of continuous sports self-confidence of secondary school students participating in school sports differed according to the variable of being a national athlete. It was found that the cognitive imagery perceptions of national athletes were higher compared to non-national athletes. Similarly, in a study by Ayaş (2019), the results indicated a moderately positive relationship between imagery and sports confidence, suggesting that any change in imagery would affect sports confidence scores by 46 percent. In a recent study, Yalçın et al., (2022) investigated the effect of athletes' imagery abilities on mental toughness and sports confidence. A total of 627 volunteer athletes, actively participating in individual and team sports with licenses in the Eastern Anatolia Region of Turkey, participated in the research. In this study, participant completed Sportive Imagery Scale, Mental Toughness Scale in Sports and Sportive Continuous Self-Confidence Scale. According to the analysis results, significant relationships were found between imagery ability and the sub-dimensions of mental toughness and sports confidence in athletes. It was obvious that imagery ability is a significant factor affecting athletes' mental toughness and sports confidence levels.

In summary, the literature review reveals that visualization is associated with factors such as confidence, anxiety, relaxation, internal dialogue, physical skills, and athletic performance. Overall, studies have used surveys, video analysis, training aimed at measuring physical skills, or pre-test/post-test measurements. The findings generally suggest that visualization positively influences athletic confidence, increases athletes' confidence levels and athletic performance, leading to enhanced athlete performance.

METHOD

Research Model

In this study, the descriptive-relational survey model was applied. In research conducted within the scope of the descriptive-relational survey model, an event or situation is described as it is, and the relationships, effects, and degrees of the variables causing these situations are determined (Kaya et al., 2012).

Research Group

The study group consists of 277 athletes who play volleyball at an elite level across three league tiers (1st League, 2nd League, and Super League), with ages ranging from 18 to 35 (mean age: 23.32±4.16). Among them, there are 157 female athletes (mean age: 21.78±3.54) and 127 male athletes (mean age: 25.33±4.04). Table 1 below presents the demographic characteristics of the athletes. Looking at these distributions, it can be observed that 56.7% of the participants are female athletes, while 43.3% are male athletes.

Table 1. Frequency and percentage distributions of athletes based on their demographic characteristics

Variables		**N**	**%**
Gender	Male	120	43.3
	Female	157	56.7
Years as a Pro Athlete	1-4 years	67	24.2
	5-8 years	99	35.7
	9-12 years	54	19.5
	12+ years	57	20.6
Years in Sports	5-15 years	202	72.9
	16-25 years	75	27.1
National Team Status	Yes	78	28.2
	No	199	71.5
Age	18-21 years	109	39.4
	22-25 years	92	33.2
	25-35 years	76	27.4
League Level	1st league	85	30.7
	2nd league	114	41.2
	Super league	78	28.2

Data Collection Tools

The data collection instruments of this study consist of a questionnaire divided into three parts.

***Sports Imagery Inventory (SII)*:** The Sports Imagery Inventory developed by Hall et al. was used to determine the types of imagery employed by athletes. The translation of the Sports Imagery Inventory into Turkish was conducted by Kızıldağ (2007). The SII consists of 21 items and has four subscales: Cognitive Imagery, Motivational Specific Imagery, Motivational General Arousal, and Motivational General Mastery.

***The Sport Confidence Inventory (SCI)*:** The Sport Confidence Inventory (SCI) was developed specifically for sports by Vealey in 1986. The inventory consists of 13 items measuring Continuous

Sport Confidence. The Sport Confidence Inventory has a single-factor structure. The adaptation of SCI to Turkish population was conducted by Engür et al., 2006 (as cited in Vurgun, 2010). Item analysis and reliability analysis were applied to the data obtained from the application of the Continuous Sport Confidence inventory to the sample, resulting in Cronbach's Alpha coefficients of 0.86 for internal consistency reliability (Vealey, 1986). The reliability coefficient for Cronbach's Alpha obtained for the Continuous Sport Confidence Inventory was 0.92 in this study.

Collection of Data

During the data collection process, appointments were first made with the coaches of volleyball players for application before training or competitions. In cases where the researcher could not visit the cities where the teams were located, the questionnaires were sent to the coaches by mail, and they were implemented under their supervision. After the application, the questionnaires were sent back to the researcher by mail. In cases where the researcher could visit the cities where the teams were located, information about the questionnaires was provided to the volleyball players by the researcher.

All applications were conducted with voluntary volleyball players before the start of training. There are an average of 12-14 athletes in each team. A total of 277 athletes were surveyed. In the applications, research questionnaires were distributed to the volleyball players. They were asked to answer the questions in a quiet environment. Identity information was not requested from the participants; only voluntary participation was considered. In the next stage, the completed questionnaires were reviewed, and 23 questionnaires were excluded from the analysis as they were randomly filled out and it was determined that various items or sections were left blank.

Ethical Approval

The study was ethically approved by Tekirdağ Namık Kemal University Scientific Research and Publication Ethics Board (Document date & no.: 15.10.2020/T2020-520).

Analysis of Data

All statistical analyses were conducted using SPSS. Correlation analysis was applied to examine the relationship between sports imagery subscales and sport confidence. Before comparing variables, a normality analysis was conducted. Since the skewness and kurtosis values were between -2 and +2, it was assumed that the variables had a normal distribution. Independent samples t-test was applied to examine the distribution of scores between sports imagery subscales and sport confidence based on gender, national team status, and years in sports variables. One-Way ANOVA test was applied to examine the distribution of scores based on athletes' years as a professional athlete, age groups, and league level variables (Since significant differences were found in the subscales, Tukey HSD test was applied). A significance level of $p \leq 0.05$ was considered in the analyses. Correlations were performed between the subscales. Since the assumptions of normality were met when examining the distribution of the subscales, Pearson correlation coefficient was calculated. Correlations were interpreted as low 0.00-0.30), moderate 0.30-0.70, and high 0.70 and above (Büyüköztürk et al., 2013).

FINDINGS

As shown in Table 2 below, when examining the relationship between sports imagery subscales and sport confidence, a statistically significant relationship was found between sports imagery subscales and sport confidence ($p \leq 0.01$). The relationship between Motivational General Mastery and Cognitive Imagery was high; the relationship between Motivational General Arousal and Motivational General Mastery, as well as Continuous Sport Confidence, was low, while the relationships between other structures were found to be moderate.

Table 2. Correlation analysis results of the relationship between sports imagery subscales and sport confidence.

		Motivational Specific	Motivational General Arousal	Motivational General Mastery	Cognitive Imaginary	Continuous Sport Confidence
Motivational Specific	p r	-	.000** .453	.000** .568	.000** .644	.000** .313
Motivational General Arousal	p r		-	.000** .299	.000** .388	.005** .167
Motivational General Mastery	p r			-	.000** .717	.000** .567
Cognitive Imaginary	p r				-	.000** .638
Continuous Sport Confidence	p r					-

(**) p<0.01

Table 3 below presents the results of independent-samples t-tests examining the scores of volleyball players on sports imagery subscales and sport confidence based on the gender variable. According to these results, a significant difference was observed between the scores of sports imagery subscales (except for motivational general arousal) and sport confidence based on the gender variable ($p < 0.05$).

Table 3. Independent-Samples t-test results for the scores of sports imagery subscales and sport confidence based on gender variable.

	Gender	N	X	Ss	t	p	d
Motivational Specific	Female Male	157 120	5.18 5.69	1.31 1.21	-3.25**	.001	0.40
Motivational General Arousal	Female Male	157 120	4.86 5.00	1.15 1.34	-.90	.367	0.11
Motivational General Mastery	Female Male	157 120	5.75 6.03	.95 1.07	-2.29*	.023	0.27
Cognitive Imaginary	Female Male	157 120	5.40 5.89	.78 .89	-4.80**	.000	0.58
Continuous Sport Confidence	Female Male	157 120	7.00 7.65	1.20 1.15	-4.52**	.000	0.55

*p<0,05, **p<0,01

When examining the average scores, it was determined that in all subscales where there was a difference, the average scores of males were higher than those of females. In the test results, it was found that the effect size was low between motivational general arousal and motivational general

mastery groups, moderate between motivational specific groups, and strong in favor of males between cognitive imagery and sport confidence (respectively; d=0.11; 0.27; 0.40; 0.58; 0.55).

Table 4 presents the results of independent-samples t-tests examining the scores of volleyball players on sports imagery subscales and sport confidence based on the variable of sport age. According to these results, there is a significant difference between the scores of motivational specific imagery, motivational general mastery, cognitive imagery, and sport confidence based on the variable of sport age ($p< 0.05$). When looking at the average scores, it can be observed that players aged between 13-24 years have higher average scores than those aged between 5-12 years.

Table 4. Independent-samples t-test results for the scores of sports imagery subscales and sport confidence based on sport age variable.

	Age	n	X̄	Ss	t	p	d
Motivational Specific	5-12	150	5.15	1.33	-3.66**	.000	0.44
	13-24	127	5.71	1.18			
Motivational General Arousal	5-12	150	4.86	1.21	-.82	.409	0.10
	13-24	127	4.99	1.26			
Motivational General Mastery	5-12	150	5.76	1.03	-2.05*	.040	0.24
	13-24	127	6.01	.98			
Cognitive Imaginary	5-12	150	5.38	.86	-5.01**	.000	0.61
	13-24	127	5.89	.79			
Continuous Sport Confidence	5-12	150	7.07	1.19	-3.18**	.002	0.38
	13-24	127	7.53	1.22			

*p<0,05, **p<0,01

In the test results, it was found that the effect size was low between motivational general arousal and motivational general mastery groups, moderate between motivational specific and sport confidence groups, and strong in favor of players aged between 13-24 years for cognitive imagery (respectively; d=0.10; 0.24; 0.44; 0.38; 0.61).

Table 5 presents the results of independent-samples t-tests examining the scores of volleyball players on sports imagery subscales and sport confidence based on the variable of national team membership. According to these results, there is a significant difference between the scores of all sports imagery subscales and sport confidence based on the national team membership variable ($p< 0.05$). When examining the average scores, it can be observed that national team players have higher average scores in all subscales compared to non-national team players.

In the test results, it was found that the effect size was low between motivational general arousal and motivational general mastery groups, moderate between cognitive imagery and sport confidence groups, and strong in favour of national team players for motivational specific (respectively; d=0.26; 0.23; 0.49; 0.43; 0.58).

Table 5. Independent-samples t-test results for the scores of sports imagery subscales and sport confidence based on national team membership variable

	National	n	X̄	Ss	t	p	d
Motivational Specific	Yes	78	5.82	.97	3.38**	.001	0.58
	No	19	5.24	1.02			
		9					
Motivational General Arousal	Yes	78	5.16	1.28	2.04	.042	0.26
	No	19	4.83	1.21			
		9					
Motivational General Mastery	Yes	78	6.07	.97	1.98*	.048	0.23
	No	19	5.80	1.27			
		9					
Cognitive Imaginary	Yes	78	5.92	.91	3.73**	.000	0.49
	No	19	5.49	.82			
		9					
Continuous Sport Confidence	Yes	78	7.66	1.23	3.29**	.001	0.43
	No	19	7.13	1.19			
		9					

*p<0,05, **p<0,01

Table 6 presents the results of One-way ANOVA tests examining the scores of volleyball players on sports imagery subscales and sport confidence based on the variable of age. According to these results, significant differences were found between the scores of all sports imagery subscales and sport confidence based on the age variable ($p < 0.05$). Tukey HSD tests were conducted to determine which categories had significant differences. As a result of the statistical analysis, it was found that the average scores of athletes aged between 26-35 in all sub-dimensions of sport confidence and imagery were higher than those of athletes aged between 22-25 and 18-21. The test result revealed that the effect size between motivational general arousal, motivational specific, motivational general mastery, and sport confidence groups was negligible, while the effect size between cognitive imagery groups was low in favor of the 26-35 age group ($\eta^2 = 0.03$; 0.06; 0.03; 0.05; 0.10 respectively).

Table 6. One-way ANOVA test results for the relationship between imagery sub-dimensions in sports and sport confidence scores by age variable

	Age	n	X̄	Ss	F	p	d	
Motivational Specific	18-21	109	5.15	1.31	10.048**	.000	0.06	
	22-25	92	5.25	1.26				
	26-35	76	5.95	1.14				
Motivational General Arousal	18-21	109	4.80	1.25	5.407**	.005	0.03	
	22-25	92	4.75	1.22				
	26-35	76	5.31	1.17				
Motivational General Mastery	18-21	109	5.63	1.12	5.515**	.004	0.03	c>a,b
	22-25	92	5.97	.86				
	26-35	76	6.10	.96				
Cognitive Imaginary	18-21	109	5.31	.83	15.711**	.000	0.10	
	22-25	92	5.66	.87				
	26-35	76	6.00	.75				
Continuous Sport Confidence	18-21	109	6.97	1.18	8.112**	.004	0.05	
	22-25	92	7.33	1.28				
	26-35	76	7.28	1.08				

*p<0,05, **p<0,01

Table 7 presents the One-way ANOVA Test results for the relationship between imagery sub-dimensions and sport confidence scores by the variable of years as a professional athlete. According to these results, significant differences were observed in the sub-dimensions of motivational specific, motivational general mastery, cognitive imagery, and sport confidence scores based on the years of being a professional athlete ($p<0.05$).

Table 7. One-way ANOVA test results for the relationship between imagery sub-dimensions in sports and sport confidence scores by years as a professional athlete variable

	Professional Years	n	X̄	Ss	F	p	d	
Motivational Specific	1-4	67	5.01	1.23	6.172**	.000	0.06	
	5-8	99	5.34	1.30				
	9-12	54	5.41	1.26				
	12- ..	57	5.97	1.21				
Motivational General Arousal	1-4	67	4.99	1.11	3.251*	.022	0.03	
	5-8	99	4.64	1.24				
	9-12	54	4.99	1.20				
	12- ..	57	5.25	1.33				
Motivational General Mastery	1-4	67	5.69	1.04	2.148	.094	0.02	d>c,b,a
	5-8	99	5.80	1.03				
	9-12	54	6.03	.79				
	12- ..	57	6.08	1.10				
Cognitive Imaginary	1-4	67	5.32	.77	6.925**	.000	0.07	
	5-8	99	5.50	.91				
	9-12	54	5.88	.77				
	12- ..	57	5.89	.86				
Continuous Sport Confidence	1-4	67	7.03	1.10	4.601**	.004	0.04	
	5-8	99	7.11	1.25				
	9-12	54	7.47	1.29				
	12- ..	57	7.71	1.12				

*p<0,05, **p<0,01

To determine which categories these significant differences lie between, the Tukey HSD test was applied. According to the analysis, athletes with over 12 years of professional experience had higher average scores compared to all other groups in all sub-dimensions of imagery and sport confidence. The test result indicated that the effect size in all sub-dimensions was negligible.

Table 8 presents the One-way ANOVA Test results for the relationship between imagery sub-dimensions and sport confidence scores by the variable of league level. According to these results, significant differences were found in the sub-dimensions of motivational specific, motivational general mastery, cognitive imagery, and sport confidence scores based on the league level variable ($p<0.05$). The Tukey HSD test was conducted to determine which categories these significant differences lie between.

Table 8. One-way ANOVA test results for the relationship between imagery sub-dimensions in sports and sport confidence scores by league level variable

	League Level	n	X̄	Ss	F	p	d	
Motivational Specific	1. league	85	5.16	1.21	14.141**	.000	0.10	
	2. league	114	5.15	1.36				
	Super league	78	6.03	1.05				
Motivational General Arousal	1. league	85	4.95	1.19	2.474	.086	0.01	
	2. league	114	4.75	1.21				
	Super league	78	5.15	1.30				
Motivational General Mastery	1. league	85	5.78	1.07	4.720*	.010	0.03	c>b,a
	2. league	114	5.75	1.06				
	Super league	78	6.17	.81				
Cognitive Imaginary	1. league	85	5.56	.76	15.613**	.000	0.10	
	2. league	114	5.36	.86				
	Super league	78	6.04	.84				
Continuous Sport Confidence	1. league	85	7.18	1.24	4.502*	.012	0.03	
	2. league	114	7.12	1.15				
	Super league	78	7.63	1.25				

*p<0,05, **p<0,01

According to the analysis results, in all dimensions where a difference was observed, athletes at the Super League level had higher average scores compared to those at the 1st and 2nd League levels. The test revealed that the effect size between the motivational specific and cognitive imagery groups favored players in the Super League at a low level (respectively; η^2=0.10; 0.10).

DISCUSSION AND CONCLUSION

In this research, the aim was to determine whether there is a relationship between imagery and sport confidence among athletes playing in the professional leagues of the Turkish Volleyball Federation, considering various variables such as age, years of sports experience, gender, years of professional sports experience, national team status, and league level. The following conclusions were reached based on the research results.

Evaluation of the Relationship between SIE and SSGC Results According to Gender Variable: When the relationship between imagery and sport confidence was examined according to the gender variable in volleyball players, significant differences were observed in motivational specific, motivational general mastery, cognitive imagery sub-dimensions, and sport confidence scores ($p<0.05$). This finding is consistent with the results of a study conducted by Jones et al. (1991) with 28 male and 28 female university athletes. Additionally, research by Petruzzello and Corbin (1988) on the effect of performance feedback on women's self-confidence, and the study by Inan et al., (2017) on tennis players, parallel the results of this study.

Evaluation of the Relationship between SIE and SSGC Results According to Age Variable: When the relationship between imagery and sport confidence was examined according to the age variable

in volleyball players, significant differences were found in all sub-dimensions of imagery and sport confidence scores ($p<0.05$). The results of studies conducted by Durmaz (2019), Cetinkaya (2015), and Ulucan and Bolukbasi (2010) with elite athletes, licensed athletes, and university-level athletes, respectively, are parallel to the results of this study. Studies by Ungerleider et al. (1989), Bilgin (2011), and Matsushima and Shiomi (2003) focusing on track and field athletes, adolescents, and different age groups, also support the findings of this research.

Evaluation of the Relationship between SIE and SSGC Results According to Years of Sports Experience Variable: When the relationship between imagery and sport confidence was examined according to the years of sports experience variable in volleyball players, significant differences were observed in motivational specific, motivational general mastery, cognitive imagery sub-dimensions, and sport confidence scores ($p<0.05$). Studies by Salmon et al., (1994) and Micoogullari et al., (2009) with elite football players, Erdogan (2019) with individual and team sport athletes, Aslan (2014), and Isik (2018) with elite and non-elite athletes, respectively, are consistent with the results of this study

Evaluation of the Relationship between SIE and SSGC Results According to National Team Status Variable: When the relationship between imagery and sport confidence was examined according to the national team status variable in volleyball players, significant differences were found in all sub-dimensions of imagery and sport confidence scores ($p<0.05$). The findings of studies by Callow and Hardy (2001) and Öztürk et al. (2016), indicating that elite athletes use imagery more than non-elite athletes and that being a national athlete makes a difference, are in line with the results of this research.

Evaluation of the Relationship between SIE and SSGC Results According to Years of Professional Sports Experience Variable: When the relationship between imagery and sport confidence was examined according to the years of professional sports experience variable in volleyball players, significant differences were found in motivational specific, motivational general arousal, cognitive imagery sub-dimensions, and sport confidence scores ($p<0.05$). The results of a comparison conducted by Ekinci et al., (2014) to determine the self-confidence of individuals playing sports professionally and amateurishly indicated a preference for professional athletes, albeit statistically insignificant, which aligns with the findings of this study.

Evaluation of the Relationship between SIE and SSGC Results According to League Level Variable: When the relationship between imagery and sport confidence was examined according to the league level variable in volleyball players, significant differences were observed in motivational specific, motivational general mastery, cognitive imagery sub-dimensions, and sport confidence scores ($p<0.05$). The results of a study by Yalçın (2019) with professional footballers correspond with the findings of this research

Evaluation of the Relationship between Sport Imagery Level and Sport Confidence: The relationship between the Sport Imagery Inventory (Mean=5.47, SD=0.88) and Sport Confidence Inventory (Mean=7.28, SD=1.22) scores was measured using Pearson Correlation. A moderate level of positive correlation was found between these variables at $r = 0.530$, which was statistically significant ($p<0.01$). Thus, as sport imagery increases, sport continuous self-confidence also increases. This is in line with previous studies advocating for a relationship between imagery and sport confidence (Ayaş, 2019; Callow et al., 2001; Grasel Barbosa et al., 2023; Marshall & Gibson, 2017; Munroe-Chandler et al., 2008; Savaş, 2019; Vadocz et al., 1997; Yavaş et al., 2022).

In conclusion, similar to many studies in the literature, this research also revealed a positive relationship between imagery and sport confidence. Therefore, it can be said that engaging in imagery would be beneficial for increasing athletes' confidence levels. Implementing imagery in training content could positively affect sport confidence, thus enhancing performance.

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REFERENCES

Ağılönü, Ö. (2014). *Imagining athletes who play different sport branches of investigation and problem-solving skills.* Master's thesis, Muğla Sıtkı Koçman University, Health Sciences Institute, Muğla.

Andersen, M. (2000). *Doing sport psychology* (*1'st edition*). Human Kinetics.

Aslan, V. (2014). *Investigation of depression levels and their effect on imaging forms for the athletes in different age categories*. Master's thesis, 19 Mayıs University, Health Sciences Institute, Samsun.

Ayaş, E. B. (2019). *Investigation of the effect of imagination on sportive self-confidence in women athletes*. Doctoral thesis, Fırat University, Health Sciences Institute, Elazığ.

Bilgin, O. (2011). *The investigation of self-confidence levels of adolescents according to different variables*. Master's thesis, Sakarya University, Institute of Educational Sciences, Sakarya.

Budnik-Przybylska, D., Huzarska, I., & Karasiewicz, K. (2022). Does imagery ability matter for the relationship between temperament and self-confidence in team and individual sport disciplines? *Frontiers in Psychology, 13*. Article 893457 https://doi.org/10.3389/fpsyg.2022.893457

Burton, D., & Raedeke, T. D. (2008). *Sport psychology for coaches (1'st edition)*. Human Kinetics.

Büyüköztürk, Ş., Çokluk, Ö., & Köklü, N. (2013). *Statistics for social sciences*. Pegem Academy Publishing.

Callow, N., Hardy, L., & Hall, C. (2001). The Effects of a motivational general mastery imagery intervention on the sport confidence of high-level badminton players. *Research Quarterly for Exercise and Sport*, *72*(4), 389-400. https://doi.org/10.1080/02701367.2001.10608975

Çetinkaya, T. (2015). *The relationship among athletic identity and trait sport confidence in team sports*. Doctoral thesis, Gazi University, Institute of Educational Sciences, Ankara.

Durmaz, Ö. (2019). *Investigation of imagery of elit sports in different branches and genders*. Master's thesis, 19 May University, Health Sciences Institute, Samsun.

Ekinci, N. E., Özdilek, Ç., Deryahanoğlu, G., & Üstün, Ü. D. (2014). Exploring self-confidence level of high school students doing sport. *Sportive Sight: Journal of Sports and Education, 1*(1), 36-42.

Erdoğan, P. D. (2009). *Anology of imagination anxiety level in the sportspeople dealing with individual and team sports*. Master's thesis, Sakarya University, Social Sciences Institute, Sakarya.

Grasel-Barbosa, D., Silva-Beltrame, T., Teresinha-Corazza, S., Augusto Santos Silva, D., Pelegrini, A., & Pereira Gomes Felden, E. (2023). The Role of sport confidence, imagery use and social support on performance in adolescent athletes. *International Journal of Sport Psychology, 54*(3), 269-285. https://doi.org/10.7352/IJSP.2023.54.269.

George, D., & Mallery, M. (2010). *SPSS for Windows step by step: A simple guide and reference, 17.0 update* (*10th ed.*) Pearson.

Hall, C.R. (2001). Imagery in sport and exercise. In R.N. Singer, & H. A. Hausenblas (Eds.), *Handbook of research on sport psychology* (2'nd edition, pp. 529-549). John Willy& Sons.

Işık, U. (2018). Relationship between sports self-confidence levels and athlete identities in amateur and professional football players. *Sports Education Journal, 2*(3), 26-35

İnan, H., Ayaş, B. E., & Kartal, M. (2017). Examining of sport trait self-confidence in tennis branche athletes in terms of various variables. *Route Educational and Social Science Journal, 4*(6), 57-62.

İkizler, C., & Karagözoğlu C. (1997). *Psychology of success in sports*. Alfa Press Distribution.

Jones, G., Swain, A., & Cale, A. (1991). Gender differences in precomputation temporal patterning and antecedents of anxiety and self-confidence. *Journal of Sport and Exercise Psychology, 13*(1), 1-15.

Kaya, A., Balay, R., & Göçen, A. (2012). Investigation of teachers' opinions on alternative assessment and evaluation techniques. *International Journal of Human Sciences, 9*(2), 1229-1259. https://doi.org/10.35452/caless.2020.26

Kendall, G., Hrycaiko, D., Martin, G.L., & Kendall, T. (1990). The effects of an imagery rehearsal, relaxation, and self-talk package on basketball game performance. *Journal of Sport and Exercise Psychology, 12*(2), 157-166.

Kızıldağ, E. (2007). *Athletes imagery styles in different sports*. Master's thesis, Mersin University, Health Sciences Institute, Mersin.

Konter, E. (2003). *Misconceptions and realities in applied sports psychology*. Dokuz Eylül Publications.

Konter, E. (2006). *Encounter psychology in sports.* Nobel Printing Publishing Distribution.

Marshall, E. A., & Gibson, A. (2017). The effect of an imagery training intervention on self-confidence, anxiety and performance in acrobatic gymnastics-A pilot study. *Journal of Imagery Research in Sport and Physical Activity*, *12*(1), 1-10. https://doi.org/10.1515/jirspa-2016-0009

Matsushima, R., & Shiomi, K. (2003). Developing a scale of self-efficacy in personal relationships for adolescents. *Psychological Reports*, *92*(1), 177-184. https://doi.org/10.2466/pr0.2003.92.1.17

Miçooğulları, O., Kirazcı, S., & Özdemir, R. A. (2009). Determination of sport imagery types and levels with respect to soccer playing experience. *Journal of Sports Medicine*, *44*(1), 1-8.

Morris, T., Spittle, M.P., & Watt, A. (2005). *Imagery in sport.* Human kinetics.

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. https://doi.org/10.1080/02640410802315419

Orlick, T., & Partington, J. (1988). Mental links to excellence. *The Sport Psychologist*, *2*(2), 105-130. https://doi.org/10.1123/tsp.2.2.105

Petruzzello, S. J., & Corbin, C. B. (1988). The effects of performance feedback on female self-confidence. *Journal of Sport and Exercise Psychology*, *10*(2), 174-183. https://doi.org/10.1123/jsep.10.2.174

Ramezani, N., & Hoseyni, M. (2009). The relationship between collective efficacy, group cohesion and team performance in professional volleyball teams, Brazilian. *Journal of Biomotrcity*, *3*(1), 31-39.

Salmon, J., Hall, C., & Halsam, I.R. (1994). The use of imagery by soccer players. *Journal of Applied Sport Psychology*, *6*, 116-133.

Savaş, M. (2019). *The analysis of the relationship between secondary school students' using imaging skills and their sportive confidence level*. Master's thesis, Erzincan Binali Yıldırım University, Health Sciences Institute, Erzincan.

Smith L. H., & Kays, T. M. (2010) *Sports psychology for dummies (1'st edition)*. John Wiley & Sons.

Ulucan, H., & Bölükbaşı, T. (2020). Examination the imagination style of athletes dealing with different branches at the university level. *International Bozok Journal of Sports Sciences*, *1*(1), 1-10.

Ungerleider, S., Golding, J. M., Porter K., & Foster, J. (1989). An exploratory examination of cognitive strategies used by masters track and field athletes. *The Sport Psychologist*, *3*(3), 245-253.

Vadocz, E., Hall, C., & Moritz, S. E. (1997). The relationship between competitive anxiety and imagery use. *Journal of Applied Sport Psychology, 9*(2), 241-253.

Vealey, R. S. (1986). Conceptualization of sport-confidence and competitive orientation. *Journal of Sport Psychology*, *8*(3), 221-246.

Vurgun, N. (2010). *Adaptation of sport imagery questionnaire to Turkish, and effects of sport imagery on competitive anxiety and sports confidence*. Doctoral thesis, Ege University, Institute of Health Sciences, İzmir.

Weinberg, R. S., & Gould, D. (2015). *Foundations of sport and exercise psychology*. Nobel Academic Publishing.

Yalçın, İ. (2019). *Investigation of the relationship between imagery and self-confidence in professional football players*. Doctoral thesis, Sakarya University, Institute of Educational Sciences, Sakarya.

Yalçın, İ., Ayhan, C., Yıldırım-Araz, G., Bayram, A., & Birkök, M. C. (2022). The Effect of Imagery Ability on Mental Toughness and Sportive Confidence Level in Athletes. *Mediterranean Journal of Sport Science*, (5), 895-905. https://doi.org/10.38021asbid.1210993