



## PROSOCIAL AND ANTISOCIAL BEHAVIORS OF ATHLETES IN MARTIAL ARTS

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**Abstract:** This study aims to investigate martial art athletes' prosocial and antisocial behaviors (judo, taekwondo, and kickboxing) and determine the differences. The study group consists of a total of 394 athletes aged 14-23 from judo (n=94), taekwondo (n=150), and kickboxing (n=150), who were selected through purposive sampling among the athletes who participated in the tournaments held throughout Ankara and had various regional, national, or international degrees. The Prosocial and Antisocial Behavior in Sport Scale (PABSS), developed by Kavussanu and Boardley (2009) and translated into Turkish by Sezen Balçıkınlı (2013), was used to collect data. A t-test, one-way ANOVA analysis, and post-hoc Tukey test were conducted in the research analysis. As a result, it was found that the prosocial and antisocial behaviors of martial art athletes differed depending on the variables of gender, nationality, having practiced sports with a license for 6 years or longer, sports type, and educational status, but there was no significant difference in terms of age and belt level of athletes.

**KeyWords:** Sports, prosocial behavior, antisocial behavior, martial arts

## SAVUNMA SPORLARINDAKİ SPORCULARIN PROSOSYAL VE ANTISOSYAL DAVRANIŞLARI

**Öz:** Bu araştırmanın amacı savunma sporları (judo, taekwondo ve kick boks) sporcularının prososyal ve antisosyal davranışlarını incelemek ve farklılıkları belirlemektir. Araştırma grubunu, Ankara genelinde yapılan turnuvalara katılmış, bölgesel, ulusal ya da uluslararası çeşitli derecelere sahip sporcular arasından amaçsal örnekleme yöntemiyle seçilmiş, yaşları 14-23 arasında değişen, judo (n=94), taekwondo (n=150) ve kick boks (n=150) branşlarından toplam 394 sporcu oluşturmaktadır. Verilerin toplanmasında Kavussanu ve Boardley (2009) tarafından geliştirilen Türkçe uyarlaması Sezen Balçıkınlı (2013) tarafından yapılan Sporda Prosocial ve Antisosyal Davranış Ölçeği (SPADÖ) kullanılmıştır. Araştırma analizinde, t-testi, tek yönlü varyans (one-way anova) analizi ve post hoc tukey testi yapılmıştır. Sonuç olarak, savunma sporu yapmakta olan sporcuların Prosocial ve Antisosyal Davranışları cinsiyet, milli sporcu olma, 6 yıl ve üzeri lisanslı olarak spor yapma, spor branşı ve eğitim durumu değişkenlerine göre farklılık gösterdiği, sporcuların yaşı ve kuşak seviyesine göre ise anlamlı bir farklılık göstermediği sonucuna ulaşılmıştır.

**AnahtarKelimeler:** Spor, prososyal davranış, antisosyal davranış, savunma sporları

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## **INTRODUCTION**

Sports such as judo, taekwondo, karate, kickboxing, kung fu, aikido, and jiu-jitsu are called combat sports. The main purpose of martial arts is to protect oneself from threats and attacks from outside (Koçak and Balçıkanlı, 2021). The sporting environment requires participants to interact physically and verbally (Kavussanu, 2008). Based on the nature of the sport, the desire to assert oneself, the desire to succeed, and the desire to win can influence an athlete's behavior toward those around them. The fighting spirit, like sport, is surrounded by industry-specific rules that restrict behavior and actions that violate sport ethics and provide for the emergence of sport's aesthetic and beauty dimension. An athlete who has just started playing sports continues his sporting life by first learning the rules of the game and then the concepts of sports ethics and fair play. The same is true for martial arts, where respect and tolerance for the opponent are at the highest level.

The sporting environment is very productive in forming moral attitudes and behaviors (Shogan, 2007). Research on the morality of sports is grounded in Bandura's social cognitive learning theory (Bandura, 1991). Behaviors in the athletic environment are classified as prosocial and antisocial (Bandura, 1999; Yarayan et al., 2020). These two terms refer to the two dimensions of morality (Kavussanu et al., 2006). Prosocial behavior can be defined as a behavior done voluntarily to help or benefit another person (Eisenberg et al., 2006; Sezen Balçıkanlı, 2013). Antisocial behavior, on the other hand, can be defined as behavior that unfairly harms or disadvantages another person. (Kavussanu, 2006).

Athletes who begin martial arts are trained to embrace universal values such as honesty, benevolence, tolerance, and equality (Koçak and Balçıkanlı, 2021). The behaviors listed here appear to be prosocial (positive) behaviors when they occur in an athletic environment and are also essential to martial arts (Kavussanu, 2008; Kavussanu and Boardley, 2009). However, the desire to win and prevail in a sporting environment can sometimes negatively impact athletes' behavior toward their opponents. As a result, verbal taunts and aggressive behaviors to intimidate the opponent gradually lead to a harsher understanding of the game, and antisocial (negative) behaviors occur (Kavussanu, 2008; Kavussanu and Boardley, 2009). This situation in the athletic environment can sometimes go further and affect athletes on the same team. Such negative behaviors negatively affect the athletes' social relationships and may even cause them to turn away from the sport (Sagar et al., 2011). Creating a fair and competitive environment in sports, highlighting the aesthetic aspect of sports, increasing interest in sports, and constantly reminding people of the beauty of sports are only possible if one behaves in a sports-ethical manner, that is, if one improves prosocial and antisocial behaviors.

When the literature is examined, it is seen that many studies have been conducted on prosocial and antisocial behavior in the athletic environment, from team sports to individual sports (Alemdağ, 2019; Balçıkanlı and Yıldırım, 2018; Boardley and Kavussanu, 2009; Carreres-Ponsoda et al., 2012; Cherepkova et al., 2019; Danioni and Barni, 2019; Endresen and Olweus, 2005; Görgülü et al., 2018; Kavussanu, 2006; Kavussanu and Ntoumanis, 2003; Latorre Román et al., 2020; Parise et al., 2015; Rutten et al., 2007; Tracllet et al., 2011; Van de Pol et al., 2020; Yarayan et al., 2020). However, the fact that there are no studies in Turkey on martial arts, in which sports ethics are indispensable because of the philosophy they contain, in which intense physical contact is used to gain superiority over opponents, and in which toe-to-toe battles are fought, has aroused researchers' curiosity about the extent to which athletes engage in prosocial and antisocial behaviors. Although athletes in martial arts have been

brought up with universal values such as love, respect, honesty, benevolence, and tolerance (Koçak and Balçıkanlı, 2021), resorting to aggressive actions by exploiting the rules of the game is associated with a low moral score (Kavussanu and Ntoumanis, 2003). From this point of view, the question marks regarding the prosocial and antisocial behaviors of judo, taekwondo, and kickboxing athletes will be eliminated.

## **METHOD**

### **Research Model**

In this study, the descriptive survey method was preferred to investigate the prosocial and antisocial behaviors of athletes interested in judo, taekwondo, and kickboxing. The descriptive survey comprises of the researches, carried out in large groups, to receive opinions and observe attitudes of the individuals in such group concerning a fact or an event, as well as describing these facts and events (Karakaya, 2012).

### **Research Group**

In this study, which was conducted with athletes, criterion sampling, one of the purposive sampling methods, was used. In the criterion sampling method, units that meet the qualifications specified by the researcher are included in the sample (Büyüköztürk et al., 2014). In this sense, the study group was selected from active, licensed athletes who regularly participate in regional, national, or international tournaments of clubs from all over Ankara, and it consists of 394 athletes between the ages of 14 and 23 who practice judo (n=94), taekwondo (n=150), and kickboxing (n=150).

### **Data Collection Tools**

The research started with the written permission of "Gazi University Ethics Commission" (meeting numbered 16 dated 04.10.2022 and document number E-77082166-604.01.02-475641). The personal information form prepared according to the research purpose, and the Prosocial and Antisocial Behavior in Sport Scale (PABSS) developed by Kavussanu and Boardley (2009) and adapted into Turkish by Sezen Balçıkanlı (2013), were used for data collection.

### **Prosocial and Antisocial Behavior in Sport Scale (PABSS)**

The scale is a 5-point Likert scale consisting of 20 items and 4 subdimensions. The subdimensions of the scale are prosocial behavior toward teammates (4 items), prosocial behavior toward opposing players (3 items), antisocial behavior toward teammates (5 items), and antisocial behavior toward opposing players (8 items). The lowest value achieved with the scale was set at 20, and the highest value was 100. The internal consistency coefficients of the scale adapted to the Turkish language were calculated, and the Cronbach's alpha value for each subdimension was between 0.70 and 0.75. (Sezen Balçıkanlı, 2013) In this study, Cronbach's alpha value for the whole scale was 0.70 and for each subdimension was between 0.53 and 0.60. It can be considered desirable and good that the means of the prosocial behavior questions are greater than 3 and the antisocial behavior questions are less than 3.

### **Data Analysis**

The data collected in the research were analyzed using the SPSS program (Statistical Package for Social Scientists 26). As a statistical method, the frequency, standard deviation, and mean values of the sub-dimensions of the Prosocial and Antisocial Behavior in Sport Scale (PABSS) were calculated. In order to understand whether the data obtained had a normal

distribution, the skewness and kurtosis values were examined, and it was found that these values ranged between 0.280 and 0.453. Since the data showed a normal distribution, it was decided to apply parametric tests. When comparing the quantitative data, the t-test for independent groups was used to compare the difference between the two groups, the one-way analysis of variance (ANOVA) when comparing the parameters between the groups when there were more than two groups, and the post hoc test statistic (Tukey) to determine the group that caused the difference. The results obtained from the analyses were evaluated and interpreted with a confidence interval of 95% and a significance level of 0.05. In calculating the effect size, Cohen's d formula was used for the statistical method (t-test), in which the difference between the means of the two groups was calculated, and eta-squared formulas ( $\eta^2$ ) were used to measure the correlation strength (ANOVA), which was calculated according to the variance.

## RESULTS

This section presents statistics and analysis of prosocial and antisocial behaviors of athletes participating in martial arts by gender, age, belt level, national sports affiliation, length of time licensed as an athlete, sport branch, and educational status.

**Table 1.** Results of the T-test for Independent Groups Concerning the Variable Gender

	Gender	N	$\bar{x}$	Sd	Sd	t	p
Prosocial Behavior toward Teammate	Male	280	2.98	.619	392	-.069	.94
	Female	114	2.99	.649			
Prosocial Behavior towards the Opponent	Male	280	1.94	.665	252.56	2.932	<b>.00**</b>
	Female	114	1.75	.548			
Antisocial Behavior toward Teammate	Male	280	3.00	.646	392	.215	.83
	Female	114	2.99	.610			
Antisocial Behavior toward the Opponent	Male	280	2.08	.566	277.13	3.885	<b>.00**</b>
	Female	114	1.88	.424			

**\*\*p<0.01**

According to Table 1, as a result of the t-test for independent groups, it was found that there is a statistically significant difference in favor of men in the sub-dimension "Prosocial Behavior towards the Opponent" of the measurement instrument ( $t(252,56) = 2.932$ ;  $p < 0,01$ ). When examining the sub-dimension "antisocial behavior towards the opponent," there was a statistically significant difference in favor of males ( $t(277,13) = 3.885$ ;  $p < 0,01$ ). There was no significant difference depending on gender for the sub-dimension "Prosocial Behavior toward Teammate " ( $t(392) = -.069$ ;  $p > 0.05$ ) and the sub-dimension "Antisocial behavior toward teammates" ( $t(392) = .215$ ;  $p > 0.05$ ) of the measurement instrument. Furthermore, when evaluated by Cohen's d, gender was found to have a small effect on prosocial and antisocial behavior (Cohen's  $d = 0.276$ ).

**Table 2.** Results of the T-test for Independent Groups Concerning the Age Variable

	Age	N	$\bar{x}$	Sd	Sd	t	p
Prosocial Behavior toward Teammate	14-18	253	2.97	.593	392	-.559	.58
	19-23	141	3.01	.685			
Prosocial Behavior towards the Opponent	14-18	253	1.89	.679	392	.219	.83
	19-23	141	1.88	.562			
Antisocial Behavior toward Teammate	14-18	253	3.01	.618	392	.211	.83
	19-23	141	2.99	.666			
Antisocial Behavior toward the Opponent	14-18	253	2.06	.552	392	1.969	<b>.05*</b>
	19-23	141	1.95	.500			

Table 2 shows that there is a statistically significant difference between the mean scores of the sub-dimension "antisocial behavior towards the opponent" concerning the age variable in favor of athletes in the age group 14–18 ( $t(392)= 1.969$ ;  $p<0.05$ ). No statistically significant difference was found between the mean scores of the sub-dimension "Prosocial Behavior toward Teammate " ( $t(392)= -0.559$ ;  $p>0.05$ ), between the mean scores of the sub-dimension "Prosocial Behavior towards the Opponent" ( $t(392)= 0.219$ ;  $p>0.05$ ) and the sub-dimension "Antisocial behavior towards teammates" ( $t(392)= 0.211$ ;  $p>0.05$ ). After evaluating Cohen's d, age was found to have an insufficient influence on prosocial and antisocial behavior (Cohen's  $d= 0.010$ ).

**Table 3.** Results of the T-test for Independent Groups Concerning the Variable Belt Level

	Belt Level	N	$\bar{x}$	Sd	Sd	T	p
Prosocial Behavior toward Teammate	Black Belt	194	3.03	.618	388	1.673	.09
	Color Belt	196	2.92	.622			
Prosocial Behavior towards the Opponent	Black Belt	194	1.83	.588	388	-1.639	.10
	Color Belt	196	1.93	.685			
Antisocial Behavior toward Teammate	Black Belt	194	3.02	.592	388	.868	.39
	Color Belt	196	2.97	.671			
Antisocial Behavior toward the Opponent	Black Belt	194	2.03	.491	388	.529	.60
	Color Belt	196	2.01	.577			

According to Table 3, no statistically significant difference was found between the mean values of the sub-dimension "Prosocial Behavior toward Teammate " ( $t(388)= 1.673$ ;  $p>0.05$ ), and the mean values of the sub-dimension "Prosocial Behavior towards the Opponent" ( $t(388)= -1.639$ ;  $p=>0.05$ ), the mean values from the sub-dimension "Antisocial behavior towards a teammate" ( $t(388)= 0.868$ ;  $p>0.05$ ) and the sub-dimension "Antisocial behavior towards an opponent" ( $t(388)= 0.529$ ;  $p>0.05$ ). According to Cohen's d evaluation, belt level was found to have an insufficient effect on prosocial and antisocial behaviors (Cohen's  $d= 0.007$ ).

**Table 4.** Results of the T-test for Independent Groups for the Variable of Being A National Athlete

	Are you a national athlete?	N	$\bar{x}$	Sd	Sd	t	p
Prosocial Behavior toward Teammate	Yes	70	3.23	.584	388	3.730	<b>.00**</b>
	No	320	2.93	.625			
Prosocial Behavior towards the Opponent	Yes	70	1.91	.539	388	.249	.80
	No	320	1.88	.658			
Antisocial Behavior toward Teammate	Yes	70	3.09	.641	388	1.324	.19
	No	320	2.98	.635			
Antisocial Behavior toward the Opponent	Yes	70	2.03	.453	388	.184	.85
	No	320	2.01	.545			

**\*\* p<0,01**

According to Table 4, there is a significant difference in favor of national athletes between the mean scores of the sub-dimension "Prosocial Behavior toward Teammate " concerning being a national athlete ( $t(388)= 3.730$ ;  $p<0.01$ ). No statistically significant difference was found among the mean values of the sub-dimension "Prosocial behavior toward the opponent" ( $t(388)= 0.249$ ;  $p>0.05$ ), the mean values of the sub-dimension "Antisocial behavior toward teammates" ( $t(388)= 1.324$ ;  $p>0.05$ ) and the mean values of the sub-dimension "Antisocial behavior toward the opponent" ( $t(388)= 0.184$ ;  $p>0.05$ ). According to Cohen's d evaluation, it was found that belonging to a national sports team has an insufficient effect on prosocial and antisocial behaviors (Cohen's  $d= 0.024$ ).

**Table 5.** Results of the T-test for Independent Groups Concerning the Variable "Licensed Athlete"

	How long have you been a licensed athlete?	N	$\bar{x}$	Sd	Sd	t	p
Prosocial Behavior toward Teammate	1-5 Years	258	2.92	.608	392	-2.814	<b>.00**</b>
	6 years and more	136	3.10	.645			
Prosocial Behavior towards the Opponent	1-5 Years	258	1.87	.654	392	-.307	.76
	6 years and more	136	1.89	.610			
Antisocial Behavior toward Teammate	1-5 Years	258	2.96	.647	392	-1.872	.06
	6 years and more	136	3.08	.605			
Antisocial Behavior toward the Opponent	1-5 Years	258	1.97	.535	392	-2.609	<b>.00**</b>
	6 years and more	136	2.12	.526			

**\*\* p<0,01**

According to Table 5, a significant difference was found between the mean scores of the sub-dimension "Prosocial Behavior toward Teammate" concerning the duration of being licensed in favor of the athletes who had been licensed for 6 years or more ( $t(392)= -2.814$ ;  $p<0.01$ ). Similarly, a significant difference was found between the mean scores of the Antisocial Behavior Toward the Opponent subdimension in favor of athletes who had been licensed for 6 years or more ( $t(392)= -2.609$ ;  $p<0.01$ ). No statistically significant difference was found

between the means of the sub-dimension "Prosocial Behavior towards the Opponent" ( $t(392)=-0.307$ ;  $p>0.05$ ) and the means of the sub-dimension "Antisocial behavior toward teammates" ( $t(392)= -1.872$ ;  $p>0.05$ ). According to Cohen's d evaluation, the duration of being licensed was found to have an insufficient effect on prosocial and antisocial behaviors (Cohen's  $d=0.031$ ).

**Table 6.** Results of the One-Factor Analysis of Variance (ANOVA) for the Variable Branch of Sports

	Sports Branch	N	$\bar{x}$	Sd	Source of Variance	Sum of Squares	sd	Mean Square	F	p	Difference
Team Mate Prosocial behavior	Kickboxing	150	2.90	.651	Between groups	3.192	2	1.596	4.126	<b>.017*</b>	<b>J - K</b>
	Taekwondo	150	2.97	.632	Within groups	151.214	391	.387			
	Judo	94	3.13	.553	Total	154.405	393				
Prosocial Behavior towards the Opponent	Kickboxing	150	2.04	.694	Between groups	5.799	2	2.899	7.339	<b>.001**</b>	<b>K-T, J</b>
	Taekwondo	150	1.77	.566	Within groups	154.477	391	.395			
	Judo	94	1.81	.613	Total	160.276	393				
Team Mate Antisocial Behavior	Kickboxing	150	3.02	.632	Between groups	3.250	2	1.625	4.094	<b>.017*</b>	<b>J-T</b>
	Taekwondo	150	2.90	.676	Within groups	155.204	391	.397			
	Judo	94	3.13	.545	Total	158.454	393				
Antisocial Behavior toward the Opponent	Kickboxing	150	1.98	.597	Between groups	.570	2	.285	.992	0.372	
	Taekwondo	150	2.04	.479	Within groups	112.318	391	.287			
	Judo	94	2.07	.518	Total	112.888	393				

Table 6 shows the results of the ANOVA concerning the question of whether there is a difference in the mean scores of the scale of prosocial and antisocial behavior in sports among the athletes according to the branch. When the mean scores of athletes from the "Prosocial Behavior toward Teammate " subdimension were examined, a significant difference was found between the mean of judo athletes ( $\bar{x}=3.13$ ) and the mean of kickboxers ( $\bar{x}=2.90$ ) in favor of judo athletes ( $F(2, 391) = 4.126$ ;  $p<0.05$ ). When examining the mean scores of the sub-dimension "Prosocial Behavior towards the Opponent" it was found that the mean of kickboxers ( $\bar{x}=2.04$ ) was significantly higher than the mean of taekwondo athletes ( $\bar{x}=1.77$ ) and judo athletes ( $\bar{x}=1.81$ ) ( $F(2, 391)= 7.339$ ;  $p<0.01$ ). When the mean scores obtained from the sub-dimension of "Antisocial behavior toward teammates " were examined, a significant difference was observed in favor of judo athletes between the means of judo athletes ( $x \leq 3.13$ ) and the means of taekwondo athletes ( $x \leq 2.90$ ) ( $F(2, 391)= 4.094$ ;  $p<0.05$ ). For the sub-dimension "Antisocial behavior towards the opponent," no significant difference was found about the branch variable ( $F(2, 391)= 0.992$ ;  $p>0.05$ ). The evaluation of the Eta square ( $\eta^2$ ) showed that the sports branch has a small influence on prosocial and antisocial behaviors ( $\eta^2 = 0.010$ ).

**Table 7.** Results of the One-Factor Analysis of Variance (ANOVA) for the Variable of Educational Status

		N	$\bar{x}$	Sd	Source of Variance	Sum of Squares	sd	Mean Square	F	p	Difference
Team Mate Prosocial behavior	Primary education (1)	74	2.80	.589	Between groups	6.056	2	3.028	7.981	<b>.000**</b>	<b>3-1, 2</b>
	High School (2)	269	2.98	.636	Within groups	148.349	391				
	Undergraduate (3)	51	3.24	.537	Within groups	154.405	393				
					Total						
Prosocial Behavior towards the Opponent	Primary education (1)	74	1.69	.605	Between groups	4.869	2	2.434	6.125	<b>.002**</b>	<b>3-1; 2-1</b>
	High School (2)	269	1.90	.656	Within groups	155.407	391				
	Undergraduate (3)	51	2.08	.518	Within groups	160.276	393				
					Total						
Team Mate Antisocial Behavior	Primary education (1)	74	2.75	.640	Between groups	8.087	2	4.044	10.514	<b>.000**</b>	<b>3-1, 2; 2-1</b>
	High School (2)	269	3.02	.624	Within groups	150.367	391				
	Undergraduate (3)	51	3.26	.566	Within groups	158.454	393				
					Total						
Antisocial Behavior toward the Opponent	Primary education (1)	74	2.03	.469	Between groups	.344	2	.172	.598	.550	
	High School (2)	269	2.01	.549	Within groups	112.544	391				
	Undergraduate (3)	51	2.10	.559	Within groups	112.888	393				
					Total						

Table 7 shows the ANOVA results regarding whether there is a difference in the mean scores of the prosocial and antisocial behavior scale according to the athletes' educational status. According to these results, when examining the mean scores of athletes in the sub-dimension "Prosocial behavior towards teammates," the mean of athletes with a bachelor's degree ( $\bar{x}=3.24$ ) is significantly higher than the mean of athletes with a high school diploma ( $\bar{x}=2.98$ ) and primary school diploma ( $\bar{x}=2.80$ ) ( $F(2, 391)= 7.981$ ;  $p<0.01$ ). When examining the mean scores of the sub-dimension "Prosocial behavior toward the opponent," it was found that the means of athletes with a university degree ( $\bar{x}=2.08$ ) and athletes with a high school diploma ( $\bar{x}=1.90$ ) were significantly higher than the mean of athletes with a primary school diploma ( $\bar{x}=1.69$ ) ( $F(2, 391)= 6.125$ ;  $p<0.01$ ). When examining the mean scores of the sub-dimension "Antisocial behavior towards teammates," it was found that the mean of athletes with a bachelor's degree ( $\bar{x}=3.26$ ) was significantly higher than the means of athletes with a high school diploma ( $\bar{x}=3.02$ ) and primary school diploma ( $\bar{x}=2.75$ ). It was also found that high school graduates ( $\bar{x}=3.02$ ) had a significantly higher mean than primary school graduates ( $\bar{x}=2,75$ )  $F(2, 391)= 10.514$ ;  $p<0.01$ ). No significant difference was found in the sub-dimension "Antisocial behavior towards the opponent" concerning the variable educational status ( $F(2, 391)= 0.598$ ;  $p>0.05$ ). The evaluation of the Eta square ( $\eta^2$ ) showed that educational status had a small effect on prosocial and antisocial behaviors ( $\eta^2 = 0.039$ ).

## DISCUSSION

This study investigated the prosocial and antisocial behaviors of athletes playing martial arts. As a result of the study, it was found that male athletes had a higher mean than female athletes in the sub-dimensions of "Prosocial behavior toward opponent" and "Antisocial behavior

toward opponent" (Table 1,  $p < 0.01$ ). When examining the literature, findings show that males are more prosocial toward opponents (Yıldız et al., 2015) and antisocial behavior. (Boardley and Kavussanu, 2009; Micaí et al., 2015; Sagar et al., 2011) In addition, there are studies in the literature (Eisenberg and Mussen, 1989; Görgülü et al., 2018; Özdemir, 2020; Yıldız et al., 2015) showing that the variable of gender influences prosocial and antisocial behavior, and some findings indicate that gender does not significantly influence prosocial and antisocial behavior (Balçikanlı and Yıldırım, 2018; Şahinler, 2022).

The study found that the athletes in the age group of 14-18 had a higher mean in the sub-dimension of antisocial behavior towards the opponent than those in the age group of 19-23 (Table 2,  $p < 0.05$ ). Although the results (Görgülü et al., 2018; Şahinler, 2022) indicate that age is not an important factor in the formation of prosocial and antisocial behavior, it is noteworthy that many studies show the opposite of this situation (Alemdağ, 2018; Kavussanu, 2006; Kavussanu et al., 2006; Orhan and Salman, 2021). The results show that as athletes age, moral decision-making improves, (Altın and Özseri, 2017; Özbek and Nalbant, 2016) and prosocial behaviors increase positively (Acar et al., 2022; Alemdağ, 2018; Balçikanlı and Yıldırım, 2018). However, as professionalism in sports increases and various factors come into play, the fact is that behaviors that do not conform to sports ethics will occur. Teaching athletes about sports ethics at a young age and instilling in them the spirit of fair play can help them understand that the most important value in sports is to compete, fight, and win fairly. Thus, we often see undesirable behaviors in the sports environment that can be prevented by intervening at a young age (Canlı et al., 2021; Sezen Balçikanlı, 2022).

It was found that there was no significant difference between athletes' prosocial and antisocial behaviors according to belt level (Table 3,  $p > 0.05$ ). The belt level in martial arts is an assessment that indicates the athletes' mastery and maturity in the branches they practice. In other words, the belt level in combat sports indicates the athlete's mental calmness and technical abilities (Koçak and Balçikanlı, 2021). It is believed that as the belt color darkens from white to black in martial arts, the athlete shows more respect for universal values and considers moral values more. In their study of soccer players, Miller et al., (2005) found that a perceived climate of mastery contributed to more mature and moral thinking. Our study hypothesizes that there is no significant difference between black belt athletes and those with lower color belts because athletes with color belts are very quick to adopt the philosophy of martial arts and transfer it to the athletic environment.

Depending on their status as national athletes, national athletes were found to have a higher mean score on the subscale of prosocial behavior toward teammates than other athletes (Table 4,  $p < 0.01$ ) In their study of soccer players, Yarayan et al., (2020) found that professional and national players' prosocial behavior scores toward teammates and opponents were higher than amateur soccer players', and their antisocial behavior scores toward teammates and opponents were lower than amateur soccer players. The fact that athletes are successful in their branch and become well-known in the national and international environment increases their responsibility to the nation they represent by allowing them to be role models for the environment, which brings with it the obligation to behave more cautiously in the sporting environment.

Another study finding is that the average prosocial behavior toward teammates and antisocial behavior toward opponents is higher in athletes who have been licensed for 6 years or more than in athletes with less than 5 years (Table 5,  $p < 0.01$ ). It is speculated that this may be due to the stronger bond that experienced athletes have with their teammates and their desire to

win. Athletes on the same team for many years are expected to develop a sense of belonging, support each other, and communicate better. The high level of antisocial behavior toward opponents can be explained by their desire to intimidate opponents and establish psychological superiority within the rules by pushing the limits of informal fair play rules in sports with intense contact such as hitting, pushing, and throwing. Studies in the literature report that displaying, supporting, or ignoring such aggressive and pushy behaviors paves the way for athletes to engage in antisocial behavior (Alemdağ, 2018; Bortoliet al., 2012; Guivernau and Duda, 2002; Malete et al., 2013).

This study found that athletes' prosocial and antisocial behaviors differ depending on the sport they participate in (Table 6,  $p < 0.05$ ). Different sports influence athletes' prosocial behavior toward their teammates, prosocial behavior toward their opponents, and antisocial behavior toward their teammates. The reason for the difference is probably the different ages of entry in the sports of judo, taekwondo, and kickboxing. The age of entry for martial arts is 10-12 years for kickboxing, 5-7 years for taekwondo, and 7 years and more for judo (Koçak and Balçikanlı, 2021; Manfred, 1979). Failure to teach concepts such as fair play and sports ethics to children who are introduced to competition at an early age, or pushing them into the background, can lead them to adopt attitudes such as "Even if it is not fair, the main thing is to win." Literature reports that participation in boxing, wrestling, weightlifting, and martial arts before and during adolescence increases violent and nonviolent antisocial behaviors in children (Endresen and Olweus, 2005). In addition, branches with intense contact are associated with the legitimacy of aggressive behaviors and lower levels of moral evaluation (Kavussanu and Ntoumanis, 2003).

The educational level of athletes was found to be an important variable influencing prosocial and antisocial behaviors (Table 7,  $p < 0.01$ ). The results show that as the level of education increases, athletes' scores for prosocial behavior toward their teammates, prosocial behavior toward their opponents, and antisocial behavior toward their teammates increase. Moral behaviors are behaviors exhibited under social expectations, rules, and norms (Balçikanlı and Yıldiran, 2018; Greif and Hogan, 1973). As the level of education increases, traits such as meeting social expectations, helping the environment, and following rules increase, indicating that prosocial behavior can be improved with education. In contrast to this finding Şahinler (2022) obtained in the study of team athletes, it was found that high school graduates, on average, had higher prosocial behavior scores compared to their opponents than those with a master's degree.

The research indicates that the prosocial and antisocial behaviors of athletes who play martial arts should be improved. Prosocial and antisocial behaviors in an athletic environment are closely related to fair play and empathy (Balçikanlı and Yıldiran, 2018; Balçikanlı et al., 2017; Çar and Sezen Balçikanlı, 2021; Koçak and Balçikanlı, 2021; Sezen Balçikanlı, 2022). The literature indicates that fair play and empathy training should be emphasized to develop prosocial and antisocial behaviors in athletes (Balçikanlı and Yıldiran, 2011; Koçak and Balçikanlı, 2021; Sezen Balçikanlı, 2022; Sezen Balçikanlı and Yıldiran, 2012; Sezen and Yıldiran, 2007; Şinoforoğlu and Sezen Balçikanlı, 2020).

## **CONCLUSION**

As a result, it was found that prosocial and antisocial behaviors of martial art athletes differed according to the variables of gender, national affiliation, having practiced sports for 6 years or

more with a license, sport type, and education status, but there was no significant difference according to the age and belt level of athletes.

Sports bring people from different cultures and nationalities together and provide an opportunity to compete in a fair environment, regardless of language, religion, or race. Antisocial behaviors legitimized during competition can cause the sport to deviate from its purpose by preventing the esthetics and understanding of winning fairly in sports, as the competitive environment in defense sports is one in which people fight tooth for a tooth. In addition to competing fairly, athletes are responsible for passing on the philosophy and ethics of sports to future generations and being role models in sports. To do this, it is necessary to minimize the negative behaviors that can occur in the sports environment and reinforce positive behaviors. This shows the importance of teaching fair play to athletes at a young age. Based on the results of this study, it can be suggested that future research focus on the following topics;

- In addition to martial arts, team sports or fewer contact sports can be included in the research group.
- Regional and cultural differences in the research group can be considered.
- Training and seminars on fair play and sports ethics can be provided to athletes by the federations, and successful athletes can be supported in this regard.
- More games, activities, and projects on fair play and sportsmanship can be prepared for physical education classes in schools, and children can be immunized at a young age.

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