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Investigation of Team Cohesion and Self-Efficacy Levels of Volleyball Referees

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Research Article
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Abstract

The aim of the study is to examine the team cohesion and self-efficacy levels of volleyball referees. The research group includes a total of 280 volleyball referees, 138 female and 142 male, affiliated with the Turkish Volleyball Federation for the 2022-2023 volleyball season. "Personal Information Form", "Referee Self-Efficacy Scale" and "Group Environment Questionnaire" were used to collect data in the study. SPSS 24.0 program was used in the analysis of the research data. Independent sample t test and Anova test were applied as statistical methods and p<0,05 significance level was taken. According to the findings, a change was found in the sub-dimensions of task integrity and task attractiveness of the group in terms of gender variable. Again, a difference was found in the social integration of the group and task integration of the group according to the years of refereeing. There was a difference in the self-efficacy levels of the referees according to the year of refereeing. A difference was found in the task integration dimension of the group according to the refereeing level. As a result, it was determined that as the experience of volleyball referees increased, their self-efficacy levels increased and as their refereeing levels increased, their task integration levels increased.
Keywords: Volleyball referees, Team cohesion, Self-efficacy

Voleybol Hakemlerinin Takım Sargınlığı ve Öz-Yeterlik Düzeylerinin İncelenmesi

Öz

Çalışmanın amacı, voleybol hakemlerinin takım sargınlığı ve öz-yeterlik düzeylerini incelemektir. Araştırma grubu 2022-2023 voleybol sezonunda Türkiye Voleybol Federasyonu'na bağlı, 138'i kadın, 142'si erkek olmak üzere toplam 280 voleybol hakemi yer almaktadır. Araştırmada veri toplama aracı olarak "Kişisel Bilgi Formu", "Hakem Öz-Yeterlik Ölçeği" ve "Grup Sargınlığı Envanteri" kullanılmıştır. Araştırma verilerinin analizinde SPSS 24.0 programından yararlanılmıştır. İstatistiksel yöntem olarak Independent Sample T-Test ve ANOVA Testi uygulanmış, anlamlılık düzeyi p<0,05 alınmıştır. Bulgulara göre cinsiyet değişkeni açısından grubun görev bütünlüğü ve grubun görev çekiciliği alt boyutlarında değişiklik tespit edilmiştir. Yine hakemlik yılı değişkenine göre grubun sosyal bütünleşmesi ve grubun görev bütünleşmesinde farklılık tespit edilmiştir. Hakemlerin öz-yeterlik düzeylerinde hakemlik yılı değişkenine göre farklılık tespit edilmiştir. Hakemlik seviyesine göre grubun görev bütünleşmesi boyutunda farklılık tespit edilmiştir. Sonuç olarak voleybol hakemlerinin deneyimleri arttıkça öz-yeterlik düzeylerinin arttığı, hakemlik seviyeleri yükseldikçe de görevde bütünleşme düzeylerinin arttığı belirlenmiştir.
Anahtar Kelimeler: Voleybol hakemleri, Takım sargınlığı, Öz yeterlik

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INTRODUCTION

Refereeing is a job that involves serious difficulties when evaluated in general. The main difficulty is that the decision to be made is complex, fast, has the potential to negatively affect the outcome of the match, the number of players on the field or on the sidelines during the match, and the generally hostile behavior of the fans, which puts referees under serious pressure (Tuero et al., 2002). Within the framework of the Turkish Volleyball Federation Referee Guide and Instructions (TVFRGI), refereeing is not limited to managing the match with decisions made by adhering to the rules. It requires a serious level of skill. In particular, personal skills are gained as a result of a referee who has gained experience in sports organizations knowing that he is one of the basic assets of the game (Koçak, 2019). In all competitive sports, referees play an important role not only in determining the players' behavior and the outcome of the game, but also in ensuring the safety of the match within the framework of the rules (Tapşın & Doğan, 2024).

During the game, referees have to adapt to many different limitations such as the type of tournament, the importance of the match, the atmosphere of the venue where the match is played, the composition of the referee team, the flow of the game and their communication with each other (Aragao et al., 2021). Volleyball is a highly exciting sport that requires high levels of technical skills, fitness, coordination and flawless team movement. The main goal of modern volleyball is to present a highly enjoyable competition. For this reason, fans expect to watch a sportive match where the athletes put up personal and team struggles, rather than hearing the referee's whistle every time they reach victory (TVFRGI, 2017).

The complexity and speed inherent in volleyball, a popular team sport, make the referees' jobs much more difficult. In addition to all this, referees are expected to establish a strong bond of relationship with coaches and athletes. They should be able to distinguish whether the athlete's behavior is unsportsmanlike or a human reaction due to the stress of the match during the match. In order for the matches to be completed in a positive atmosphere, there should definitely be no penalty for momentary increases in emotion. When the opposite attitude is exhibited, the athletes' trust in the referee will decrease. All these structures will complicate the referee's job and increase the possibility of making mistakes (Koçak, 2019). Referees will manage such processes as a team with the support of assistant and table referees.

Team cohesiveness can generally be explained as the sum of the forces that enable team members to be in the team. Although different definitions have been made recently with new perspectives, cohesiveness has been conceptualized as the level at which members feel attracted to the group and each other (Kocaekşi, 2005). In other words, cohesiveness is explained as "a dynamic process that reveals the desire of a group to come together and connect with each other in line with its goals and objectives" (Akyüz, 2023; Durdubaş, 2013).

It has been determined that in groups with high team cohesion, members have higher athletic performance (Rovio et al., 2010). The belief that team cohesion has an effect on performance and that teams with high levels of cohesion exhibit higher performance and achieve their goals is supported not only by scientific research but also by many historical examples. When the factors in team success are considered, we generally observe that members have high communication power and close interest in each other. In addition, a team that is integrated within the framework of the team's goals exhibits a higher level of endurance in the

processes and difficulties that must be overcome to achieve these goals (Ceylan et al., 2020). Team cohesion among referees not only helps with communication among themselves but also helps create a trusting and respectful environment with sportsmanlike behavior among players and coaches (Dodt et al., 2022).

According to Bandura, strong self-efficacy reduces anxiety and stress that hinder performance. It has been understood that strong self-efficacy affects resistance to failure, task preferences and the level of effort spent. Individuals who are confident in their abilities resist difficulties to achieve their goals and can focus on the task they need to do. They are less anxious about making mistakes while experiencing all these processes (Bandura, 2001). Within the framework of sports psychology, athletic success and self-efficacy have been discussed in detail as a cognitive variable (Feltz et al., 2008).

People with strong levels of self-efficacy can be more efficient, productive, and comfortable in accomplishing difficult tasks. People with low levels of self-efficacy may believe that the task they are about to tackle is more difficult than it actually is. This way of thinking increases stress and anxiety levels in individuals, while limiting the individual's ability to use their skills to solve problems (Canpolat & Çetinkalp, 2011; Corbu, et al., 2021).

The ability of volleyball referees to exhibit high performance during a match is achieved through the sum of the referees' performance in the match. For this reason, team cohesion and self-efficacy are thought to be important for volleyball referees. The purpose of this research is to examine the team cohesion and self-efficacy levels of volleyball referees in Turkey.

METHODS

Study Design

This study was conducted on volleyball referees according to the relational screening model, which is one of the general screening models. Relational screening models are research models that aim to determine the existence or degree of change between two or more variables (Karasar, 2005)

Participants

The research group consists of a total of 280 volleyball referees and referee candidates, 138 (49.3%) of whom are female and 142 (50.7%) of whom are male, in different regions and classifications for the 2022-2023 volleyball season. Information on the personal characteristics of the volleyball referees participating in the research is given in Table 1.

Table 1. Personal information of the participants

	Variable	N	%
Gender	Female	138	49,3
	Male	142	50,7
	Total	280	100
Education Status	High School	34	12,1
	University	228	81,4
	Postgraduate	18	6,4
	Total	280	100
Referee Age	1-2 Year	104	37,1
	3-9 Year	98	35
	10 and above	78	27,9
	Total	280	100
Referee Classification	Candidate Referee	82	29,3
	Provincial Referee	140	50
	National Referee	58	20,7
	Total	280	100

Data Collection Tools

Personal Information Form: This form includes items regarding the gender, education level, duration of refereeing and refereeing level of the volleyball referees participating in the study.

The Group Environment Questionnaire: The scale developed by Carron et al., (1998) has a total of 18 items including four dimensions of cohesion based on the cohesion model. The scale consists of the subscales of the group's integration in the task (5 items), the group's social integration (4 items), the group's level of social attractiveness (5 items), and the group's level of finding the task attractive (4 items). Some of the items on the scale are scored reversely. In addition to the four subscale scores, a general cohesion score is obtained. Its adaptation to Turkish was made by Öcel (2002). The Cronbach's Alpha internal consistency coefficient of the scale varies between .64 and .75 according to its subscales. In the factor analysis study, 27 items were reduced to 18 items and it was determined that it formed a factor stack in four subscales. The Cronbach's Alpha internal consistency coefficient of the scale was found to be .59 for the task integration subscale of the group, .67 for the social integration of the group, .50 for the social attractiveness of the group, and .65 for the task attractiveness of the group. In our study, Cronbach's Alpha values for the sub-dimensions of the scale were calculated as .66 for the social integration of the group, .58 for the social attractiveness of the group, .61 for the task integration of the group, and .66 for the task attractiveness of the group.

Referee Self-Efficacy Scale: In this study, the Referee Self-Efficacy Scale (REFS) was used, the original form of which was developed by Myers et al., (2012) and the Turkish adaptation of which was carried out by Karaçam and Pulur (2017). It was determined that the first factor of the scale, physical competence, consisted of five items (1-2-3-4-5), the second factor, pressure, consisted of three items (12-13-14), the third factor, decision-making, consisted of three items (9-10-11), the fourth factor, communication, consisted of four items (15-16-17-18) and the fifth factor, game knowledge, consisted of three items (6-7-8). It was seen that the scale had a total of 13 items, rated on a five-point Likert type. The rating options for the scale items are expressed as “I completely disagree=1” and “I completely agree=5”. It was stated that there

were no reverse scored items in the scale and that high scores obtained from each factor of the scale indicated that self-efficacy in that factor was high. The Cronbach alpha internal consistency coefficients calculated for the five-factor structure were .87 for the physical competence factor, .87 for the pressure factor, .85 for the decision-making factor, .80 for the communication factor and .71 for the game knowledge factor. The internal consistency coefficient calculated for the entire scale was .90. The Cronbach Alpha internal consistency coefficients calculated in our study were .87 for the physical competence factor, .93 for the pressure factor, .80 for the decision-making factor, .92 for the communication factor and .62 for the game knowledge factor. The internal consistency coefficient calculated for the entire scale is .91.

Research Ethics

Ethical approval was given by the ethics committee of Dicle University, Social and Human Sciences Ethics Committee Presidency (376651/21.10.2022) and written consent was obtained from all participants in the study.

Data Analysis

Data analysis was performed using SPSS 24.0 statistical package program. Descriptive statistics were used for referees' descriptive characteristics. Parametric tests were applied because the skewness and kurtosis values of the data were ±1.5 as a result of normality tests (Büyüköztürk et al., 2018). Parametric Independent groups t-test, One-way variance analysis ANOVA and Pearson Correlation analysis were used to examine team cohesion and referee self-efficacy scores according to the coaches' descriptive characteristics as a result of normality tests. The significance level was taken as $p<.05$.

RESULTS

Table 2. T-test results regarding the group environment inventory sub-dimensions on the gender variable of the research group

Scale and Sub-Dimensions	Gender	N	$\bar{X}$	S	*t*	p
Social Integration of the Group	Female	138	4.95	0.97	1.39	.17
	Male	142	4.80	0.80		
Social Attractiveness of the Group	Female	138	5.45	1.27	1.37	.17
	Male	142	5.25	1.12		
Task Integration of the Group	Female	138	4.48	1.77	-4.28	.00*
	Male	142	5.47	2.08		
Task Attractiveness of the Group	Female	138	6.17	1.35	2.97	.00*
	Male	142	5.66	1.51		

* $p<0.05$

Table 2 shows the results of the T-Test conducted to determine whether the sub-dimensions of the group environment inventory differ statistically significantly according to the gender variable. When the table is examined; the average scores of male volleyball referees are statistically significantly higher than female referees in the task integration sub-dimension of the group according to the gender of the volleyball referees ($p<0.05$). The average scores of female volleyball referees are statistically significantly higher than male referees in the task

attractiveness sub-dimension of the group according to the gender of the volleyball referees (p<0.05). According to the results of the applied T-Test, it was determined that there was no statistically significant difference between the average scores of volleyball referees from the social integration of the group and the social attractiveness of the group sub-dimensions according to the gender variable (p>0.05).

Table 3. T-test results of the referee self-efficacy scale (RSES) and its sub-dimensions according to the gender variable of the research group

Scale and Sub-Dimensions	Gender	N	X̄	S	*t*	p
Physical Adequacy	Female	138	4.63	0.52	0.74	.94
	Male	142	4.63	0.59		
Oppression	Female	138	4.58	0.64	0.50	.62
	Male	142	4.54	0.69		
Decision Making	Female	138	4.52	0.56	-2.92	.00*
	Male	142	4.70	0.46		
Communication	Female	138	4.73	0.50	0.81	,42
	Male	142	4.68	0.65		
Game Information	Female	138	4.63	0.48	-1.56	.12
	Male	142	4.71	0.38		
RSES (Total)	Female	138	4.63	0.38	-0.53	.60
	Male	142	4.65	0.43		

* p<0.05

When Table 3 is examined, the T-Test results are given to determine whether the volleyball referees differ statistically in terms of gender variable. As a result of the T-Test, the average scores of male volleyball referees in the decision-making sub-dimension of the referee self-efficacy scale of volleyball referees are statistically higher than the average scores of female referees (p<0.05). No statistically significant difference was observed between the average scores of "Physical Competence, Pressure, Communication, Game Knowledge and Referee Self-Efficacy Scale Total'' in terms of gender variable of volleyball referees (p>0.05).

Table 4. ANOVA results regarding the sub-dimensions of the group environment inventory according to the education level variable of the research group

Scale and Sub-Dimensions	Education Status	N	X̄	S	*f*	p
Social Integration of the Group	High School (1)	34	4.63	0.92	1.660	.39
	University (2)	228	4.92	0.90		
	Postgraduate (3)	18	4.78	0.66		
Social Attractiveness of the Group	High School (1)	34	5.68	1.15	1.516	.22
	University (2)	228	5.30	1.21		
	Postgraduate (3)	18	5.36	1.02		
Task Integration of the Group	High School (1)	34	4.44	2.53	1.484	.23
	University (2)	228	5.04	1.89		
	Postgraduate (3)	18	5.22	2.09		
Task Attractiveness of the Group	High School (1)	34	6.11	1.65	0.549	.58
	University (2)	228	5.90	1.44		
	Postgraduate (3)	18	5.70	1.28		

* p<0.05

According to the One-Way ANOVA results of the group environment inventory sub-dimensions regarding the variable of the education level of the participating volleyball referees

in Table 4; no statistical difference was observed in the sub-dimensions of the inventory: social integration of the group, social attractiveness of the group, task integration of the group, and task attractiveness of the group (p>0.05).

Table 5. ANOVA results regarding the referee self-efficacy scale and its sub-dimensions according to the education level variable of the research group

Scale and Sub-Dimensions	Education Status	N	X̄	S	*f*	p
Physical Adequacy	High School (1)	34	4.79	0.35	1.917	.15
	University (2)	228	4.61	0.58		
	Postgraduate (3)	18	4.51	0.44		
Oppression	High School (1)	34	4.61	0.48	0.128	.88
	University (2)	228	4.56	0.70		
	Postgraduate (3)	18	4.52	0.43		
Decision Making	High School (1)	34	4.71	0.38	1.159	.32
	University (2)	228	4.58	0.54		
	Postgraduate (3)	18	4.70	0.34		
Communication	High School (1)	34	4.72	0.45	0.026	.97
	University (2)	228	4.70	0.61		
	Postgraduate (3)	18	4.72	0.41		
Game Information	High School (1)	34	4.61	0.41	0.916	.40
	University (2)	228	4.68	0.45		
	Postgraduate (3)	18	4.78	0.28		
RSES (Total)	High School (1)	34	4.70	0.35	0.448	.64
	University (2)	228	4.63	0.42		
	Postgraduate (3)	18	4.64	0.30		

* p<0.05

According to the One-Way ANOVA results of the referee self-efficacy scale and its sub-dimensions regarding the education level variable of the participating volleyball referees in Table 5; no statistically significant difference was observed in the physical competence, pressure, decision-making, communication, game knowledge sub-dimensions of the scale and the total average scores of the scale (p>0.05).

Table 6. ANOVA results regarding the sub-dimensions of the group environment inventory according to the research group's referee year variable

Scale and Sub-Dimensions	Year	N	X̄	S	*f*	p	Tukey
Social Integration of the Group	1-2 Year (1)	104	4.87	0.78	5.149	.01*	2-3
	3-9 Year (2)	98	5.06	0.98			
	10 and above (3)	78	4.64	0.86			
Social Attractiveness of the Group	1-2 Year (1)	104	5.33	1.21	0.301	.74	-
	3-9 Year (2)	98	5.30	1.26			
	10 and above (3)	78	5.44	1.10			
Task Integration of the Group	1-2 Year (1)	104	4.43	2.07	6.951	.00*	1-2 1-3
	3-9 Year (2)	98	5.42	1.85			
	10 and above (3)	78	5.14	1.91			
Task Attractiveness of the Group	1-2 Year (1)	104	6.10	1.38	1.535	.22	-
	3-9 Year (2)	98	5.87	1.46			
	10 and above (3)	78	5.72	1.53			

* p<0.05

When the One-Way ANOVA results of the sub-dimensions of of the group environment inventory of the participating volleyball referees according to the variable of refereeing years are examined in Table 6; it was determined that the mean scores of those who have been referees for 3-9 years in the group's social integration sub-dimension were statistically higher than those who had been referees for 10 or more years ($p<0.05$). The mean scores of those who have been referees for 3-9 years and 10 or more years in the group's task integration sub-dimension were statistically higher than those who had been referees for 1-2 years ($p<0.05$). No statistical difference was observed in the group's social attractiveness and group's task attractiveness sub-dimensions of the inventory ($p>0.05$).

Table 7. ANOVA results regarding the referee self-efficacy scale (SES) and its sub-dimensions according to the research group's referee year variable

Scale and Sub-Dimensions	Year	N	$\bar{X}$	S	*f*	p	Tukey
	1-2 Year (1)	104	4.75	0.44			
Physical Adequacy	3-9 Year (2)	98	4.49	0.69	5.974	.00*	1-2
	10 and above (3)	78	4.64	0.46			
	1-2 Year (1)	104	4.62	0.71			
Oppression	3-9 Year (2)	98	4.46	0.70	1.645	.20	-
	10 and above (3)	78	4.60	0.53			
	1-2 Year (1)	104	4.53	0.59			
Decision Making	3-9 Year (2)	98	4.54	0.52	7.533	.00*	1-3 2-3
	10 and above (3)	78	4.80	0.32			
	1-2 Year (1)	104	4.74	0.53			
Communication	3-9 Year (2)	98	4.62	0.72	1.496	.23	-
	10 and above (3)	78	4.76	0.41			
	1-2 Year (1)	104	4.64	0.44			
Game Information	3-9 Year (2)	98	4.62	0.46	3.797	.02*	2-3
	10 and above (3)	78	4.79	0.37			
	1-2 Year (1)	104	4.67	0.41			
RSES (Total)	3-9 Year (2)	98	4.54	0.45	4.273	.02*	2-3
	10 and above (3)	78	4.71	0.31			

* $p<0.05$

When the One-Way ANOVA results of the referee self-efficacy scale and its sub-dimensions are examined in Table 7 according to the referee year variable of the participating volleyball referees; it was observed that in the physical competence sub-dimension, the average scores of those who have been referees for 1-2 years were statistically higher than those who have been referees for 3-9 years ($p<0.05$). In the decision-making sub-dimension, it was determined that the average scores of those who have been referees for 10 or more years were statistically higher than those who have been referees for 1-2 years and 3-9 years ($p<0.05$). In the game knowledge sub-dimension, it was determined that the average scores of those who have been referees for 10 or more years were statistically higher than those who have been referees for 3-9 years ($p<0.05$). When the referee self-efficacy scale is considered in general, it was determined that those who have been referees for 10 or more years were statistically higher than the average scores of those who have been referees for 3-9 years ($p<0.05$). No statistical difference was observed in the pressure and communication sub-dimensions of the scale ($p>0.05$).

Table 8. ANOVA results regarding the sub-dimensions of the group environment inventory according to the research group's referee level variable

Scale and Sub-Dimensions	Referee Classification	N	X̄	S	*f*	p	Tukey
Social Integration of the Group	Candidate Referee (1)	82	4.87	0.77	2.114	.12	
	Provincial Referee (2)	140	4.96	0.93			
	National Referee (3)	58	4.68	0.94			
Social Attractiveness of the Group	Candidate Referee (1)	82	5.31	1.21	0.600	.55	
	Provincial Referee (2)	140	5.31	1.20			
	National Referee (3)	58	5.50	1.17			
Task Integration of the Group	Candidate Referee (1)	82	4.43	2.19	5.032	.00*	1-2 1-3
	Provincial Referee (2)	140	5.12	1.95			
	National Referee (3)	58	5.41	1.64			
Task Attractiveness of the Group	Candidate Referee (1)	82	6.23	1.30	2.947	.05	
	Provincial Referee (2)	140	5.77	1.54			
	National Referee (3)	58	5.80	1.39			

* p<0.05

When the One-Way ANOVA results regarding the sub-dimensions of the group environment inventory according to the refereeing level variable of the participant volleyball referees are examined in Table 8; it was observed that the average scores of the provincial and national referees in the task integration sub-dimension of the group were statistically higher than the average scores of the candidate referees (p<0.05). No statistical difference was observed in the social integration of the group, social attractiveness of the group and task attractiveness sub-dimensions of the inventory (p>0.05).

Table 9. ANOVA results regarding the referee self-efficacy scale (SSES) and its sub-dimensions according to the referee level variable of the research group

Scale and Sub-Dimensions	Referee Classification	N	X̄	S	*f*	p	Tukey
Physical Adequacy	Candidate Referee (1)	82	4.68	0.47	0.559	.57	
	Provincial Referee (2)	140	4.61	0.63			
	National Referee (3)	58	4.61	0.44			
Oppression	Candidate Referee (1)	82	4.55	0.73	0.020	.98	
	Provincial Referee (2)	140	4.56	0.68			
	National Referee (3)	58	4.58	0.53			
Decision Making	Candidate Referee (1)	82	4.51	0.58	4.448	.01*	1-3
	Provincial Referee (2)	140	4.60	0.52			
	National Referee (3)	58	4.77	0.34			
Communication	Candidate Referee (1)	82	4.55	0.58	0.791	.45	
	Provincial Referee (2)	140	4.67	0.63			
	National Referee (3)	58	4.87	0.42			
Game Information	Candidate Referee (1)	82	4.55	0.47	10.527	.00*	1-3 2-3
	Provincial Referee (2)	140	4.67	0.44			
	National Referee (3)	58	4.87	0.26			
RSES (Total)	Candidate Referee (1)	82	4.60	0.45	1.216	.30	
	Provincial Referee (2)	140	4.63	0.42			
	National Referee (3)	58	4.71	0.29			

* p<0.05

When the One-Way ANOVA results of the referee self-efficacy scale and its sub-dimensions are examined in Table 9 according to the referee level variable of the participant

volleyball referees; it was observed that the average scores of the national referees in the decision-making sub-dimension were statistically higher than those of the candidate referees ($p<0.05$). In the game knowledge sub-dimension, it was determined that the average scores of the national referees were statistically higher than the average scores of both the provincial referees and the candidate referees ($p<0.05$). No statistical difference was observed in the physical competence, pressure, communication sub-dimensions of the scale and the overall average scores of the scale ($p>0.05$).

DISCUSSION

This research was conducted by taking into account the gender, education level, years of referee experience and referee level in the demographic information form created by the researcher in order to examine the team cohesion and self-efficacy levels of volleyball referees and to test whether they have an effect on the independent variables of the study.

In this study, where volleyball referees' team cohesion was examined according to some variables; a significant difference was observed in the sub-dimensions of the referees' team cohesion, the integration of the group in the task and the attractiveness of the group. Contrary to our study, Demir et al., (2018) did not observe any difference in the sub-dimensions of the group cohesion inventory in terms of the gender variable in their study on the group cohesion of football players. Similarly, there are studies in the literature indicating that there is no significant difference between team cohesion and the gender variable (Demir et al., 2018; Polat et al., 2019). On the contrary, Ötkan et al., (2017) stated that male and female athletes differed in their study with basketball players. This supports our study.

It has been determined that the decision-making levels of volleyball referees, one of the self-efficacy sub-dimensions, show significant differences according to the gender variable. Contrary to our study, Adıgüzel (2018) observed in his study with basketball referees that the self-efficacy levels of referees did not differ in terms of the gender variable. On the contrary, in the studies of Koçak (2019) and Sarıdede (2018) examining the self-efficacy levels of volleyball referees, they found that the average scores of male referees in the decision-making sub-dimension were higher than those of females, and these studies also support our study.

When the sub-dimensions of team cohesion were examined according to the education level variable, it was observed that there was no difference. In contrast to our study, Görgüt (2017) found that there was a difference in the sub-dimensions of the group's integration in the task, the group's social integration and the group's social attractiveness in his study examining the team cohesion of handball players according to the education level variable. Demir et al. (2018) found no difference in the sub-dimensions of cohesion in terms of the education level variable in their study examining the team cohesion of football players and volleyball players, and this supports our study.

When the self-efficacy scores of the volleyball referees included in the study were examined in terms of education level, no difference was observed in self-efficacy and its sub-

dimensions. In their study with football referees, Dereceli et al., (2019) found differences in the referees' physical competence, game knowledge sub-dimensions and self-efficacy levels. In another study examining the self-efficacy levels of wrestling referees, a difference was found in the decision-making sub-dimension of self-efficacy according to education level (Arı & Erdem, 2022). In their study examining the self-efficacy of volleyball coaches, Ateş and Ateş (2023) found that the self-efficacy levels of the coaches did not differ according to their education level, and this is parallel to our study.

When the average team cohesion scores of the volleyball referees participating in the study were examined in terms of the experience year variable, a differentiation was found in the group's social integration and group's task integration sub-dimensions. Contrary to our study, Yalçın's (2021) study on the team cohesion of folk dancers determined that there was no differentiation in terms of the experience year variable. In a study on the team cohesion of handball players, a differentiation was found in the group's social integration sub-dimension in terms of the experience year variable. This supports our study.

When the self-efficacy of volleyball referees was examined in terms of years of experience, a difference was observed in the sub-dimensions of physical competence, decision-making, game knowledge and the general mean scores of self-efficacy. Contrary to this result, Sivri's (2023) study with tennis referees observed that there was no difference in the referees' self-efficacy levels in terms of years of experience. Sevinç et al., (2021) in their study on the self-efficacy of volleyball referees determined that the referees differed in the decision-making and game knowledge sub-dimensions in terms of the variable of years of experience. Again, Aguilar et al., (2021) in their study on the self-efficacy of football referees found that the self-efficacy levels of referees increased as their experience increased. These studies are parallel to our study.

In our study, when the team cohesion levels of volleyball referees were examined in terms of the refereeing level variable, a differentiation was detected in the task integration sub-dimension of the group. Contrary to the findings of our study, Ceylan et al., (2020) did not observe a significant differentiation in the team cohesion sub-dimensions of football referees according to the refereeing level variable in their study on team cohesion of football referees. In a study conducted by Ateş (2023) with volleyball players, it was observed that volleyball players differed in all sub-dimensions of cohesion in terms of the player level variable. In particular, it was concluded that as the level of the team increased, the task integration of the group also increased, and this supports our study.

The volleyball referees who participated in the study observed a difference in the decision-making and game knowledge sub-dimensions of their self-efficacy levels according to the refereeing level variable. Sardıdede (2018) and Koçak (2019) found in their studies with volleyball referees that as the refereeing level increased, the referees' decision-making and game knowledge sub-dimensions also increased. This is also parallel to our study. It is thought that the reason for this is that as the referees' experience increases, their decision-making and game knowledge levels increase within the game.

As a result, in this study conducted to determine the team cohesion and self-efficacy levels of volleyball referees, it was concluded that the referees had a high level of cohesion and self-efficacy. While the group's task attractiveness and group's integration in the task differ according to the gender variable, the group's social integration and group's integration in the task do not differ. Again, the team cohesion levels of volleyball referees do not differ in terms of the education status variable. However, a significant difference was reached in terms of the group's social integration and group's integration in the task in terms of the referee year variable. In addition, a significant difference was found in the group's integration in the task according to the referee classification of volleyball referees. In addition, while the self-efficacy levels of volleyball referees did not differ according to gender, education level and referee classification, it was found that the experienced referees had higher self-efficacy levels according to the referee year variable.

RECOMMENDATIONS

- Future research can be conducted on referees from other branches.
- The personality traits of group members are also important in terms of group cohesion. For this reason, it is possible to investigate the personality traits of referees.
- Longitudinal studies can be conducted to better understand referee team cohesion.
- Psychological support activities can be taken into consideration in order to reach the optimum level of referee self-efficacy.

Conflict of Interest: There is no conflict of interest in our study.

Declaration of Contribution Rate of Investigators: Research design was carried out by OA, HA; Statistical analysis by OA; Preparation of the manuscript by OA, NA; Data collection by OA.

Information on Ethics Committee Approval:

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REFERENCES

Adıgüzel, N. S. (2018). Examining the Relationship between Basketball Referees' Physical Self-Esteem and Self-Efficacy. *Journal of National Sport Sciences, 2*(2), 129-137. https://doi.org/10.30769/usbd.482410

Aguilar, J.L., Castillo-Rodriguez, A., Chinchilla-Minguet, J. L., & Onetti-Onetti, W. (2021). Relationship between age, category and experience with the soccer referee's self-efficacy. *PeerJ, 9*, Article e11472. https://doi.org/10.7717/peerj.11472

Akyüz, O. (2023). *Examination of team cohesion and narcissism levels in football players.* Doctoral Thesis. University of Ankara. Institute of Health Sciences. Ankara.

Aragao P. J., Passos, A. M., Maynard, M. T., & Sinval, J. (2021). Self-efficacy, mental models and team adaptation: A first approach on football and futsal refereeing. *Psychology of Sport and Exercise, 52*, Article 101787. https://doi.org/10.1016/j.psychsport.2020.101787

Arı, A., & Erdem, T. (2022). Examination of wrestling referees's self-efficacy levels. *Turkish Journal of Sport and Exercise, 24*(3), 264-270.

Ateş, H., & Ateş, N. (2023). Investigation of the relationship between volleyball coaches' psychological well-being levels and self-efficacy levels. *Mediterranean Journal of Sport Science, 6*(1-Special Issue of the 100th Anniversary of the Republic), 1045-1059. https://doi.org/10.38021/asbid.1374634

Ateş, N. (2023). Examination of team combination levels of volleyball players according to some variables. *Online Journal of Recreation & Sports, 12*(4). https://doi.org/10.22282/tojras.1309825

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual reviev of psychology*, *54*(1), 1-26 https://doi.org/10.1146/annurev.psych.52.1.1

Büyüköztürk, Ş. (2018). *Sosyal bilimler için veri analizi el kitabı.* Pegem.

Canpolat, A. M., & Çetinkalp, Z. K. (2011). Relationship between perception of success and self-efficacy of secondary school student-athlete. *Selçuk Unıversity Journal of Physıcal Education and Sport Science, 13*(1), 14–19.

Carron, A. V., Brawley, L. R., & Widmeyer, W. N. (1998). The measurement of cohesiveness in sport groups. In J. L. Duda, Advances in sport and exercise psychology measurement (pp. 213–226). Fitness Information Technology.

Ceylan, T., Ermiş, E., Ceylan, L., & Erilli, N. A. (2020). Examination of cohesion and self-sufficiency levels of football referees. *The Journal of International Social Research 13*(75), 934-940.

Corbu, A., Peláez Z. M. J., & Salanova, M. (2021). Positive psychology micro-coaching intervention: Effects on psychological capital and goal-related self-efficacy. *Frontiers in Psychology, 12*, Article 566293.

Demir, G. T., Namlı, S., & Cicioğlu, H. İ. (2018). Group envıronment and empathy level of football and volleyball players. *Social Mantality and Researcher Thinkers Journal, 4*(13), 846-859 http://doi.org/10.31576/smryj.109

Dereceli, Ç., Ünlü, H., & Erbaş, M. K. (2019). Investigation of self-efficacy levels of football referees. *Sakarya University Journal of Education, 9*(1), 69-82. https://doi.org/10.19126/suje.455536

Dodt, M., Fasold, F., & Memmert, D. (2022). Personality profile of team handball referees at expert level. *German Journal of Exercise and Sport Research, 52*(1), 58-67. https://doi.org/10.1007/s12662-021-00759-x

Durdubaş, D. (2013). *Determining the effects of a season long team building ıntervention through team goal setting on team cohesion and motivational climate.* Master Thesis. University of Hacettepe. Institute of Health Sciences. Ankara.

Feltz, D. L., Short, S. E., & Sullivan, P. J. (2008). *Self-efficacy in sport.* Human Kinetics. 14-20.

Görgüt, İ. (2017). Examination of handball players' team cohesion. *Sportive Sight: Journal of Sport and Education, 4*(1), 33-43.

Karaçam, A., & Pulur, A. (2017). The zest for work scale for referees: validity and reliability study-ZWSR. *Gaziantep Univaesity, Journal of Sport Science, 3*(2), 35-45. https://doi.org/10.31680/gaunjss.416737

Karasar, N. (2005). *Scientific research methods.* 15th Edition. Nobel Yayınevi.

Kocaekşi, S. (2005). *Determine the relationship between group cohesion and effecting variables and succes in successful and unsuccessfull handball teams.* Master Thesis, University of Hacettepe. Institute of Health Sciences. Ankara.

Koçak, Ç. V. (2019). Investigatıon of the referee self-efficacy levels of the volleyball referees. *SPORMETRE The Journal of Physical Education and Sport Sciences, 17*(2), 33-40. https://doi.org/10.33689/spormetre.552892

Myers, N. D., Feltz, D. L., Guillén, F., & Dithurbide, L. (2012). Development of, and initial validity evidence for, the referee self-efficacy scale: A multistudy report. *Journal of sport and Exercise Psychology, 34*(6), 737-765. https://doi.org/10.1123/jsep.34.6.737

Öcel, H. (2002). *The role of self efficacy collective efficacy beliefs and cohesiveness in predicting players, evalutions of their teams past present performance and future oerformance expentancies.* Master Thesis, Ankara Üniversitesi, Ankara.

Ötkan, C. Ç., Demir, G. T., & Halıcı, A. (2017). Examination of group cohesiveness levels and goal orientations of basketball players. *Shs Web of Conferences 37*(01041). https://doi.org/10.1051/shsconf/20173701041

Polat, E., Can, B., & Şahin, O. (2019). A study on the relationship between group cohesion and achievement motivation in team athlets. *Sportive Outlook Journal of Sports and Educational Sciences, 17*(1), 35-53. http://doi.org/10.33468/sbsebd.108

Rovio, E., Arvinen-Barrow, M., Weigand, D. A., Eskola, J., & Lintunen, T. (2010). Team building in sport: A narrative review of the program effectiveness, current methods, and theoretical underpinnings. *Athletic Insight Journal, 2*(2), 1-19.

Sarıdede, Ç. (2018). *Analysing self sufficiency level and decision making ability of volleyball referees.* Master Thesis, İstanbul Gelişim University, Institute of Health Sciences, İstanbul.

Sevinç, K., Gerek, Z., & Arslan, E. (2021). Examining the empathic tendencies and referee selfefficacy of volleyball referees. *Internatioanl Journal of Exercise Psychology, 3*(1), 26-36. https://doi.org/10.51538/intjourexerpsyc.955462

Sivri, S. (2023). Examining the self-efficacy levels of tennis officials. *Turkish Journal of Sport and Exercise, 25*(3), 369-378.

Tapşın, F. O., & Doğan, N. E. K. (2024). Football investigation of the struggle and threat situations of referees in sports. *Journal os Sports fot All and Recreation, 6*(3), 284-289. https://doi.org/10.56639/jsar.1512166

Tuero, C., Tabernero, B., Marquez, S., & Guillen, F. (2002). Análisis de los factores que influyen en la práctica del arbitraje (Analysis of the factors affecting the practice of refereeing). *Sociedade Capixaba de Psicologia do Esporte 1*, 7–16.

Turkish Volleyball Federation Referee Guide and Instructions (TVFRGI). (2017). http://www.tvf.org.tr/_dosyalar/MHGK_Belgeler/hakemlik_rehberi_ve_talimatlari_turkce_2017.pdf.

Yalçın, Y. (2021). Group cohesion and perceived motivational climate in folk dance players. *Balıkesir Universty The Journal of Social Sciences Institute 24*(45), 445-465.