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The coach-athlete relationship as a mediator between leadership styles and referee interactions in team sports

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Abstract

This study aims to examine how coach leadership styles, as perceived by male athletes in team sports, affect interactions with referees during competitions. Specifically, it investigates the mediating role of the coach-athlete relationship in this process using a mixed-methods design. The "Sequential Explanatory Mixed Design," utilizing both quantitative and qualitative methods, was adopted in the study. In the quantitative phase, data were analyzed from 258 participants (athletes, coaches, and referees) working in the Northeast Anatolia Region (TRA2) using the Leadership in Sports, Referee Self-Efficacy, and Coach Communication scales. Structural Equation Modeling (SEM) was used for data analysis. In the qualitative phase, semi-structured interviews were conducted with 24 participants (8 coaches, 8 athletes, 8 referees) selected via maximum variation sampling, and data were analyzed using content analysis. The path analysis results revealed that coach leadership style significantly and negatively predicted referee self-efficacy ($\beta = -0.476, p = 0.034$). Conversely, leadership style had a strong positive effect on coach-athlete communication ($\beta = 0.480, p < 0.001$). Furthermore, coach-athlete communication positively predicted referee self-efficacy ($\beta = 0.318, p = 0.042$). These findings confirm that while leadership style has a direct negative impact on referee interaction, this relationship is mitigated through the partial mediating role of coach-athlete communication. The results of the study indicate that the coach's leadership style directly affects the interaction with the referee, but a healthy communication established between the coach and the athlete acts as a buffer in this process, mitigating negative effects. Ideally, training programs should focus on communication strategies to manage this dynamic.

Introduction

Sustainable success in performance sports depends not only on physical capacity but also on the quality of the relationship established between the coach and the athlete. The coach, who is the primary actor in the process of maximizing the athlete's performance, is a leader who manages the psychological and social environment beyond their educational role within the team (Lyle & Cushion, 2016). Coaching is not merely teaching technical skills; it is a multidimensional process that includes communication, motivation, and crisis management. Excellent leadership requires the ability to motivate people, communicate effectively (listening, empathy, encouragement), and manage psychological processes (Konter, 1996). Current literature also recognizes the coach's leadership role as the most important determinant of the athlete's behavior both on and off the field (Cranmer & Myers, 2015).

The leadership styles coaches exhibit while managing their teams directly shape the psychological climate in the sports environment. In the literature, coach behaviors are generally categorized into three basic styles: “Authoritarian,” where decisions are made by a single person; “Liberal,” where responsibility is left entirely to the athlete; and “Democratic,” where decisions are shared (Donuk, 2006; Yukl, 1994). While authoritarian leaders prioritize obedience and discipline, liberal leaders exhibit a more passive management style. Democratic leaders, on the other hand, encourage athletes to take responsibility and guide their personal and athletic development. The leadership style adopted by the coach forms the fundamental dynamics of the relationship they will establish with the athlete.

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The most tangible outcome of a coach's leadership style is the quality of the coach-athlete relationship. According to Jowett (2005), this relationship is a dynamic process in which the athlete's and coach's emotions, thoughts, and behaviors are interconnected. The type of communication established by the coach with the athlete (acceptance, trust, or pressure) directly affects the athlete's psychological well-being and performance (Jowett & Ntoumanis, 2004). Indeed, Wylleman (2000) defined the behavioral dimensions of this relationship on the acceptance-rejection and dominance-submission axes. A relationship based on trust and open communication increases the athlete's ability to cope with stress, while communication breakdown or distrust can increase the athlete's tension on the field (Cüceloğlu, 2006).

The moments of highest stress and tension on sports fields are the interactions that arise from referee decisions. In modern sports, referees are in constant interaction and potential conflict with players, coaches, and spectators (Grenberg, 2005; Mascarenhas et al., 2005). Objections to referee decisions, anger management, and unsportsmanlike behavior are closely related to the athlete's psychological state at that moment (Folesson, 2002; Polat, 2023; Kural & Aydın, 2023). The athlete's attitude toward the referee is not just an individual reaction; it is a reflection of the leadership style they see in their coach and the relationship they have with them. Considering the coach's role as a role model, athletes who grow up in an authoritarian or aggressive leadership climate and cannot establish a secure bond with their coach are likely to behave more reactively towards referee authority (Eygü, 2009).

A review of the literature reveals that while the relationship between coaching leadership and athlete performance has been frequently studied, the implications of these dynamics for referee interactions and the role played by the coach-athlete relationship in this process remain an insufficiently explored area. A coach's leadership style (Independent Variable) may directly affect an athlete's interaction with the referee (Dependent Variable); however, this effect may also be shaped through the quality of the relationship established with the athlete (Mediating Variable). Recent studies also support the view that the coach-athlete relationship acts as a chain mediator in performance and behavioral outcomes (Liu et al., 2025).

In team sports, athletic success depends not only on athletes' physical and technical abilities but also on team dynamics, the quality of coaching management, and communication with referees, who are third parties in the game. Coaches' leadership styles shape athletes' training and match performance, as well as directly influencing their interactions with referees during stressful moments. It is believed that the attitude an athlete displays (aggressive or compliant) under the psychological pressure created by referees' decisions is influenced by the quality of their relationship with their coach.

This study is unique in that it reveals how the coach-athlete relationship acts as a "buffer mechanism" between leadership styles and referee interaction—an area that has been insufficiently explored despite the frequent study of coach-athlete dynamics. Consequently, the main objective of this research is to examine the effect of perceived coach leadership styles on athletes' interactions with referees and to reveal the mediating role of the coach-athlete relationship using a mixed-methods design. By doing so, the study aims to contribute theoretically to the sports psychology literature and offer practical suggestions for training programs. In line with this objective, the following questions were addressed: 1) What is the dominant coach leadership type perceived by male athletes in team sports? 2) Do perceived leadership styles significantly predict athletes' levels of interaction with referees? 3) Does the coach-athlete relationship play a significant mediating role in the relationship between leadership styles and referee interaction?

The purpose of this study is to examine referees' evaluations of the effects of different coaching leadership styles, such as authoritarian and democratic approaches, on athlete behavior and competition management. Specifically, the study aims to determine whether referees' perceptions of coaches' leadership styles significantly predict athletes' levels of interaction with referees during competitions. Additionally, it seeks to investigate the mediating role of the coach–athlete relationship in the relationship between coaching leadership styles and referee–athlete interaction, thereby providing a deeper understanding of the relational mechanisms that influence on-field behavior and officiating dynamics.

Methods

This study adopted a "Mixed Method" approach, which combines quantitative and qualitative data collection methods. A "Sequential Explanatory Design" was

preferred to enable an in-depth examination of the research problem and to understand the reasons behind the statistical results obtained from quantitative data (Tashakkori & Teddlie 1998; Creswell et all, 2017,).

Within this design, the study was conducted in two stages:

Quantitative Phase (Screening Model): In the first phase, data was collected from a large group of participants using scales in order to reveal generalizable results regarding the relationships between leadership types, coach-athlete relationships, and referee interactions.

Qualitative Phase (Case Study): In the second stage, in-depth interviews were conducted with coaches, athletes, and referees to elaborate on the statistical findings obtained from the quantitative analysis (e.g., why authoritarian leadership negatively affects referee interaction) and to answer the "how" question (Fraenkel & Wallen, 2006; Subaşı & Okumuş, 2017). Finally, the integration of the two phases was performed during the interpretation stage, where qualitative themes were used to explain, contextualize, and provide a deeper understanding of the quantitative statistical results.

Research Group (Population and Sample)

Quantitative Research Group: The population of the research consists of active licensed male athletes, coaches, and referees aged 18 and over in the provinces of Kars, Ağrı, Iğdır, and Ardahan, located in the Northeast Anatolia Region (TRA2). The sample size was calculated with a 95% confidence interval and a 5% margin of error, taking into account the representativeness of the population, and the minimum number was determined to be 258. While data were initially collected from 284 participants to increase the power of the research, after data cleaning and the exclusion of incomplete forms, the final analysis was conducted with 258 participants (athletes, coaches, and referees). In selecting the sample, the simple random sampling method was preferred because it gives each individual in the population an equal chance of being selected and has high representativeness (Büyüköztürk et al., 2017). The distributions of participants' demographic characteristics (age, educational status, marital status, sports history, etc.) are presented in Table 1.

Qualitative Research Group: The qualitative study group was determined using maximum diversity sampling, one of the purposive sampling methods that allows for in-depth data collection in the context of the research problem (Creswell & Clark, 2017). Accordingly, the study group consisted of a total of 24 participants (8 coaches, 8 athletes, 8 referees) working at different league levels (Amateur Leagues and Regional Professional Leagues) to ensure diversity. The number of participants was determined based on the principle of data saturation; the interview process was concluded when no new themes or codes emerged from the participants' responses.

Data Collection Tools

In the study, three different scales were used as quantitative data collection tools, while a semi-structured interview form was used as a qualitative data collection tool.

Quantitative Data Collection Tools

Sports Leadership Scale (SLÖ): Developed by Chelladurai & Saleh (1980), this scale assesses how athletes perceive their coaches' leadership styles (behaviours) across five sub-dimensions. The Turkish adaptation of the scale was carried out by Toros & Tiryaki (2006).

Referee Self-Efficacy Scale (RSSE): Developed by Myers et al. (2012), the scale was adapted into Turkish by Karaçam & Pulur (2017) with the addition of the "physical fitness" factor. The 5-point Likert-type scale consists of 18 items and has five sub-dimensions: physical competence, game knowledge, decision-making, pressure, and communication.

Coach Communication Skills Scale According to Athlete Perception: The scale developed by Abakay & Kuru (2009) was created to evaluate athletes' communication processes with their coaches. The original Cronbach's Alpha coefficient of the 5-point Likert scale consisting of 28 items is .94. In the reliability analysis conducted within the scope of this study, the Cronbach Alpha coefficient was calculated as .99.

Qualitative Data Collection Tool

A Semi-Structured Interview Form was developed to determine participants' views on leadership types in team sports, referee interaction, and coach-athlete relationships. During the preparation of the form, the relevant literature was first reviewed, and then three faculty members specialising in Physical Education and Sports, an expert in the field of Education Programmes and Teaching, and a Turkish Language expert were consulted to ensure content validity. In order to test the

functionality of the draft form, preliminary interviews were conducted with a small group (pilot) prior to the main application. Based on the feedback from these interviews, minor revisions were made to the wording of some probing questions to enhance clarity, but no main questions were removed, and the final form was determined. The interview form consists of three main questions and probing questions aimed at deepening the participants' responses.

Data Collection and Analysis

Before commencing the data collection process, ethical committee approval was obtained from the Kafkas University Social and Human Sciences Scientific Research and Publication Ethics Committee with its decision dated 18.07.2024 and numbered 60.

Analysis of Quantitative Data

The obtained data were analysed using IBM SPSS Statistics 26.0 and IBM SPSS Amos 23.0 software packages. In the analysis of the data, frequency and percentage distributions were examined for categorical variables, while arithmetic mean, standard deviation, median, skewness, and kurtosis values were examined for continuous variables. Confirmatory Factor Analysis (CFA) was used to test the construct validity of the scales (items with low factor loadings that disrupted model fit were removed to ensure construct validity), and Cronbach's Alpha internal consistency coefficients were calculated to test their reliability. Model fit indices were evaluated based on established criteria in the literature (Meydan & Şeşen, 2011; Gürbüz & Şahin, 2018). The Kolmogorov-Smirnov test was used to examine whether the data met the assumption of normal distribution (n>30), and it was determined that the data were normally distributed. Accordingly, the Independent Samples t-Test was used for pairwise comparisons, One-Way Analysis of Variance (ANOVA) was used for comparisons between more than two groups, and the Tukey test was used to determine the source of the difference. Finally, path analysis was applied within the framework of Structural Equation Modelling (SEM) (Baron and Kenny's approach was adopted due to sample size considerations) to determine the mediating role of the coach-athlete relationship in the effect of head coach types on referee interaction. The integration of the two phases was performed during the interpretation stage, where qualitative themes were used to explain, contextualize, and provide a deeper understanding of the quantitative statistical results.

Results

The quantitative findings of the study are presented in four stages: (1) Participants' demographic characteristics, (2) Construct validity and reliability of data collection instruments (CFA results), (3) Descriptive statistics for variables, and (4) Model results testing the mediating role of the coach-athlete relationship in the relationship between leadership types and referee interaction.

Findings Related to Quantitative Data

Demographic Findings

The frequency and percentage distributions of the demographic characteristics of the 258 participants in the study are presented in Table 1.

Table 1
Distribution of Participants' Demographic Characteristics (n=258)

	No. of Individuals	Percentage (%)
Age Group		
18-22	47	18.2
23-27	83	32.2
28-32	67	26.0
33-37	36	14.0
38 and above	25	9.7
Educational Status		
Secondary school	47	18.2
Associate Degree	88	34.1
Bachelor's Degree	98	38.0
Postgraduate	25	9.7
Marital Status		
Single	139	53.9
Married	119	46.1
Role in Sports Life		
Athlete	121	46.9
Coach	77	29.8
Referee	60	23.3
Registration licence		
Amateur Licence	191	74.0
Professional Licence	67	26.0
Years of involvement in sports		
1-3 years	55	21.3
4-6 years	96	37.2
7-9 years	58	22.5
10 years and above	49	19

Table 1 shows that the age distribution of participants is predominantly concentrated in the 23-32 age range (58.2%), while in terms of education level,

graduates with associate and bachelor's degrees constitute the majority (72.1%). In terms of marital status, the proportion of single participants (53.9%) is higher than that of married participants.

When examining the roles of the sample group in sports life, athletes constitute the largest group (46.9%), and the vast majority of participants (74.0%) have an amateur licence. In terms of sports experience, 59.7% of participants were found to have between 4 and 9 years of experience.

Validity and Reliability Analyses

The construct validity of the data collection tools (Sports Leadership Scale, Referee Self- Efficacy Scale, and Coach Communication Scale Based on Athlete Perception) was tested using Confirmatory Factor Analysis (CFA). Prior to the analysis, items with low item discrimination and item-total correlations below 0.25 were removed from the data set.

During the CFA process, items with low factor loadings ($\lambda < 0.30$) and those that disrupted model fit were removed from the model while preserving the theoretical structure. As a result of this simplification process, the Sports Leadership Scale (SLS) was validated with 6 items and 2 sub-dimensions, the Referee Self-Efficacy Scale (RSES) with 6 items and 2 sub-dimensions, and the Coach Communication Scale (CCS) According to athlete perception with 9 items and a single-dimensional structure. The obtained fit indices indicate that the models fit the data well and at an acceptable level (Table 2).

As seen in Table 2, the fit indices calculated for the Leadership Scale in Sport ($\chi^2/df=2.087$; RMSEA=0.065; CFI=0.948) indicate that the measured structure is consistent with the theoretical model and that the scale's construct validity is established. The fit values for the other scales (RESE and CCS) are also within acceptable limits.

Validity and Reliability Analyses

The construct validity of the scales used in the study was tested using Confirmatory Factor Analysis (CFA). The model fit indices obtained from the analysis were found to be within acceptable limits (Meydan & Şeşen, 2011).

When examining the reliability of the scales, the Cronbach Alpha coefficient was calculated as .641 for the Leadership Scale in Sport, .773 for the Coach Communication Scale According to Athlete Perception, and .553 for the Referee Self-Efficacy Scale (Table 3).

Table 2
Fit index values of the Sports Leadership Scale Measurement Model.

Fit Index	Value	Good Fit Threshold	Acceptable Limit	Result
χ^2/df	2.087	≤ 3	3 - 5	Good Fit
RMSEA	0.065	≤ 0.05	< 0.08	Acceptable
SRMR	0.047	≤ 0.05	< 0.08	Good Fit
CFI	0.948	≥ 0.95	> 0.90	Good Fit
NFI	0.908	≥ 0.95	> 0.90	Acceptable
NNFI (TLI)	0.902	≥ 0.95	> 0.90	Acceptable
GFI	0.979	≥ 0.90	> 0.85	Good Fit
AGFI	0.946	≥ 0.90	> 0.85	Good Fit

χ^2: Chi-square; df: Degrees of freedom; RMSEA: Root Mean Square Error of Approximation; SRMR: Standardised Root Mean Square Residual; CFI: Comparative Fit Index; NFI: Normed Fit Index; NNFI (TLI): Non-Normed Fit Index (Tucker-Lewis Index); GFI: Goodness of Fit Index; AGFI: Adjusted Goodness of Fit Index.

Table 3
Scale reliability (cronbach alpha) results.

Scales and Sub-Scales	No. of Items	Cronbach's Alpha (α)
Sports Leadership Scale	6	0.641
Educational and Instructional Behaviour	3	0.520
Democratic Behaviour	3	0.564
Coach Communication According to Athlete Perception	9	0.773
Referee Self-Efficacy Scale	6	0.553
Physical Competence	3	0.520
Game Knowledge	3	0.564

Table 4
Skewness and kurtosis values for participants' scale scores.

Variables	Mean	SD	Median	Min- Max	Skewness	Kernel
Leadership in Sport	3.20	0.71	3.17	1.5 - 4.8	-1.7	-1.3
Educational/Instructional Case	3.15	0.86	3.33	1.3 - 4.7	-0.4	-3.0
Democratic Party	3.25	0.82	3.33	1.3 - 5.0	-1.9	-1.7
Coach Communication	3.50	0.67	3.44	2.0 - 4.8	1	-1.9
Referee Self-Efficacy	3.69	0.56	3.83	2.2 - 4.8	-3.0	0.3
Physical Fitness	3.55	0.69	3.67	1.0 - 5.0	-2.4	2.4
Game Information	3.83	0.70	4.00	2.0 - 5.0	-2.2	-1.5

Upon examining Table 3, it is observed that the internal consistency coefficients of the scales range between 0.52 and 0.77. In social science research, it is stated that these values are "acceptable/reliable" when the number of items is low and within certain reference ranges ($0.40 < \alpha < 0.60$) (Alpar, 2020). In this context, it was assumed that the scales had sufficient reliability for the analyses.

Descriptive Statistics and Normality Distribution

The arithmetic mean, standard deviation, skewness, and kurtosis values of the scores obtained from the scales used in the study are presented in Table 4. The Kolmogorov-Smirnov test was applied to determine whether the data showed a normal distribution, and the result was found to be statistically significant ($p<0.05$). However, due to the excessive sensitivity of this test in large sample groups ($n>200$), the Skewness and Kurtosis coefficients were used as the basis for the normality assumption.

Upon examining Table 4, it is observed that the skewness and kurtosis values of the participants' scale scores fall within the ±3 range. The literature indicates that this value range (Alpar, 2020) is acceptable for the assumption of normal distribution. Furthermore, when examining the histogram graphs, it was observed that the data were distributed close to normal, and parametric analysis methods (t-test, ANOVA, Pearson Correlation) were used in the hypothesis tests.

Quantitative Results

Validity and Reliability of the Measurement Model

The construct validity of the scales used in the study was examined using Confirmatory Factor Analysis (CFA), while reliability was examined using Cronbach's Alpha internal consistency coefficients.

Construct Validity (CFA Results)

In the CFA process, items with low item-total correlations and factor loadings below 0.30 that disrupted model fit (items from Leadership in Sport and Referee Self-Efficacy; 14 items from Coach Communication) were excluded from the analysis. The goodness-of-fit indices obtained after the necessary modifications are presented in Table 2.

Upon examining Table 5, it is observed that the calculated χ^2/df ratio is below 3 for all scales; CFI, GFI, and AGFI values are above 0.90, while RMSEA and SRMR values are below 0.08. Considering the acceptance limits in the literature (Meydan & Şeşen, 2011; Gürbüz & Şahin, 2018), it was determined that the measurement models fit the data well and that construct validity was confirmed.

Table 5
Fit index values for the measurement models of the scales.

Scales	χ^2/df	RMSE A	SRM R	CFI	NFI	NNF I (TLI)	GFI	AGF I	Resul t
Leadership in Sport	2.087	0.065	0.047	0.948	0.908	0.902	0.979	0.946	Good Fit
Referee Self- Efficacy	1.371	0.038	0.039	0.970	0.903	0.943	0.987	0.965	Good Fit
Coach Communicati on	2.140	0.067	0.050	0.943	0.900	0.918	0.956	0.921	Good Fit

Table 6
Reliability analysis results of the scales.

Scales	No. of Items	Cronbach's Alpha (α)
Sports Leadership Scale	6	0.641
Coach Communication Scale	9	0.773
Referee Self-Efficacy Scale	6	0.553

Reliability Analysis

The internal consistency levels of the scales were calculated using Cronbach's Alpha coefficient.

As seen in Table 6, the Leadership Scale in Sports (α=0.641), the Coach Communication Scale According to Athlete Perception (α=0.773) and the Referee Self-Efficacy Scale (α=0.553) are within reliable limits (Alpar, 2020).

Findings of the Mediating Effect (YEM Analysis)

The main hypothesis of the study, *"The mediating role of Coach Communication According to Athlete Perception (Mediating Variable) in the relationship between Leadership in Sport (Independent Variable) and Referee Self-Efficacy (Dependent Variable)",* was tested using Structural Equation Modelling (SEM). The model's fit indices are presented in Table 6, and the hypothesis test results are presented in Table 7, following the steps outlined by Baron & Kenny (1986) in testing the model.

When examining the fit indices of the established structural model (χ^2/df=3.90; CFI=0.96; RMSEA=0.07), it was observed that the model was consistent with the data and suitable for mediation analysis.

According to the analysis results in Table 8:

Direct Effect: The path analysis results revealed that coach leadership style significantly and negatively predicted referee self-efficacy (β = -0.476, p = 0.034). Conversely, leadership style had a strong positive effect on coach-athlete communication (β = 0.480, p < 0.001). Furthermore, coach-athlete communication positively predicted referee self-efficacy β = 0.318, p = 0.042). These findings confirm that while leadership style has a direct negative impact on referee interaction, this relationship is positively regulated through the partial mediating role of coach-athlete communication."

Mediating Effect: When the mediating variable (Communication) was added to the model, the effect of leadership on referee self-efficacy remained significant. However, leadership also increases communication positively (β=0.480); increased communication skills also positively affect referee self-efficacy (β=0.318).

Conclusion: The relationship between leadership and referee self-efficacy is partially mediated by "Coach Communication." This indicates that coach communication plays a partial mediation role.

Results and related to Qualitative Data

This section presents the findings of the qualitative analysis, which is the second stage of the mixed-methods design. The interviews with the participants were analysed using content analysis; the data obtained were categorised under three main headings: "Coach," "Athlete," and "Referee."

Results Related to Coach Opinions

Findings regarding coaches' perceptions of leadership, communication strategies, and crisis management approaches are presented in Table 9.

Leadership Perception and Decision-Making Processes

When examining how coaches define themselves, it was determined that the vast majority of participants (62.5%) saw themselves as "Liberal" (tolerant, affectionate) leaders, while others defined themselves as "Democratic" or "Authoritarian". Parallel to this perception of leadership, 62.5% of coaches stated that they guided with a "Positive Approach" during training and competition and acted in an "Athlete-Focused" manner in decision-making processes, valuing the opinions of athletes.

Table 7
Fit ındices of the structural model with mediating variable.

Model	χ^2/df	RMSEA	SRMR	CFI	NFI	GFI	Result
Structural Model	3.900	0.074	0.064	0.966	0.957	0.993	Acceptable

Table 8
Hypothesis test results regarding the mediating role (path analysis).

Hypothesis	Path	Standardised Beta (β)	p	Result
H1	Leadership → Referee Self- Efficacy (Direct Effect)	-0.476	0.034	Accept
H2	Leadership → Coach Communication	0.480	0.000***	Accept
H3	Coach Communication → Referee Self-Efficacy	0.318	0.042*	Accept

**p<0.05; **p<0.001*

Table 9

Themes, sub-themes, and frequency distributions related to coach opinions.

Categories / Questions	Main Themes	Sub-Themes	n	%
Definition of Leadership	Democratic	Democratic and Fair	2	25.0
(How would you describe yourself?)	Authoritarian	Authoritarian but open to innovation	1	12.5
	Liberal	Tolerant, Affectionate, Observant, Calm	5	62.5
Guidance Style	Positive Approach	Positive approach, Helpful, Friendly	5	62.5
(How do you guide?)	Motivational Approach	Establishing communication, Building self-confidence	3	37.5
Decision-Making Process	Athlete-Focused	Valuing Opinions, Listening	5	62.5
(Importance given to the athlete's opinion)	Coach-Focused	Priority of own decisions	3	37.5
Anger Management	Authoritarian Approach	Authority behaviour, Inhibition	2	25.0
(How do you manage aggression?)	Calm and Solution-Oriented	Remaining calm, referring to a specialist	6	75.0
Referee Communication	Positive/Negative Objection	Responding according to the decision	6	75.0
(Behaviour towards referee decisions)	Understanding behaviour	Preventing objections, being understanding	2	25.0
Impact of the Relationship	Positive Approach Effect	Motivational speech, Positive pressure	7	87.5
(The effect of the relationship on aggression)	Authoritarian Effect	Calming through establishing authority	1	12.5

Table 10

Themes, sub-themes, and frequency distributions related to athlete opinions.

Categories / Questions	Main Themes	Sub-Themes	n	%
Coach Perception	Forward-thinking/Authoritative	Disciplined, Experienced, Authoritarian	7	87.5
(What kind of leader is he/she?)	Democratic	Democratic leadership style	1	12.5
Satisfaction Level	Satisfaction with Leadership	Satisfaction due to balance	4	50
(Are you satisfied with leadership?)	Satisfaction with authoritarianism	Satisfaction due to discipline and ambition	3	37
	Neutral	Depends on the course of the competition	1	12.5
Decision-making perception	Athlete-Focused	Joint decision- making, valuing opinions	3	37.5
(Do you value their opinion?)	Coach-Focused	Implements their own decision	5	62.5
Anger Response	Calm and Solution-	Calming,	8	100.0
	Oriented	Constructive, Warning		
(How do you react in moments of anger?)				
Expectations Regarding the Referee	Neutral	No effect	1	12.5
(How do you interpret the referee's behaviour?)	Pressure on the referee	Desire to exert pressure	2	25.0
	Positive Dialogue with the Referee	Positive communication, Staying calm	5	62.5
Impact of the Relationship	Authoritarian Influence	Authoritarian behaviour and suppression	2	25.0
(Effect on anger)	Positive Influence	Calming, Encouraging responsibility	6	75

Table 11
Themes, sub-themes, and frequency distributions related to referee opinions.

Categories / Questions	Main Themes	Sub-Themes	n	%
Interaction with the Coach	Impact Based on Behaviour	Reacting to the other party's behaviour	1	12.5
(How would you describe the interaction?)	Healthy Dialogue	Polite, respectful, level- headed communication	7	87.5
Perception of the Coach's Attitude	Negative Reactions	Aggressive, tense behaviour	2	25.0
(What is their attitude towards you?)	Positive Reactions	Polite, Respectful, Trusting	6	75
Impact of Leadership Style	Positive Impact	Positive Reflection	1	12.5
(How does it affect your interaction with them?)	Neutral	Applying one's own rules	1	12.5
	Negative Impact	Exerting pressure, aggressive behaviour	6	75
Attitude Views	Neutral Approach	Avoiding Communication	1	12.5
(Attitude during the match)	Positive Approach	Being constructive, Staying calm	7	87.5
Anger Approach	Punitive Approach	Card application, Penal proceedings	3	37.5
(Your approach to aggression)	Lack of Emotional Control	Desire to win, succumbing to emotions	5	62.5
Overall Impact	Negative Behaviour	Being controlling, Inability to manage stress	5	62.5
(How does it affect you?)	Referee Positive Approach	Moderate communication, Fairness	3	37.5

Crisis Management and Referee Communication

When examining the approach to stressful situations that arise during competitions, it was found that 75% of coaches managed athletes' anger and aggressive behaviour with a "Calm and Solution-Oriented Approach". Coaches believe that the relationship they establish with athletes has an 87.5% "Positive Impact" (calming, motivating) on their levels of aggression. In contrast, regarding attitudes towards referees' decisions, 75% of coaches stated that they "objected positively or negatively," revealing that they took on a more active and sometimes confrontational role in their interactions with referees (Table 9).

Findings Related to Athlete Opinions

Findings regarding athletes' perceptions of their coaches' leadership, satisfaction levels, and expectations during crises are presented in Table 10.

Coach Perception and Satisfaction

A noteworthy finding in the athletes' views is that, contrary to coaches describing themselves as "liberal," 87.5% of athletes described their coaches as "forward-thinking, disciplined, and authoritative." However, this authoritarian perception did not create dissatisfaction; while 50% of athletes were generally satisfied with the leadership, 37.5% specifically stated that they were satisfied with this disciplined and authoritarian structure. In decision-making processes, 62.5% of athletes believe that the process is "Coach-Focused" and that the final say rests with the coach.

In-Match Communication and Attitude

The vast majority of referees (87.5%) stated that they tried to establish "healthy dialogue" (polite, respectful, level-headed) with coaches during matches. Similarly, 75% of referees stated that they received "Positive Responses" from coaches towards themselves. However, when asked about the impact of leadership style on the match, 75% of referees emphasised that coaches' authoritarian or aggressive leadership styles created "Negative Impact" by putting pressure on them.

Anger Management and Behavioural Effects

Referees stated that they generally responded with a "Positive Approach" (87.5%) to the attitudes of coaches and athletes during the match. However, in situations of anger and aggression, 62.5% of referees believe that coaches and athletes "Cannot Control Their Emotions" (desire to win, stress), while 37.5% resort to "Penalties" (showing cards, etc.) in such situations. In the overall assessment, 62.5% of referees stated that aggressive behaviour and pressure on the field had a "negative" effect on them (Table 11).

Discussion

This study examined perceptions of leadership, communication processes, and anger management strategies within the triangle of coaches, athletes, and referees. The findings reveal some differences between

coaches' perceptions of their own leadership styles and the perceptions of athletes and referees, but show that positive communication is recognised by all stakeholders as the most effective tool in crisis management.

Furthermore, recent studies highlight the critical role of psychological factors in officiating. Guillen & Feltz (2011) emphasized that support mechanisms and effective communication environments significantly influence referees' retention and performance. Similarly, Kural & Aydın (2023) found that referees' self-efficacy levels are directly linked to their decision-making capabilities under pressure, suggesting that negative interactions with coaches can undermine this self-belief. Regarding the mediation mechanism, Liu et al. (2025) recently demonstrated that the coach-athlete relationship serves as a vital chain mediator between leadership behaviors and performance outcomes, reinforcing our finding that relationship quality acts as a buffer in sports settings."

Coach Leadership Perception and Approach According to the research findings, coaches predominantly define themselves as "liberal," "democratic," and "positive" leaders. This approach, which emphasises tolerance and openness in communication, parallels the work of Bay & Akpınar (2017), who state that liberal leadership achieves the highest values in sports environments. Similarly, the positive and motivational attitude adopted by coaches when guiding athletes coincides with the positive effects of social support and positive feedback on athlete performance and psychological well-being, as emphasised in the literature by Bensiz (2016), Çepikkurt et al. (2012) and Kalkan & Sarı (2021).

Coaches' statements that they value athletes' opinions in decision-making processes (athlete- centred approach) are consistent with the democratic foundations of modern coaching. This aligns with the thesis stated in the studies by Orhan & Salman (2021) and Sevilmiş et al. (2021) that a participatory- e relationship supports the athlete's moral and psychological development. Furthermore, coaches adopting a "calm and solution-oriented" approach in situations of anger and aggression is consistent with the findings of Güvendi & Keskin (2020) that a supportive approach reduces aggression. Therefore, coaches present a constructive, participatory, and calming profile both theoretically and in their own statements.

Athlete Perception and Satisfaction Level One of the study's noteworthy findings is that, despite coaches defining themselves as "liberal," athletes largely perceive their coaches as "forward-thinking, disciplined, and authoritarian." This discrepancy between coach statements and athlete perceptions can be explained by the nature of team sports, which demand performance and order. Indeed, Chelladurai & Saleh (1980) state that the tendency to enforce authority and discipline is common in team sports and those athletes find this functional. In this study, athletes' satisfaction with authoritarian leadership is consistent with the finding by Türksoy & Şarkıcı (2003) that authoritarian leadership is considered a motivational and disciplinary factor.

A similar divergence is evident in decision-making processes. Although coaches state that they are athlete-focused, the majority of athletes believe that the process is "coach-focused." This result is consistent with the fact stated by Tabuk et al. (2022) that authority and control in the sports environment largely reside with the coach. However, athletes confirm their coaches' calming attitude during moments of anger. As stated by Demir et al. (2017) and Tolukan & Akyel (2019), the coach's calm attitude and the positive relationship they establish support athletes' emotion regulation skills and function as a protective factor that reduces aggression.

The Mediating Role of the Coach-Athlete Relationship (Discussion on Quantitative Findings) The quantitative findings of the study indicate that the coach's leadership style negatively and significantly predicts referee self-efficacy, meaning that dominant/authoritarian attitudes in leadership weaken the interaction with the referee. However, the most original finding of the study is that this negative relationship is mitigated by a "partial mediation" effect when coach- athlete communication is involved. The analysis results reveal that the strong communication established by the coach with the athlete acts as a buffer mechanism, positively supporting the interaction with the referee. This aligns with the thesis emphasised by Jowett & Ntoumanis (2004), which states that a quality coach-athlete relationship protects the athlete from external stress factors. Therefore, this study statistically proves that not only the " " leadership style but also the "quality of communication established" plays a key role in managing referee crises.

Referee Communication and Competition Management Referees, who are the third leg of the competition, stated that they generally communicate with coaches and athletes in a healthy and respectful

manner. This finding supports the view emphasised in the studies by Akgül & Mutlu (2021) and Öztürk et al. (2004) that effective communication increases problem solving and empathy. However, referees stated those coaches' leadership styles directly affect the competition atmosphere and that authoritarian/aggressive coaching attitudes, in particular, put pressure on them. This situation coincides with Yıldırım & Dinç's (2019) finding that authoritarian leadership can create tension in communication.

Competition stress and the desire to win sometimes cause both coaches and athletes to lose emotional control. Referees' interpretation of aggressive behaviour on the field as a "lack of emotional control" and their indication that this situation causes them stress is parallel to the findings of Gürpınar & Güven (2011) and Ekmekçi (2010). In contrast, athletes' defence of positive dialogue with referees and coaches' efforts to control their protests (at least partially) demonstrate that the constructive communication model proposed by Somoğlu et al. (2023) is effective on the field.

In conclusion, although coaches perceive themselves as more democratic and athletes perceive their coaches as more authoritarian, both groups and referees agree on the strategies of "positive communication" and "staying calm." Consistent with the literature, this study reveals that mutual respect, empathy, and controlled communication are the most effective tools for managing anger and aggression in sports environments. Consequently, the quantitative and qualitative findings of this study mutually reinforce each other. While the quantitative analysis revealed that leadership style negatively predicts referee interaction, the qualitative findings explained the underlying reason for this by highlighting the 'authoritarian' perception of athletes. However, the quantitative finding that communication plays a partial mediating role is strongly supported by the qualitative consensus among all stakeholders (coaches, athletes, and referees) that 'staying calm' and 'positive communication' are the most effective strategies for crisis management. Thus, the statistical buffering effect of communication is contextually validated by the participants' real-world experiences.

Limitations

While this study offers valuable insights, it has certain limitations. First, the sample is restricted to team sports and a specific region (Northeast Anatolia), which may limit generalizability. Second, the reliance on self-report scales introduces potential response bias. Finally, the reduction of scale items during Confirmatory Factor Analysis (CFA) to ensure model fit should be considered a methodological constraint when interpreting the depth of the constructs.

Conclusions

This study highlights that while coach leadership styles directly influence referee interactions, the quality of the coach-athlete relationship acts as a critical buffer mechanism. The most novel contribution of this research is the statistical demonstration of this "partial mediation" effect; showing that even under authoritarian leadership, strong coach-athlete communication can mitigate negative reactions towards referees.

Based on these findings, practical implications should move beyond general advice. Federations are recommended to implement "Referee-Coach Collaborative Workshops" prior to the season to foster mutual empathy and reduce on-field tension. Additionally, "Leadership Style Profiling" should be integrated into coaching seminars to help coaches recognize the discrepancy between their self-perception (liberal) and athletes' perception (authoritarian). Furthermore, communication-based intervention programs focusing on "staying calm" strategies should be mandatory for technical staff.

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Authors' Contribution

Study Design: MÖ, TH; Data Collection: MÖ, TH; Statistical Analysis: MÖ; Manuscript Preparation: MÖ, TH; Funds Collection: -

Ethical Approval

The study was approved by the Kafkas University Social and Human Sciences Scientific Research and Publication Ethics Committee (2024/60) and it was carried out in accordance with the Code of Ethics of the World Medical Association also known as a declaration of Helsinki.

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Conflict of Interest

The authors hereby declare that there was no conflict of interest in conducting this research.

References

Abakay, U., & Kuru, E. (2011). Comparison of communication levels of professional and amateur football players with their coaches. *Selçuk University Journal of Physical Education and Sport Science*, 13(1), 125-131.

Akgül, A., & Mutlu, T. O. (2021). Investigation of the effects of communication skills of basketball classification referees' on problem solving processes. *Spormetre the Journal of Physical Education and Sport Sciences*, 19(3), 81-95. doi: 10.33689/spormetre.866843

Alpar, R. (2020). *Spor, sağlık ve eğitim bilimlerinden örneklerle uygulamalı istatistik ve geçerlik-güvenirlik (6. Edition)*. Ankara: Detay Publishing. (In Turkish).

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *J Pers Soc Psychol*, 51(6), 1173. doi: 10.1037//0022-3514.51.6.1173

Bay, M., & Akpınar, S. (2017). Implementation on leadership styles and entrepreneurship features. *Journal of International Social Research*, 10(52), 655-666, doi: 10.17719/jisr.2017.1950

Bensiz, A. (2016). *Examination of the leadership characteristics of coaches according to the perceptions of the amateur football players* [Master's Thesis, Bartın University]. Turkish Databases of National Thesis Center of the Council of Higher Education.

Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., Demirel, F. (2017). *Bilimsel araştırma yöntemleri*. Ankara: Pegem Akademi Publishing. (In Turkish)

Sevilmiş, A., Şirin, E. F., & Ocak, U. (2021). Examination of attitudes of athletes to moral decision-making in terms of dimensions of sportspersonship orientation. Atatürk University Journal of Physical Education and Sport Sciences, 23(1), 1-13.

Chelladurai, P., & Saleh, S. D. (1980). Dimensions of leader behavior in sports: Development of a leadership scale. *J Sport Exerc Psychol*, 2(1), 34-45. doi.org/10.1123/jsp.2.1.34

Cranmer, G. A., & Myers, S. A. (2015). Sports teams as organizations: A structurational reconsideration of coaching interactions. *Communication & Sport*, 3(4), 450-476. doi.org/10.1177/2167479513520487

Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage Publications.

Cüceloğlu, D. (2006). *Yeniden insan insana*. İstanbul: Remzi Publishing. (In Turkish)

Çepikkurt, F., Kale, E. K., & Tiryaki, Ş. (2012). The relationship between perceived leader behaviors and motivational climate at the soccer teams. *CBU Journal of Physical Education and Sport Sciences*, 7(2), 19-25.

Demir, H., Sezan, T., Demirel, H., Yalçın, Y. G., & Altın, M. (2017). Anger expression styles of athletes. *Journal of Mehmet Akif Ersoy University Social Science Institute*, 9(19), 408-414. doi: 10.20875/makusobed.295361

Donuk, B. (2006). *Spor yönetiminde liderlik*. İstanbul: Ötüken Publishing. (In Turkish)

Ekmekçi, R. (2010). Coping style and source of stress among Turkish basketball referees. *Atatürk University Journal of Physical Education and Sport Sciences*, 9(2), 35-46.

Eygü, H. (2009). Sports psychology and research of referee psychology on referees in Turkish football [Master Thesis, Institute of Social Sciences, Atatürk University]. Turkish Databases of National Thesis Center of the Council of Higher Education.

Fraenkel, J. R., & Wallen, N. E. (2006). *How to design and evaluate research in education* (6th ed.). McGraw-Hill.

Grenberg, A. (2005). *Psychological skills for football referees*. (Unpublished Doctoral Dissertation).

Guillén, F., & Feltz, D. L. (2011). A conceptual model of referee efficacy. *Front Psychology,* 2, 25. doi: 10.3389/fpsyg.2011.00025

Gürbüz, S., & Şahin, F. (2018). *Sosyal bilimlerde araştırma yöntemleri: Felsefe, yöntem, analiz* (5th ed.). Ankara: Seçkin Publishing. (In Turkish)

Folkesson, P., Nyberg, C., Archer, T., & Norlander, T. (2002). Soccer referees' experience of threat and aggression: Effects of age, experience, and life orientation on outcome of coping strategy. *Aggressive Behavior*, 28(4), 257–340. doi: 10.1002/ab.90028.

Gürpınar, B., & Güven, Ö. (2011). Analysing the unsportsmanlike behaviors that football referees meet. *Spormetre Journal of Physical Education and Sport Sciences,* 22(3), 108-118. doi: 10.1501/Sporm_0000000194

Güvendi, B., & Keskin, B. (2020). Examination of competitive aggression and anger behaviors according to the perception of unethical behavior of athletes from their coaches. *Gaziantep University Journal of Sport Science*, 5(2), 134-145. doi: 10.31680/gaunjss.718565

Jowett, S. (2005). The coach-athlete partnership. *The Psychologist*, 18(7), 412-415.

Jowett, S., & Ntoumanis, N. (2004). The coach-athlete relationship questionnaire (CART-Q): Development and initial validation. *Scand J Med Sci Sports*, 14(4), 245-257. doi: 10.1111/j.1600-0838.2003.00338.x

Kalkan, T., & Sarı, İ. (2021). Coaching behaviors: theoretical approaches, coaches' effect on athletes and recommendations. *Journal of Exercise and Sport Sciences Research*, 1(1), 41-54.

Karaçam, A., & Pulur, A. (2017). The study of adaptation of referee self-efficacy scale (refs) into Turkish. *Physical Education and Sport Sciences Journal*, 11(1), 118-128.

Konter, E. (1996). *Sporda liderlik ve antrenörlük*. Ankara: Saray Tıp Publishing. (In Turkish)

Kural, S., & Aydın, F. (2023). Examining self-efficacy levels of football referees according to various variables. *Baltic Journal of Sport and Health Sciences*, 13(7), 12-19. doi: 10.29359/BJHPA.2021.Suppl.2.12

Lyle, J., & Cushion, C. (2016). *Sports coaching concepts: A framework for coaches' behaviour*. Routledge.

Mascarenhas, D. R. D., Collins, D., & Mortimer, P. (2005). Elite refereeing performance: Developing a model for sport science support. *The Sport Psychologist*, 19(4), 364–379. doi: 10.1123/tsp.19.4.364

Meydan, C. H., & Şeşen, H. (2011). *Yapısal eşitlik modellemesi AMOS uygulamaları*. Ankara: Detay Publishing. (In Turkish)

Orhan, S., & Salman, M. N. (2021). The relationship of the coach-athlete relationship with the moral decision-making attitudes and prosocial and antisocial behaviors in young football players. *Sportive Perspective: Journal of Sport and Education Sciences*, 8(3), 334-355.

Öztürk, F., Koparan, Ş., Haşıl, N., Efe, M., & Özkaya, G. (2004). Research on the empathy situations of the trainers and the referees. *Spormetre Journal of Physical Education and Sport Sciences*, 2(1), 19-25. doi: 10.1501/Sporm_0000000014

Somoğlu, M. B., Albayrak, A. Y., Taşkın, S., & Taşkın, S. (2023). The effect of athletes' injury concerns on aggression and angry levels. *Gümüşhane University Journal of Health Sciences*, 12(3), 1405-1414. doi: 10.37989/gumussagbil.1323938

Subaşı, M., & Okumuş, K. (2017). Case study as a research method. Atatürk University Social Sciences *Atatürk University Journal of the Institute of Social Sciences*, 21(2), 419-426.

Liu, R., Wang, S., & Li, J. (2025). How coach leadership behavior influences athletes' performance: the chain-mediated role of the coach-athlete relationship and psychological fatigue. *Front Psychol*, 15, 1500867. doi: 10.3389/fpsyg.2024.1500867

Tabuk, Ö. Ü., Tumsa, M., & Işık, B. (2022). The relationship of trust in the sports club and fixing a research on Kocaelispor Club. Journal of ROL Sports Sciences, 33(1), 45-55. doi: 10.29228/roljournal.57839

Tashakkori, A. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Sage.

Tolukan, E., & Akyel, Y. (2019). A research on the athlete-coach relationship and trait sport confidence in football. *Spormetre Journal of Physical Education and Sport Sciences*, 17(1), 103-112. doi: 10.33689/spormetre.529669

Toros, T., & Tiryaki, Ş. (2006). *Sporda liderlik ölçeği'nin futbolcuların antrenör davranışlarını algılaması versiyonunun geçerlik ve güvenirlik çalışması*. 9. International Sport Sciences Congress (3-5 Kasım, 2006), Muğla. (In Turkish)

Türksoy, A., & Şarkıcı, M. (2003). Sporcularda liderlik ve tatmin ilişkisi. *Spor Yönetimi Dergisi*, 1(2), 15-22. (In Turkish)

Wylleman, P. (2000). Interpersonal relationships in sport: Uncharted territory in sport psychology research. *International Journal of Sport Psychology*, 31(4), 555-572.

Yıldırım, A., & Dinç, Z. F. (2019). Examining the leadership styles of hockey coaches. *Inonu University Journal of Physical Education and Sport Sciences*, 6(2), 27-37.

Yukl, G. (1994). *Leadership in organizations* (3rd ed.). Prentice-Hall.