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Examining the Factors Affecting the Aggression Levels of Football Fans: In Turkey Samples

Examen de los factores que afectan los niveles de agresión de los fanáticos del fútbol: muestras en Turquía

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Abstract

Fan aggression is a societal problem that affects many sports clubs worldwide. It should be handled in all dimensions to prevent individual and social aggression in sports environments. The study aims to examine the factors affecting the aggression levels of football fans. The study sample consisted of 909 people, 474 males, and 435 females. In addition to the personal information form, the "Buss-Perry Aggression Questionnaire" and "Football Fanaticism Scale" were used as data collection tools. Pearson Product Moment Correlation Analysis was used to determine the relationships between variables, and Multiple Linear Regression Analysis was used to examine the predictive power of independent variables on aggression. In addition, the Independent Samples T-Test was conducted to compare aggression in terms of gender. The results show that aggression predicts fanaticism positively, team identity, age, and education level negatively. In addition, it was observed that males exhibited high levels of physical and verbal aggression, while the females had high team identities. As a result, it can be said that fanaticism, team identity, age, education level, and gender are the main predictors of aggression (40%).

Keywords

Social problem; sports clubs; supporter; violence; fanaticism

Resumen

La agresión de los fanáticos es un problema social que afecta a muchos clubes deportivos en todo el mundo. Debe ser manejado en todas sus dimensiones para prevenir agresiones individuales y sociales en ambientes deportivos. El estudio tiene como objetivo examinar los factores que afectan los niveles de agresión de los aficionados al fútbol. La muestra del estudio estuvo compuesta por 909 personas, 474 hombres y 435 mujeres. Además del formulario de información personal, se utilizaron como herramientas de recolección de datos el "Cuestionario de agresión de Buss-Perry" y la "Escala de fanatismo por el fútbol". Se utilizó el análisis de correlación producto-momento de Pearson para determinar las relaciones entre las variables, y se utilizó el análisis de regresión lineal múltiple para examinar el poder predictivo de las variables independientes sobre la agresión. Además, se realizó la prueba T de muestras independientes para comparar la agresión en términos de género. Los resultados muestran que la agresión predice positivamente el fanatismo, negativamente la identidad del equipo, la edad y el nivel educativo. Además, se observó que los hombres exhibían altos niveles de agresión física y verbal, mientras que las mujeres tenían altas identidades de equipo. Como resultado, se puede decir que el fanatismo, la identidad del equipo, la edad, el nivel educativo y el género son los principales predictores de agresión (40%).

Palabras clave

Problema social; clubes deportivos; fanático del fútbol; violencia; fanatismo

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Introduction

In the modern era, our lives are dictated by a ceaseless pursuit of fulfilling experiences, steering us towards various leisure activities (Csikszentmihalyi, 2020). Among these, football has notably grown into a global phenomenon, an amalgamation of passion and culture, thus forming an enormous industry with a massive global fanbase (Horbel et al., 2020). It has evolved beyond a mere sport, becoming an integral part of lifestyle for millions, providing an avenue for social engagement, and instilling a sense of belonging among its supporters (Krustrup & Krustrup, 2018; Aljbour, 2022).

Football enthusiasts hail from diverse backgrounds and form the bedrock of football clubs, bestowing an unflinching support that prevails irrespective of the team's performance (Pick & Gillett, 2018). This profound emotional bond surpasses the realm of victories and defeats and encapsulates the concept of 'team identity' (Mahmoudian et al., 2023). Essentially, 'team identity' engenders a sense of unity with a larger social structure, echoing the principles of social and team identity theories (Mitchell & Boyle, 2021).

The interplay between football clubs and fans is intrinsically reciprocal and complex. The fans, originating from disparate walks of life, serve as the pillars of these clubs, their loyalty undeterred by the fluctuations in team performance. Their emotional investment in their chosen teams transcends the constraints of wins and losses, underscoring the profound psychological bond with their chosen team, aptly termed as 'team identity', and offers fans a sense of participation in a larger societal entity (Fridley et al., 2020).

The dynamics of team identity and social identity delve into this profound emotional attachment to teams, highlighting the influence of group affiliations on individual behavior (Charness & Chen, 2020). Fans with a strong team identity are often found to empathize deeply with their team's journey, with the triumphs and setbacks resonating as their own personal experiences (Wann & James, 2018).

Nevertheless, this fervor occasionally transcends into a darker realm of fanaticism, sparking aggression and violence, especially in response to team losses or contentious refereeing decisions (Katsafanas, 2018; Schuurman & Taylor, 2018). Even though football

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inherently espouses unity and camaraderie, it has unfortunately also been the stage for episodes of aggression, casting a shadow on its foundational principles of unity and fair play (Altin et al., 2019; Knapton et al., 2018).

Fan aggression, often taking forms like verbal, physical, economic, psychological, social, and sexual, is disproportionately represented in group sports like football, mainly due to pronounced in-group identification and out-group rejection (Thomson et al., 2019; Darko et al., 2022). A host of factors like provocative match incidents, inflammatory media narratives, and certain psychological aspects such as a desire to win and group psychology, act as catalysts for such aggressive tendencies (Crolley et al., 2000).

Interestingly, violence appears to be more common in team sports, notably in football, mainly due to a heightened sense of in-group identification and out-group rejection (Larkin & Fink, 2019; Spaaij, 2008; Crolley et al., 2000). These team sports inherently foster a strong sense of community and belonging among fans, which can sometimes breed us-versus-them mentalities. In football, this is often exacerbated by the intense rivalry between teams and contentious incidents during matches. These dynamics, coupled with provocative media narratives and certain psychological factors, such as the desire to win and group psychology, can serve as catalysts for aggressive behaviors (Crolley et al., 2000).

While addressing aggression in football is of paramount importance, there exists a lacuna in our understanding, with existing literature focusing on isolated factors influencing aggressive behaviors. A critical under-researched domain is the role of gender in fan aggression. Aggression is often stereotypically linked to masculinity, implying that male fans could potentially be more aggressive than females (Cleland et al., 2022; Jakubowska et al., 2020; Kavanagh et al., 2019). However, emerging evidence indicates that female football fans may also exhibit aggressive behaviors, albeit in less physical ways (Jakubowska et al., 2020; Aluola, 2020). Thus, a gender-based perspective on fan aggression is critical to dismantle stereotypes and gain a nuanced comprehension of the issue.

The aim of this study is to bridge these gaps by providing a comprehensive analysis of the influence of fanaticism, team identity, and demographic variables (including age, education

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level, and gender) on fan aggression in football. The study seeks to unravel the relationship between these variables and fan aggression, with an explicit focus on the gender perspective, hoping to debunk existing stereotypes and provide a multi-faceted understanding of the phenomenon. This research endeavor intends to provide valuable insights to the existing body of literature on the topic.

Furthermore, the findings from this study could be instrumental in designing effective strategies to curb fan aggression, thereby augmenting the overall sporting experience for football enthusiasts globally. The overarching aim is to preserve the unifying ethos of football and uphold its core principles of camaraderie and fair play. By examining the intricate dynamics of fanaticism, team identity, and demographic factors, we strive to foster a safer and more inclusive environment for all football fans. Through this exploration, we aspire to preserve the integrity of the game and ensure its continuation as a source of joy and community for people around the world.

Method

Participants

In order to represent the whole country (Turkey), 909 people (474 male, 435 female, \bar{X} age=21.23±3.36) living in the cities of Mugla, Antalya, Sakarya, Erzincan, and Erzurum from different regions (there are seven regions in total in Turkey) and who are members of football fans communities participated in the research. Detailed information about the participants is shown in Table 1.

Table 1. Demographic information of the participants

Baseline characteristic	n	%
Gender		
Female	435	47.9
Male	474	52.1
Highest educational level		
High school/some college	144	15.8
University or postgraduate degree	765	84.2

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Income status		
2000 TL and below	114	12.5
2000-3000 TL	234	25.7
3000-4000 TL	222	24.4
4000-5000 TL	129	14.2
5000 TL and above	210	23.1
Employment		
Student	777	85.5
Employed	42	4.6
Self-employed	36	4.0
Other	54	5.9
Marital status		
Single	866	95.3
Married/partnered	43	4.7
Following the Team on Social Media		
Yes	591	65.0
No	318	35.0
Watching the Matches at the Stadium		
Yes	561	61.7
No	348	38.3
Football Team Membership		
Yes	402	44.2
No	507	55.8

Instruments

The data collection tool prepared in the form of a paper-pencil test in the research consists of 3 parts. The *first part* is the ***Personal Information Form*** consisting of sociodemographic questions about the participants. In the *second part* of the data collection tools, there is the ***Buss-Perry Aggression Scale (B-PAS)***, which was developed by Buss and Perry (1992) and adapted into Turkish by Madran (2012) for reliability and validity. The form, which aims to measure aggression, consists of 29 items and a 5-point Likert type. The evaluation means "5=Totally agree" and "1=Totally disagree". It aims to measure four different dimensions of aggression: physical aggression, verbal aggression, hostility, and anger. Physical aggression subscale, nine questions related to physically harming others; verbal aggression

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subscale, five questions including verbally hurting others; anger subscale, seven questions aiming to measure the emotional dimension of aggression; hostility subscale includes eight questions that aim to measure the cognitive dimension of aggression.

The internal consistency (Cronbach's alpha) reliability coefficient for the total scale adapted to Turkish was .85, and .78 for physical aggression, .71 for hostility, .76 for anger, and .48 for verbal aggression subscales. The split-half reliability coefficient for the total scale was .82, and the reliability coefficients for the subscales ranged from .53 to .82. Test-retest reliability was .97 for the total scale and ranged from .82 to .98 for the subscales. To determine the criterion validity of the B-PAS-Turkish Version, its correlation with the Multidimensional Anger Scale anger-related behaviors subscale was used; the correlation coefficient between the two scales was .49. The *Football Fans Fanaticism Scale* developed by Taşmektepligil et al. (2015) was used in the *third part* of the data collection tools. The form consisting of 13 items is in 4-point Likert type. In the evaluation, 1=strongly agree, 4=strongly disagree. Eight items in the scale's first part indicate the supporters' thoughts, actions, and tendencies toward violence (fanaticism). The five items in the last part indicate the attitudes toward the sense of team identity. The EFA and CFA results for the scale's construct validity showed that the scale items had an acceptable factor load and revealed that the scale had a two-factor structure. The general internal consistency coefficient of the scale was found to be .875. Scale fit indices such as $\chi^2/$ sd (2.57), CFI (0,95), GFI (0,97), AGFI (0,95), and NFI (0,91) of the developed scale show that it is within the limits of "acceptable fit".

Procedure

The ethics committee report was obtained from Erzurum Technical University Scientific Research and Publication Ethics Committee with the decision numbered 10/3 dated 20.04.2021 for the research. Data were collected during the 2020-2021 football season. Participants and researchers were interviewed face-to-face and informed about the research, the data collection tools were explained, and the participants requested objective participation. Since the research aims to examine the effect of fanaticism and team identity on the aggression

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levels of football fans, data were collected considering the team support status. In order to find individuals who are members of fan groups, fans groups were reached, and data collection tools were applied to the groups. Before the application started, the necessary information was given to the participants, and their consent was obtained.

Data Analysis

The data obtained from the data collection tools applied to the participants were analyzed in the SPSS 24.0 program. Pearson Product Moments Correlation Analysis was used to determine the relationships between fanaticism, team identity, and aggression. Before performing multiple regression analysis, some assumptions such as (i) normal distribution, (ii) linear relationship between an independent variable and predictor variables, (iii) absence of multicollinearity problem should be met (Büyüköztürk, 2011). Whether the multivariate normal distribution assumption is met or not can be examined by calculating Mahalanobis distance values (Büyüköztürk, 2011). The Mahalanobis distance values of the data set were examined, and no values were found that made the linearity and normality assumptions difficult. At the same time, whether the data set meets the linearity assumption, the collective fallout matrix graph of the dependent and independent variables was examined, and it was seen that it defined a linear relationship. Another assumption of the regression analysis is that there is no multicollinearity problem in the data set. In the study, in order to determine whether there is multicollinearity between the variables, variance increase factor (VIF), tolerance value (TV), condition index (CI), and correlation levels between independent variables were examined. A variance increase factor equal to or greater than 10, a condition index greater than or equal to 30, and a tolerance value equal to or less than 0.10 indicate multicollinearity (Çokluk et al., 2010). Variance increase factor values of the variables were 1.021, condition index values were 1.000-12.177, and tolerance values were 0.979. These values obtained showed no multicollinearity problem between the independent variables. Pre-analyzes showed that the data set met the assumptions required for multiple regression analysis. In this direction, regression analysis was performed with 909 data. The predictive variables of the study were (i) Fanaticism,

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(ii) Team Identity, (iii) Age, (iv) Education, (v) Gender and the predicted variable was Aggression Attitude [(i) Physical Aggression, (ii) Verbal Aggression, (iii) Hostility, (iv) Anger], and in order to examine the predictive power of fanaticism, team identity, age, education, and gender on aggression, standardized regression coefficients, semi-partial correlation coefficients, multiple correlations, R^2 (coefficient of determination) and adjusted R^2 (adjusted coefficient of determination) values were determined by using Multiple Linear Regression Analysis. Finally, the Independent Samples T-Test was conducted to compare fanaticism and aggression behaviors regarding gender.

Results

Table 2. Correlation values of the aggression with fanaticism and team identity

Variable	n	M	SD	1	2	3	4	5	6
Aggression									
1. Physical Aggression	909	2.57	0.84	1					
2. Verbal Aggression	909	2.97	0.71	.55**	1				
3. Hostility	909	3.07	0.78	.46**	.48**	1			
4. Anger	909	2.94	0.83	.64**	.56**	.50**	1		
5. Total Aggression	909	2.87	0.65	.83**	.790**	.75**	.84**	1	
Football Fans Fanaticism									
6. Fanaticism	909	2.43	0.75	.47**	.40**	.34**	.35**	.48**	1
7. Team Identity	909	2.60	0.75	-.31**	-.24**	-.36**	.31**	-.38**	-.31**

* $p < .05$. ** $p < .01$.

When the correlation analyses in Table 2 were examined; It was found that there was a positive and significant correlation between fan fanaticism with the total score of aggression and its sub-dimensions of physical aggression, verbal aggression, hostility, and anger (respectively; $r=.469$, $p<.01$; $r=.397$, $p<.01$; $r=.338$ $p<.01$; $r=.355$, $p<.01$; $r=.484$, $p<.01$). Despite this, it is seen that there is a significant negative relationship between the dimensions

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of aggression and team identity (respectively; $r=-.311$, $p<.01$; $r=-.240$, $p<.01$; $r=-.358$, $p<.01$; $r=-.311$, $p<.01$; $r=-.380$, $p<.01$). In addition, it is seen that fanaticism and team identity show a significant negative relationship ($r=-.307$, $p<.01$).

Table 3. Multivariate regression matrix between aggression with fanaticism and team identity

	Physical Aggression	Verbal Aggression	Hostilit y	Anger	Total Aggression
	[R=.590; R ² =.345] F(5-903)=96.471; p=.000	[R=.490; R ² =.235] F(5-903)=56.914; p=.000	[R=.439; R ² =.239] F(5-903)=57.919; p=.000	[R=.477; R ² =.223] F(5-903)=53.065; p=.000	[R=.635; R ² =.400] F(5-903)=122.207; p=.000
Fanaticism	.324 10.050 .000**	.368 8.172 .000**	.451 9.084 .000**	.563 9.843 .000**	.445 13.035 .000**
Team Identity	-.210 -8.084 .000**	-.287 -7.220 .000**	-.408 -8.638 .000**	-.346 -7.716 .000**	-.322 -11.086 .000**
Age	-.151 -6.852 .000**	-.260 -6.871 .000**	-.137 -5.010 .000**	-.049 -2.917 .004*	-.147 -7.486 .000**
Education	-.102 -5.631 .000**	-.071 -3.602 .000**	-.003 -.679 .479	-.041 -2.659 .008*	-.050 -4.383 .000**
Gender	.213 8.148 .000**	.014 1.603 .109	.001 .315 .753	.001 .388 .698	.035 3.658 .000**

* $p < .05$. ** $p < .01$.

Table 3 presents the predictive effects of the independent variables Fanaticism, Team Identity, Age, Education, and Gender on the dependent variables' aggression and its sub-dimensions. In addition to the table, the model that includes the coefficient estimation of the independent variables on aggression is given in Figure 1.

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Figure 1. Coefficient model of factors predicting aggressive behavior

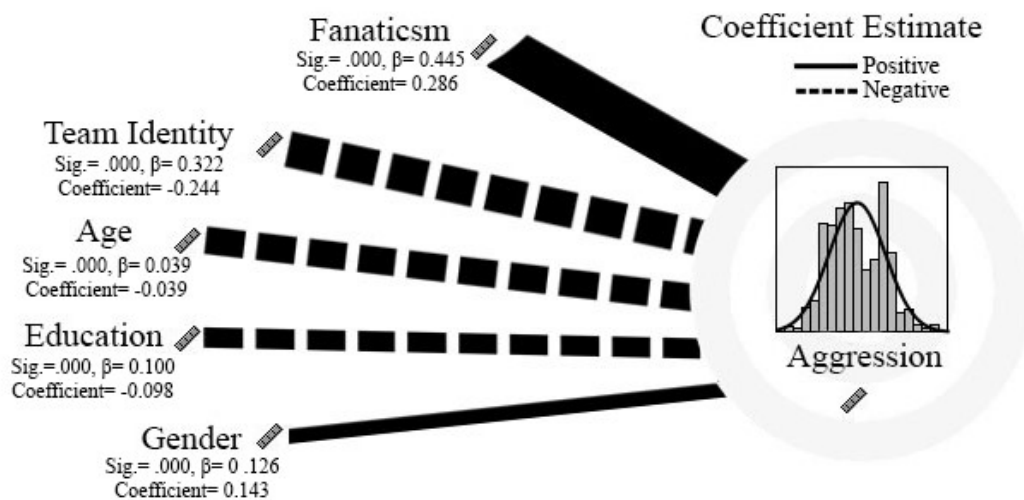


Table 3 shows a moderately significant relationship ($R=.635$; $p<.01$) between the participants' predictive variables such as fanaticism, team identity, age, education, gender, and aggression. Predictive variables explain a significant 40.0% of the variance of aggression. The order of importance of the predictor variables on aggression according to the standardized regression coefficients; fanaticism ($\beta=.445$), team identity ($\beta=-.322$), age ($\beta=-.147$), education ($\beta=-.050$), and gender ($\beta=.035$). When the t-test results regarding the significance of the variables are examined, it is seen that the dimensions of fanaticism ($t=13.035$; $p<.01$), team identity ($t=-11.086$; $p<.01$), age ($t=-7.486$; $p<.01$), education ($t=-4.383$; $p<.01$), and gender ($t=3.658$; $p<.01$) are significant predictors of aggression.

Data in Table 3; shows a moderate ($R=.590$; $p<.01$) relationship between the predictive variables of the participants and physical aggression, which is one of the aggression types. These predictive variables explain 34.5% of the variance of physical aggression. The order of importance of the predictor variables on physical aggression according to the standardized regression coefficients; fanaticism ($\beta=.324$), team identity ($\beta=-.210$), gender ($\beta=.213$), age ($\beta=-.151$), and education ($\beta=-.102$). When the t-test results regarding the significance of the regression coefficients are examined, it is seen that fanaticism ($t=10.050$; $p<.01$), team identity

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($t=-8.084$; $p<.01$), age ($t=-6.852$; $p<.01$), education ($t=-5.631$; $p<.01$), and gender ($t=8.148$; $p<.01$) are significant predictors of physical aggression.

When the related table is examined, a moderately significant relationship ($R=.490$; $p<.01$) is seen between verbal aggression, one of the aggression types, and the predictor variables. In addition, it is seen that the predictor variables explain 23.5% of the verbal aggression variance. According to the standardized regression coefficients, the order of importance of the predictor variables is fanaticism ($\beta=.368$), team identity ($\beta=-.287$), age ($\beta=-.260$), education ($\beta=-.071$), and gender ($\beta=.014$). When the t-test results regarding the significance of the variables are examined, it is seen that fanaticism ($t=8.172$; $p<.01$), team identity ($t=-7.220$; $p<.01$), age ($t=-6.871$; $p<.01$) and education ($t=-3.602$; $p<.01$) are significant predictors of verbal aggression.

There is a moderately significant ($R=.439$; $p<.01$) relationship between hostility, one of the aggression types, and the predictor variables. It is seen that the predictive variables explain 23.9% of the variance of the hostility sub-dimension. Predictive variables were ranked according to their importance as fanaticism ($\beta=.451$), team identity ($\beta=-.408$), age ($\beta=-.137$), gender ($\beta=.003$), and education ($\beta=-.001$). The t-test results regarding the significance of the variables show that fanaticism ($t=9.084$; $p<.01$), team identity ($t=-8.638$; $p<.01$), age ($t=-5.010$; $p<.01$) are significant predictors of hostility.

There is a moderately significant ($R=.477$; $p<.01$) relationship between the anger sub-dimension of aggression and the predictor variables. It is seen that the predictive variables explain 22.3% of the variance of the anger sub-dimension. Predictive variables were ranked according to their importance as fanaticism ($\beta=.563$), team identity ($\beta=-.346$), age ($\beta=-.049$), education ($\beta=-.041$), and gender ($\beta=.001$). The t-test results regarding the significance of the variables show that fanaticism ($t=9.843$; $p<.01$), team identity ($t=-7.716$; $p<.01$), age ($t=-2.917$; $p<.05$), and education ($t=-2.659$; $p<.05$) are significant predictors of hostility.

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Table 4. Investigation of aggression and football fans fanaticism behaviors in terms of gender variable

Logistic parameter	Female		Male		<i>t</i> (909)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>S</i>	<i>M</i>	<i>S</i>			
Aggression	2.7	.6	2.9	.6	-	.00	-
Physical Aggression	41	47	79	25	5.627	.00	0.374
Verbal Aggression	2.2	.7	2.8	.7	-	.00	-
Hostility	50	83	56	95	11.551	.00	0.766
Anger	2.8	.7	3.0	.7	-	.00	-
Fanaticism	94	07	30	01	2.922	.04	0.194
Team Identity	3.0	.8	3.1	.7	-	.25	-
	40	05	00	49	1.148	.51	0.076
	2.9	.8	2.9	.8	-	.45	-
	21	27	62	25	0.744	.57	0.049
	2.3	.7	2.5	.6	-	.00	-
	29	92	30	94	4.071	.00	0.270
	2.6	.7	2.5	.7	3.6	.00	0.24
	95	74	16	14	20	.00	0

* $p < .05$. ** $p < .01$.

When Table 4 is examined, it is seen that there is a significant difference in favor of males in total aggression, physical aggression, and verbal aggression scores. Parallel to these findings, fanaticism scores also contain a significant difference in favor of men. Team identity scores differ significantly in favor of females.

Discussion

To prevent aggression in sports environments, it is necessary to reveal all the factors that cause aggression. Because of this necessity, aggression cases in sports environments have started to be the focus of attention of researchers in recent years. Although studies have aimed to reveal the factors associated with aggression, this evidence is insufficient to eliminate this social problem. In this context, the study's primary aim is to reveal how fanaticism, team identity, age, education level, and gender predict the fans' aggressive behavior.

The most fundamental result obtained from the study findings; fanaticism, team identity, age, education, and gender are essential predictors of aggression. The results show that

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fanaticism is a positive predictor of aggression, while team identity, age, and education are negative predictors.

The most striking result of the research is that team identity predicts aggression negatively. In other words, as the fans' team identity level increases, their aggressive behavior decreases. This result can be explained by social identity theory. According to this theory, it is possible to divide sports fans into two groups. The first is the fans with a high sense of team identity, and the second is the fans who have formed a group identity. Fans with high group identities tend to act with a herd mentality to avoid being excluded from the group. Therefore, these individuals do not question whether their actions harm their team. There is evidence that they tend to act with the group and quickly become involved in acts of violence (Rahmati et al., 2014). Studies show that, unlike fans with high group identity, fans with high team identity avoid behaviors that may harm the club they belong to and seek a safe, prosperous and positive atmosphere in the teams they support (Goldweber et al., 2013). This type of supporter serves not only their benefits but also the benefits of the team. In other words, the benefits and goals of the team are above individual benefits and goals (Çelik & Akçi, 2016). Fans with team identity are not affected by managers' and other fans' negative behaviors and attitudes. Because the supporter, who has gained a team identity, prioritizes only the success of the team he/she supports (economic, corporate, sportive) as a moral responsibility (Çelik & Akçi, 2016). Studies on identity theory have revealed that team identity is an essential step in forming team belonging (Lock & Heere, 2017). Therefore, it can be said that the fans with a high team identity gain team belonging. In order to prevent aggression in sports environments, it should be ensured that the fans create a team belonging by increasing their team identity.

Ervin and Stryker (2001) suggested that team identity and self-esteem mutually affect fan behavior. It is argued that both are aspects of the self. According to this view, identity is a cognitive representation of the self, and self-esteem is an emotional response to the self. Ervin and Stryker also stated that individuals are motivated to raise their low self-esteem and maintain their high self-esteem. Thus, for the sports spectator, the salience and importance of the identity directly influence the self-esteem response. Sports researchers have investigated this

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relationship for several decades (Wann & Branscombe, 1990). In addition to Self-Esteem, Shapiro et al. (2013) found that identification positively and significantly influences behavioral intentions to watch sports.

According to another finding, fanaticism ($\beta=.322$) seems to have more importance on aggression than team identity ($\beta=-.217$). In other words, fanaticism must be controlled to reduce the fans' level of aggression. Evidence shows that disappointments in the sports environment (losing, not playing well, being hurt, perceived fairness in competition) increase fanaticism. Perhaps the most important of these is the media's publications and news encouraging violence. Bryant and Zillmann (1983) argued that the media exploited the fanaticism of fans in three ways. First, violence in sports is often sensationalized and replayed on television. Second, many articles in journals focus on and glorify violence. Finally, advertisements in television programs use acts of violence seen in past sports competitions to encourage viewers to attend or watch upcoming events (Tenenbaum et al., 1997). Another factor that increases the fanaticism tendency of the fans is the malicious fan groups. Fan group leaders can direct people to violence before, during, and after the match. Although they support the same team, violence can occur in sports environments due to various reasons (power struggles, disagreements, especially between the sports club management and other groups of fans). Alqmase et al. (2021) developed an artificial intelligence-based sentiment analysis program to determine how social media pages increase or decrease sports fanaticism. Thanks to this program, it is possible to predict which sports articles on social media increase fanaticism with an accuracy rate of 91%. Studies on fanaticism and aggression have revealed that increasing the fans' awareness, especially with social media usage training, prevents the negative consequences of fanaticism (Alshehri, 2016). Another reason for increased aggression during adolescence is that aggressive adolescents usually do not anticipate the negative consequences of their behavior for the victim and show a lower level of empathy (Evans et al., 2002). Aggressive behavior, which peaks in adolescence, tends to decrease with aging. The analyzes show that as the age of the fans increases, there is a relative decrease in their aggressive behavior. These results support the socio-emotional selectivity theory, which assumes that older people are more motivated to regulate their

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emotions and are more successful (Scheibe et al., 2016). Aging triggers the shift from group identity to team identity. This situation causes the level of aggression to decrease as the supporters' age (Tapp, 2004). Toder-Alon et al. (2019) showed in their research that aging moderates the effect of team identity and supporters on aggression. Results from the literature show that aging has an indirect rather than a direct effect on aggression.

Another research finding is that a high education level predicts aggression negatively. This result shows that individuals with a high level of education adhere to social rules and stay away from violence. This may be because education improves people's awareness of appropriate ways of communicating and controlling their behavior and highly educated people do not engage in physical violence (Keyvanara et al., 2015). Studies show that low-educated and low-income individuals participate more in violence (Turegun & Efek, 2021). In schools, students are taught laws and social rules within the scope of educational activities and educational activities. Students need to live by following these rules inside and outside the school to shape their characters. It is thought that the increase in education contributes to reducing aggressive behaviors in terms of learning and applying these rules.

Another study finding is that gender is an important predictor of aggression ($\beta=.041$). While males exhibit higher levels of physical aggression, verbal aggression, and fanaticism than females, females' team identity is higher than males. It has traditionally been assumed that males are more aggressive than females and that this condition is directly or indirectly linked to testosterone. This idea is supported by the fact that males are more aggressive than females. Studies show that males display more direct aggression behaviors, such as physical aggression and direct verbal aggression, while females exhibit high levels of indirect aggression (Björkqvist, 2018). The testosterone hormone is seen as physiologically responsible for aggression. Testosterone level is not constant throughout human life. It increases rapidly in females during adolescence and is high in young adults but decreases in middle age (Julian & McKenry, 1989). This may explain the underlying reasons for the aggressive behavior of fans, especially in adolescence and young adulthood. Daly and Wilson (1994) called it the 'Young Male Syndrome', pointing out that the main perpetrators of physical violence are males between

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the ages of 12 and 25. The research results revealed that females have a higher level of team identity than males in contrast to aggressive behavior. The underlying reason for this difference is sex hormones such as estrogen and progesterone, like in aggression. Studies show a relationship between these hormones and the sense of belonging (Hazler & Mellin, 2004). It is stated that the need for belonging increases due to the increased feeling of loneliness due to depression, especially during the menstrual period (Brantelid et al., 2014).

As a result, the formation of supporters who adopt a team identity rather than a group identity should be encouraged in order to prevent fan aggression. Sports managers should undertake this task and organize the necessary supporter training programs. It should also be considered that social media can exploit individuals' feelings of advocacy. It is necessary to increase fans' awareness of media use to control fans' feelings of fanaticism and prevent aggression. In addition, it should be ensured that the fans who come to the stadiums to support their teams are as different as possible from different demographics (age, gender, education level, etc.).

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