AGGRESSIVE BEHAVIOR OF ELITE AND NON-PROFESSIONAL FOOTBALL PLAYERS

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ABSTRACT
Aggression in sports is a topic of widespread discussion in contemporary psychological and sociological research. Football, as the most popular team sport in the world, offers a unique perspective for analyzing the nature and impact of aggression. The aim of this study was to investigate whether competitive experience was correlated with different aspects of aggression among Bulgarian elite and non-professional football players. The study was conducted among 40 male football players: 20 professional players from FC Etar and the Bulgarian National Youth Team (mean age 24) and 20 students majoring in football at the National Sports Academy (mean age 19). The research was carried out using the Buss and Perry Aggression Questionnaire (BPAQ), which measures aggression as a multidimensional construct. The results showed that professionals exhibited slightly higher average levels of physical aggression (M = 2.38, SD = 0.77) compared to the students (M = 2.17, SD = 0.58). In terms of anger, the students reported higher average levels (M = 2.61, SD = 0.68) compared to the professional football players (M = 2.39, SD = 0.70). Verbal aggression was the most pronounced in both groups (professionals: M = 3.09, SD = 0.79; students: M = 3.10, SD = 0.77). The data indicate that there are no statistically significant differences in aggressive behavior between professional football players and students, although some trends are observed across the different dimensions.

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INTRODUCTION

Aggression in sports is becoming an increasingly discussed topic in contemporary psychological and sociological research. With the growing media coverage of violent incidents on the field and the rising awareness of mental health and behavioral issues among athletes, the need to understand the origins and manifestations of aggression in competitive environments has become more urgent than ever. Football, as the most globally followed sport, offers a unique perspective for analyzing the nature and impact of aggression. The emotional intensity and public attention surrounding football at both professional and amateur levels create complex environments where aggression can emerge.

In social psychology, aggression is most commonly defined as behavior intended to harm another person who is motivated to avoid that harm. This harm can take many forms, including physical injury, emotional distress, or damaged social relationships (Anderson & Bushman, 2002; Baron & Richardson, 1994). Aggression results from a complex interplay of circumstances and an individual's learned patterns of response. For some, it is a consistent behavioral tendency, while for others, it can arise unexpectedly (Georgiev, 1998).

In a sports context, aggression can be instrumental—strategically used to gain an advantage or hostile, stemming from anger and frustration with the intent to hurt or intimidate an opponent (Silva, 1983). While aggression is sometimes seen as a natural, even a necessary part of competitive sport—especially in contact sports like football—excessive or misdirected aggression can lead to negative consequences such as injuries, penalties, and disrupted team dynamics (Maxwell et al., 2009). Sports organizations, coaches, and players are increasingly emphasizing the importance of sportsmanship, respect, and fair play.

An athlete's aggressive behavior can be provoked by the importance of the outcome (such as money, league or tournament standings, or team rivalries), the nature of the sport (contact sports are more likely to lead to violence), or provocation (such as chants from the crowd or opponents).

Elite athletes are subjected to intense physical and psychological pressure, requiring them to navigate a competitive environment that demands resilience and controlled aggression (Maxwell, Visek, & Moores, 2009). Studies show that the higher the level of athletic qualification, the more pronounced the display of deliberate, constructive forms of aggressive behavior—known as instrumental aggression. Conversely, the lower an athlete's competitive rank and the less experience they have, the more frequently involuntary, impulsive forms of aggression tend to occur (Safonov, 2003). These contrasting dynamics raise the question of whether the level of competition influences not only how aggression is expressed but also the baseline level of aggressive tendencies among athletes.

Previous studies have shown that factors such as coaching style, peer relationships, and individual personality traits contribute to aggression levels in athletes (Mohebi et.al., 2024). Additionally, demographic variables such as age, gender, and years of experience can also moderate these effects. However, specific comparisons between professional and amateur football players remain underexplored.

In 2025, Mazzanti et al. conducted a study involving 219 athletes who practiced martial arts and combat sports, including both professional and amateur participants. The authors found that martial arts athletes displayed lower levels of hostility and overall aggression compared to those practicing combat sports. Those competing professionally showed lower levels of anger than those participating on an amateur level. No significant differences were found in aggression based on training experience or rank.

A study conducted in Turkey by Karlı et al. (2023) among male and female athletes and non-athletes found that female individuals practicing combat sports exhibited significantly higher levels of physical aggression compared to non-athletes.

In the existing literature, no studies have been found that focus on participants in team-based contact sports, such as football.

This study aimed to investigate whether there were measurable differences in aggressive behavior between professional footballers and amateur players, using the Buss and Perry Aggression Questionnaire (Buss & Perry, 1992) as the primary assessment tool.

METHODOLOGY

Participants

The research was conducted among 40 male football players: 20 elite footballers from FC Etar and the Bulgarian Youth National team (mean age, 24 years) – Group 1, and 20 sports students at NSA "Vassil Levski" with a major in Football Coaching (mean age, 19 years) – Group 2.

Procedures

The study was conducted using the Buss and Perry Aggression Questionnaire (BPAQ), developed in 1992. It provides a comprehensive understanding of aggression as a complex behavior, encompassing both overt actions and underlying feelings and attitudes. The questionnaire was adapted for Bulgarian conditions by Kalchev (2005).

The BPAQ assesses overall aggression and its distinct components, taking into account both physical and verbal aggressive behavior, as well as two emotions associated with these types of behavior—anger and hostility. The questionnaire consists of 29 items divided into four groups: Physical Aggression (9 items) – the tendency to use physical force against others; Verbal Aggression (5 items) – the tendency to express aggressive feelings through words rather than actions; Anger (7 items) – emotional reactions such as irritability and frustration; Hostility (8 items) – negative feelings and beliefs about others, including cynicism and resentment. Responses are rated on a 5-point Likert scale (ranging from "extremely uncharacteristic of me" to "extremely characteristic of me"). Higher scores indicate higher levels of aggression (Bernstein & Gesn, 1997).

In a sports context, the BPAQ can help identify whether athletes at different levels of competition differ not only in their on-field behavior but also in how they perceive and experience aggressive situations. For instance, a professional player may score high on the physical aggression scale but low on the anger scale, indicating a more controlled and deliberate use of force. In contrast, an amateur might show high levels of anger and hostility, suggesting a more emotionally driven reaction.

Design

The research was conducted in June 2024 and May 2025. The participants in the study were informed about the purpose of the research, after which each of them completed the questionnaire independently in a controlled environment. The questionnaires were personally distributed by the participants' coaches and instructors. The responses were recorded and statistically processed using Jamovi and SPSS 23. The following analyses were conducted: Descriptive statistics (for each subscale, minimum, mean, and maximum values, as well as standard deviation, were calculated); Shapiro-Wilk normality test; Pearson correlation analysis (to determine relationships between the four subscales); Pearson's Chi-square test.

RESULTS

This study analyzed four key variables related to aggressive behavior and emotional state: physical aggression, verbal aggression, anger, and hostility. Data were collected from 40 participants, divided into two groups—students and professionals. The results obtained from the descriptive data analysis (Figure 1) indicate moderate levels of aggressive traits.

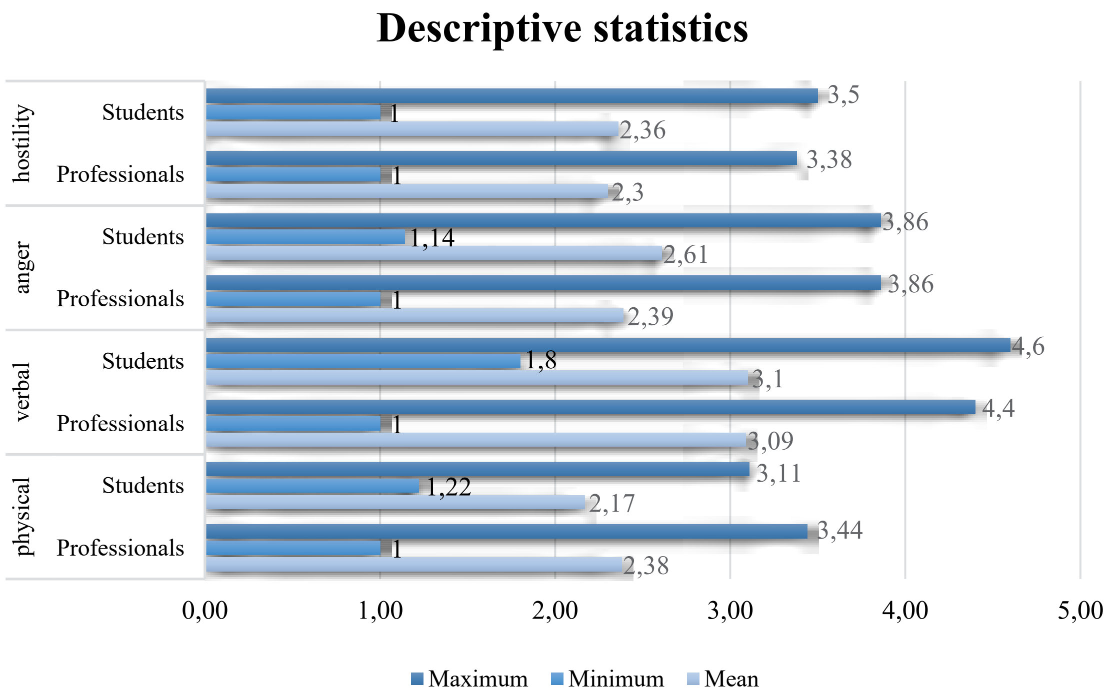

Figure 1. *Descriptive analysis by group*

When comparing the groups, the professionals showed slightly higher mean values for physical aggression ($M = 2.38$, $SD = 0.77$) compared to the students ($M = 2.17$, $SD = 0.58$). This indicates that professionals exhibit physical aggression more frequently or more intensely. Additionally, the higher standard deviation among professionals suggests a greater variability in responses within this group.

In terms of verbal aggression, the mean values were virtually identical for both groups (professionals: $M = 3.09$, $SD = 0.79$; students: $M = 3.10$, $SD = 0.77$). This suggests that the levels of verbal aggression are similar across the two groups, with no notable differences in average scores or variability. Verbal aggression was the most prominent form of aggression in both groups, indicating that it is the most likely mode of aggression expression among the participants.

A slight difference was observed between the groups in terms of anger, with students reporting higher average levels ($M = 2.61$, $SD = 0.68$) compared to professional football players ($M = 2.39$, $SD = 0.70$). Although minor, this difference may suggest that students experience more intense or more frequent episodes of anger during the measurement period.

Hostility levels were relatively low in both groups, with minimal differences observed. Professional football players had a mean score of 2.30 ($SD = 0.72$), while students scored slightly higher at 2.36 ($SD = 0.68$), indicating an overall low tendency toward cynical or distrustful attitudes among participants.

Overall, although the differences between the groups were minor, the data suggest that professional footballers tend to exhibit slightly more physical aggression, while students show higher levels of anger.

The results from the descriptive statistics indicate minimal group differences in verbal aggression and hostility. At the same time, physical aggression was more pronounced among the professionals, whereas anger was slightly higher among the students. These observed differences suggest a possible divergence in how the two groups express aggression and emotion; however, no statistically significant difference was found between the two groups of participants ($\chi^2 = 18.33$; $p = .434$).

To assess the suitability of parametric statistical methods, the normality of the distribution for each variable was tested using the Shapiro–Wilk test (Table 1).

Table 1. *Variables distribution*

Variable	Group	W	*p*-value
Physical Aggression	Professional footballers	0.914	.005
	Students	0.938	.030
Verbal Aggression	Professional footballers	0.915	.005
	Students	0.956	.118
Anger	Professional footballers	0.943	.042
	Students	0.959	.158
Hostility	Professional footballers	0.900	.002
	Students	0.946	.054

For several variables, professional football players showed statistically significant deviations from normality. Specifically, the distributions for physical aggression (W = 0.914, p = .005), verbal aggression (W = 0.915, p = .005), anger (W = 0.943, p = .042), and hostility (W = 0.900, p = .002) all had p-values below the .05 threshold, indicating non-normal distributions.

In contrast, the variables for the student group are more closely aligned with the assumptions of normality. For example, verbal aggression (W = 0.956, p = .118) and anger (W = 0.959, p = .158) were normally distributed, while physical aggression (W = 0.938, p = .030) and hostility (W = 0.946, p = .054) approached significance but remained within acceptable limits.

These findings suggest that although some variables—particularly among students—approximate normality, several distributions in the professional group fail to meet the assumptions required for specific parametric tests.

The nonparametric analysis of the data using Pearson's Chi-square test revealed no statistically significant differences between the two groups regarding the variables studied: Physical aggression: χ^2 = 18.33, α = .43; Verbal aggression: χ^2 = 17.80, α = .30; Anger: χ^2 = 17.53, α = .55; Hostility: χ^2 = 16.95, α = .46.

Pearson correlation coefficients were calculated to assess the relationships between the four aggression-related dimensions across the whole sample. The results revealed a consistent pattern of strong positive correlations among all variables (Table 2).

Table 2. *Interdependence among the four aspects of aggression*

		Physical	Verbal	Anger	Hostility
Physical	Pearson's *r*	—			
	df	—			
	p-value	—			
Verbal	Pearson's *r*	.632	—		
	df	78	—		
	p-value	< .001	—		
Anger	Pearson's *r*	.649	.666	—	
	df	78	78	—	
	p-value	< .001	< .001	—	
Hostility	Pearson's *r*	.634	.493	.572	—
	df	78	78	78	—
	p-value	< .001	< .001	< .001	—

The strongest correlation was observed between anger and verbal aggression (r = .666, p < .001), suggesting that individuals prone to anger are also more likely to express themselves aggressively through speech. Similarly, anger was also strongly correlated with physical aggression (r = .649, p < .001), indicating that anger may play a central role in motivating both verbal and physical expressions of aggression.

Hostility showed positive correlations with all other dimensions: Physical aggression: r = .634; Verbal aggression: r = .493; Anger: r = .572 (all p < .001). These relationships emphasize that individuals with a tendency toward hostile thoughts or attitudes are also more likely to experience anger and engage in aggressive behaviors.

DISCUSSION

This study examined the differences in aggressive behavior between professional football players and students, using the four dimensions of the Buss and Perry Aggression Questionnaire: physical aggression, verbal aggression, anger, and hostility. The analysis revealed that while there were some differences in mean scores between the two groups, these did not reach statistical significance.

The higher average levels of physical aggression among professionals likely reflect the context of intense physical competition and the strategic use of force required in professional sports. In contrast, the higher levels of anger among students may be associated with less developed emotional regulation and limited experience in managing the pressure of competitive situations. These findings align with previous research suggesting that amateur athletes are more prone to emotional outbursts, while professionals tend to exhibit more controlled, instrumental aggression.

Verbal aggression was equally expressed in both groups and was the most prominent form of aggression measured, which was an interesting finding. This suggests that verbal aggression may represent a socially acceptable and commonly used outlet for expressing tension and emotions in a sporting context.

The results of the correlational analysis confirmed a strong positive relationship between anger and both behavioral forms of aggression—verbal and physical. This highlights the central role of anger as an emotional trigger for aggressive behavior. Additionally, the positive correlations between hostility and the other aggression dimensions suggest that negative cognitive attitudes increase the likelihood of aggressive responses.

Despite these observations, the lack of statistically significant differences limits the generalizability of the findings and calls for caution in interpretation. Potential reasons for this may include the small sample size, heterogeneity among participants, and individual differences that were not controlled for in this study.

CONCLUSIONS

No statistically significant differences in aggressive behavior were found between professional football players and students, although trends were observed across the different dimensions. Physical aggression was more pronounced among professionals, while anger was more evident among students, suggesting different mechanisms of aggression expression and control depending on the level of sports engagement. Verbal aggression emerged as the most common form in both groups, indicating its social acceptability as a means of aggression expression in the sports environment. Anger and hostility played a central role in motivating aggressive behavior, with anger showing the strongest associations with both physical and verbal aggression. The lack of strong, hostile attitudes suggests that aggression in these groups is more situational than chronic or pathological.

The practical recommendations include the implementation of programs tailored to the needs of each group, with an emphasis on emotional regulation for students and the ethical application of physical aggression for professionals.

Future research should involve larger and more diverse samples, examine the influence of gender, age, and playing position, and utilize longitudinal methods to track aggressive tendencies over time.

REFERENCES

Georgiev, M. (1998b). *Agresiya i agresivnost – izsledovatelski problemi v sporta* [Aggression and aggressiveness – Research problems in sport]. *Lichnost, motivatsiya, sport*, *4*, 51–57. Sofia: NSA-Press.

Kalchev, P. (2005). *Balgarska versiya na vaprosnika na A. Bas i M. Peri za otsenka na agresiyata* [Bulgarian version of A. Buss and M. Perry's Aggression Questionnaire. *Psikhologichni izsledvaniya*, *(2)*, 17–40.

Safonov, V. K. (1998). Dialekticheskaya funktsiya psikhicheskogo sostoyaniya (teoretiko-metodologicheski aspekt) [The dialectical function of mental state (theoretical-methodological aspect)]. *Vestnik Sankt-Peterburgskogo universiteta. Seriya 6: Filosofiya. Kul'turologiya. Politologiya. Pravo. Mezhdunarodnye otnosheniya*, *(4)*, Issue 27.

Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology, 53*(1), 27–51. https://doi.org/10.1146/annurev.psych.53.100901.135231

Baron, R. A., & Richardson, D. R. (1994). *Human aggression* (2nd ed.). Plenum Press.

Bernstein, I. H., & Gesn, P. R. (1997). On the dimensionality of the Buss/Perry Aggression Questionnaire. *Behaviour Research and Therapy, 35*(6), 563–568. https://doi.org/10.1016/S0005-7967(97)00014-4

Buss, A. H., & Perry, M. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology, 63*(3), 452–459. https://doi.org/10.1037/0022-3514.63.3.452

Karlı, Ü., Yıldız, N. O., Karlı, Ü., & Üzüm, H. (2023). The investigation of aggression levels of the combat sport athletes. *Journal of Sport Sciences Research, 8*(3), 792–803. https://doi.org/10.25307/jssr.1361030

Mazzanti, M., Masini, A., Sanmarchi, F., Dallolio, L., & Mascherini, G. (2025). Aggression and sport: A cross-sectional study on behavioral tendencies of athletes. *Journal of Bodywork and Movement Therapies, 42*, 982–988. https://doi.org/10.1016/j.jbmt.2025.03.001

Maxwell, J. P., Visek, A. J., & Moores, E. (2009). Anger and perceived legitimacy of aggression in male Hong Kong Chinese athletes: Effects of type of sport and level of competition. *Psychology of Sport and Exercise, 10*(2), 289–296. https://doi.org/10.1016/j.psychsport.2008.07.010

Mohebi, M., Zarei, S., & Gharayagh Zandi, H. (2024). The Effect of Coaches' Interpersonal Style Profiles on Young Athletes' Motivation and Sport Commitment. *Japanese Psychological Research*. https://doi.org/10.1111/jpr.12548

Silva, J. M. (1983). The perceived legitimacy of rule-violating behavior in sport. *Journal of Sport and Exercise Psychology 5*(4), 438–448. https://doi.org/10.1123/jsp.5.4.438

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