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A Model of the Influencing Factors of Organizational Citizenship Behavior among Chinese Football Referees and Its Empirical Test

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Article

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Abstract

Background

As the core agents safeguarding the fairness and integrity of football matches, referees face considerable officiating and public-opinion pressure with limited extrinsic rewards. Moreover, Chinese football referees serve part-time while simultaneously undertaking officiating, occupational, and family roles, rendering them highly susceptible to role conflict that may constrain the conversion of organizational support into positive psychological states. This study therefore investigated the mediating role of psychological capital (PsyCap) and the moderating role of role conflict in the POS–OCB relationship among Chinese football referees.

Methods

A questionnaire survey was conducted among 384 registered football referees in China, ranging from Level 3 to international level. Established scales measuring POS, OCB, PsyCap, and role conflict were adopted and adapted to the refereeing context. Hierarchical regression analysis was performed using SPSS 22.0, and confirmatory factor analysis (CFA) was conducted using AMOS 21.0. Mediation and moderation effects were tested using the PROCESS macro.

Results

POS was significantly and positively associated with OCB ($b = 0.732$, $p < 0.01$). PsyCap partially mediated the POS–OCB relationship: POS positively predicted PsyCap ($b = 0.693$, $p < 0.01$), PsyCap positively predicted OCB ($b = 0.526$, $p < 0.01$), and the direct effect of POS on OCB was attenuated when PsyCap was included in the model ($b = 0.388$, $p < 0.01$). Role conflict significantly moderated the POS–PsyCap pathway: the interaction term (POS × role conflict) was significant ($b = -0.004$, $p < 0.01$), indicating that the positive effect of POS on PsyCap was weaker under conditions of high role conflict.

Conclusions

POS facilitates OCB among football referees both directly and indirectly through the enhancement of PsyCap, while role conflict attenuates the beneficial effect of POS on PsyCap. These findings provide theoretical and practical insights into referees' extra-role behaviors and highlight the importance of organizational support, psychological resource development, and role conflict management in referee administration.

Background

Football is one of the most widely participated sports globally. Referees serve as the core agents responsible for ensuring strict adherence to match regulations [1], and they constitute a critical safeguard for the fairness and integrity of football matches, the quality of competition, and the viewing experience of spectators [2]. Football referees who are adequately prepared psychologically are better equipped to withstand various interfering factors and to make accurate and timely decisions [3]. As G. Kabakov noted in his work, to achieve officiating success, football referees must acquire the requisite skills and competencies, thereby establishing optimal psychophysiological readiness [4]. Psychological preparation should therefore constitute a core component of football referees' pre-match preparation system [5].

The development of football referees represents an integral aspect of national football development [6]. Chinese football referees are graded from the lowest to the highest as Level 3, Level 2, Level 1, national level, and international level. Level 3 and Level 2 referees are trained by municipal (district) football associations, Level 1 referees by provincial football associations, and national-level referees by the national football association. Each year, football associations at all levels organize the registration of referees at their respective levels. At present, all referees in China serve on a part-time basis.

Organizational citizenship behavior (OCB) among football referees safeguards the image of both the referee community and football associations. OCB refers to behaviors exhibited by organizational members that are not explicitly recognized within the formal compensation system and yet are beneficial to the organization [7]. In other words, OCB is neither prescribed by "formal role requirements" nor stipulated by "labor compensation contracts"; rather, it consists of a series of "informal cooperative behaviors" that can effectively enhance organizational performance [8] and contribute to organizational culture building [9] in aggregate. Williams et al. categorized OCB into two dimensions: OCB directed toward individuals (OCB-I) and OCB directed toward the organization (OCB-O) [10]. Podsakoff synthesized various perspectives on OCB and identified seven dimensions: helping behavior, sportsmanship, organizational loyalty, organizational compliance, individual initiative, civic virtue, and self-development [11]. Football referees' OCB plays a critical role in ensuring the fairness of football matches and the credibility of football associations at all levels as well as the referee community. This study takes football referees' OCB as the dependent variable and explores the mechanisms that influence it, with the aim of providing both practical and theoretical support for improving the quality of referee development in China.

Theoretical Background and Research Hypotheses

Perceived Organizational Support and Organizational Citizenship Behavior among Football Referees

Perceived organizational support (POS) refers to organizational members' perception of the extent to which the organization values their contributions, provides material security, recognizes their identity, respects them as individuals, and cares about their interests [12]. It encompasses, on the one hand, employees' perceptions of whether the organization values their contributions, and on the other hand, employees' perceptions of whether the organization cares about their well-being. Rhoades et al. found that POS positively influences members' voluntary compliance with ethical norms, provision of constructive suggestions, and identification with the organization. Savcheva argued that psychological skills constitute a class of self-regulatory skills that enable individuals to achieve high-level performance in sports contexts[13].

The influence of POS on individuals' OCB is a process. Organizational support often acts upon members' work-related beliefs; such beliefs, while shaping individuals' perception of organizational support, also play an important role in individuals' helping behaviors and civic virtue [14]. Furthermore, Davis et al. empirically demonstrated that when individuals perceive support from the organization, they reciprocate with greater work effort and loyalty [15]. In the sports domain, OCB enhances team cohesion and member satisfaction [16]. Eisenberger et al. confirmed a significant positive correlation between POS and OCB, and found that the ultimate effect of organizational support, leader support, and coworker support on behavioral intentions is influenced by personal ethics and prior helping behaviors, ultimately producing an enhancement of OCB [17].

Based on the above, this study posits that Chinese football referees' POS has a positive influence on their OCB, and proposes the following hypothesis:

Hypothesis 1

POS has a positive effect on OCB among football referees.

The Mediating Role of Psychological Capital in the POS–OCB Relationship

Psychological capital (PsyCap) is a concept introduced by management scholar Luthans, extending positive psychology into the fields of human resource management and organizational behavior [18]. It refers to a positive psychological state exhibited by individuals in the process of growth and development, representing a core psychological element that transcends human capital and social capital, and serving as a psychological resource that promotes personal growth and performance enhancement. PsyCap encompasses self-efficacy, optimism, hope, and resilience.

POS helps to alleviate individuals' negative emotions and enhances individual PsyCap. Negative feedback from the organization diminishes members' positive emotions and inhibits the enhancement of PsyCap, whereas positive psychological states can significantly influence members' work attitudes and promote behaviors beneficial to the organization [11]. POS provides employees with more resources, increasing their work motivation and willingness to exert effort toward behaviors beneficial to the organization, thereby improving work performance [19]. Concurrently, POS positively influences organizational members' psychological cognition, thereby altering their work attitudes and leading to more work behaviors beneficial to the organization.

Drawing on the above theoretical foundations, this study proposes the following hypotheses:

Hypothesis

a: POS has a positive effect on PsyCap among football referees.

Hypothesis

b: PsyCap has a positive effect on OCB among football referees.

Hypothesis

c: PsyCap mediates the relationship between POS and OCB among football referees.

The Moderating Role of Role Conflict among Football Referees

Kahn et al. [20] defined role conflict as follows: when an individual enacts different "roles" and faces divergent role norms, two or more types of pressure may arise simultaneously, such that compliance with one pressure renders compliance with another more difficult. In other words, it is difficult for an individual in society to fully reconcile two or more role demands and expectations, leading to a sense of psychological contradiction. Sellers et al. [21] argued that the precondition for role conflict is the individual's perception of undertaking two or more roles — that is, being in a state of role separation; when the expectations of one role are unmet, role conflict occurs, whereas the alternative situation constitutes role overload. Regardless of whether it is role conflict, role overload, or role interference, all exert negative effects on an individual's psychological health and well-being.

The majority of Chinese football referees serve on a part-time basis and simultaneously hold multiple roles, such as university or school physical education teachers, corporate employees, private business owners, and students. Due to the demands of different work and life roles, referees experience a certain degree of work–role conflict or work–family conflict. Among the reasons cited by referees for resignation, work–family conflict and lack of administrative support are two of the most prominent [22]. Referees must not only balance their primary occupations with refereeing duties, but also face the challenge of being unable to participate in both family activities and football matches simultaneously. These conflicts and difficulties may subject them to dual physical and psychological strain, such as being unable to concentrate on officiating or being unable to invest time in training sessions and activities organized by football associations.

Based on the above analysis, this study proposes the following hypothesis:

Hypothesis 3

Role conflict moderates the relationship between POS and PsyCap among football referees.

In summary, this study investigates the mechanism through which POS influences OCB among football referees, as well as the roles of PsyCap and role conflict. The theoretical framework model is presented in Fig. 1.

Methods

Participants

A questionnaire survey method was adopted. In accordance with the requirements of the empirical study, questionnaires were administered to football referees registered with football associations at all levels, including Level 3, Level 2, Level 1, national level, and international level. After excluding two questionnaires with missing information, a total of 384 valid questionnaires were retained, yielding an effective response rate of 99%, which meets the requirements for questionnaire recovery. Among the participants, approximately 82% of the football referees were from Shanghai, and the remaining approximately 18% were from 22 other cities, including Beijing, Guangzhou, Wuhan, Hangzhou, Xi'an, and Hefei.

Data Analysis

Hierarchical regression analysis was employed. Building on a substantial body of survey data from football referees, mathematical statistical methods were used to establish the functional expressions of regression relationships between dependent and independent variables. Given that the causal relationships in this study involve one dependent variable and more than two independent variables, multiple regression analysis was adopted. Simultaneously, hierarchical regression analysis was conducted on the survey data, entailing comparisons among multiple regression models.

Measures

All questionnaires in this study used a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). All scales were established, validated instruments that were adapted based on expert guidance from the football and football refereeing domains. Details are as follows:

(1)Perceived Organizational Support. The POS scale was adapted from Ling Wenquan et al.'s "Perceived Organizational Support" scale [23] and revised to fit the present research context. The scale comprised two dimensions with a total of 39 items. Cronbach's α for this scale in the present study was 0.87, indicating high reliability.

(2)Organizational Citizenship Behavior. The Chinese OCB scale developed by Farh et al. [24] was adopted. The original scale used a 7-point Likert format; for the purposes of this study, it was adjusted to a 5-point Likert format while retaining the original items. Cronbach's α for the full scale was 0.81, indicating high reliability.

(3)Psychological Capital. The Psychological Capital Questionnaire (PCQ) developed by Luthans et al. [25] was adapted to fit the present research context. The scale comprised 24 items. Cronbach's Alpha was 0.84, indicating high reliability.

(4)Role Conflict.The measurement of role conflict drew upon the Work–Family Conflict Scale developed by Carlson, Kacmar, and Williams [26]. Taking into account the part-time occupational characteristics of football referees, items addressing conflicts between primary occupation and refereeing duties were added, resulting in 20 items across two dimensions. An example item is: "My refereeing schedule makes it difficult for me to fulfill my primary job/academic requirements"; and "The pressure from my primary job/academic studies affects my ability to perform in refereeing tasks." Cronbach's α for the full scale was 0.84, indicating high reliability.

(5)Control Variables. Following independent-samples t-tests and one-way ANOVA between personal characteristic variables and mean values, five factors—gender, age, educational attainment, referee level, and occupational background —showed significant differences. Accordingly, these five variables were included as control variables in this study.

Results

Common Method Bias Test

As all questionnaire data were collected through self-report by football referees, the potential for common method bias existed.This study employed Harman's single-factor test to examine common method bias, using SPSS 22.0 for exploratory

factor analysis. In the unrotated factor solution, the first factor explained 34.29% of the variance, which is below the 40% threshold. Thus, common method bias was not a serious concern in this study.

Confirmatory Factor Analysis

AMOS 21.0 was used to conduct confirmatory factor analysis (CFA) on the core variables to test the discriminant validity among the four constructs: POS, PsyCap, role conflict, and OCB. The following models were compared: a four-factor model (POS, PsyCap, role conflict, OCB); a three-factor model (POS + PsyCap, role conflict, OCB); a two-factor model (POS + PsyCap + role conflict, OCB); and a single-factor model (POS + PsyCap + role conflict + OCB).

As shown in Table 1, the four-factor model yielded $\chi^2/df = 3.15$ (< 5, acceptable fit), RMSEA = 0.05 (< 0.08, acceptable fit), CFI = 0.92 (> 0.90, good fit), and IFI = 0.91 (> 0.90, good fit). The four-factor model demonstrated satisfactory fit indices and outperformed all alternative models, indicating good discriminant validity among the core variables.

Table 1
Confirmatory Factor Analysis Results

Model	χ2	df	χ2 /df	CFI	IFI	RMSEA
Four-factor model	9805.95	3113.00	3.15	0.92	0.91	0.05
Three-factor model	20122.90	3115.00	6.46	0.56	0.56	0.07
Two-factor model	22752.09	3121.00	7.29	0.47	0.47	0.08
Single-factor model	26139.51	3123.00	8.37	0.38	0.38	0.09

Note. Four-factor model: POS, PsyCap, role conflict, OCB; Three-factor model: POS + PsyCap, role conflict, OCB; Two-factor model: POS + PsyCap + role conflict, OCB; Single-factor model: POS + PsyCap + role conflict + OCB.

Descriptive Statistics and Correlations

Correlation analyses (see Table 2) revealed that gender ($r = -0.100$, $p < 0.05$) and age group ($r = -0.126$, $p < 0.05$) were negatively correlated with OCB. Past experience as a football player was positively correlated with OCB ($r = 0.106$, $p < 0.05$). Referee level ($r = 0.168$, $p < 0.01$), POS ($r = 0.807$, $p < 0.01$), and PsyCap ($r = 0.822$, $p < 0.01$) were significantly and positively correlated with OCB. Role conflict ($r = -0.502$, $p < 0.01$) was significantly and negatively correlated with PsyCap. All these antecedent variables demonstrated statistical significance.

Table 2
Pearson Bivariate Correlation Matrix (N = 384)

Variable	M	SD	1	2	3	4	5	6	7	8	9
Gender	1.23	0.424	—								
Age group	2.48	1.500	-0.008	—							
Education	3.11	0.533	0.155**	-0.276**	—						
Former player	1.88	0.328	0.132**	-0.141**	0.209**	—					
Referee level	2.24	1.311	-0.256**	-0.020	-0.078	0.038	—				
POS	3.02	1.056	-0.033	-0.088	0.034	0.067	0.052	—			
PsyCap	3.53	0.875	-0.035	-0.085	-0.022	0.118*	0.107*	0.797**	—		
Role conflict	2.59	1.223	-0.042	0.005	0.047	-0.079	0.097	-0.043	-0.267**	—	
OCB	3.02	0.975	-0.100*	-0.126*	0.014	0.106*	0.168**	0.807**	0.822**	-0.502**	—

Note.*p < 0.05, **p < 0.01.

Hypothesis Testing

Main Effects and Mediation Effects

The PROCESS macro in SPSS 22.0 was used for hierarchical regression analysis. OCB was entered as the dependent variable, POS as the independent variable, PsyCap as the mediator, and gender, age group, educational attainment, past experience as a football player, and referee level as control variables. Results are presented in Table 3.

Hypothesis 1

test: In Model 2, POS was significantly and positively associated with OCB (b = 0.732, p < 0.01). Thus, Hypothesis 1 was supported: POS has a positive effect on OCB among football referees. When referees perceive that the referees' committee or football association provides work-related support, material security, organizational recognition, personal respect, and concern for their interests, they exhibit higher levels of OCB.

Hypothesis

a test: Model 1 showed that POS was significantly and positively associated with PsyCap (b = 0.693, p < 0.01). Hypothesis 2a was thus supported: POS has a positive effect on PsyCap among football referees. When referees perceive that the organization values their contributions and cares about their welfare, they develop a more positive mindset toward refereeing work and learning, thereby promoting personal growth and performance enhancement — that is, they possess higher PsyCap.

Hypothesis

b test: In Model 2b, PsyCap was significantly and positively associated with OCB (b = 0.526, p < 0.01). Hypothesis 2b was supported: PsyCap has a positive effect on OCB among football referees. Referees who are more positive in their work and exhibit higher qualities of self-efficacy, optimism, hope, and resilience demonstrate better OCB.

Hypothesis

c test: Comparison between Model 2 and Model 3 revealed that the positive effect of POS on OCB was attenuated (b = 0.388, p < 0.01), indicating that PsyCap played a partial mediating role. Thus, Hypothesis 2c was supported: PsyCap mediates the relationship between POS and OCB among football referees. Stronger POS enhances referees' PsyCap, which in turn indirectly enhances their OCB.

Table 3
Regression Analysis of Mediation Effects

Variable	Organizational Citizenship Behavior of Football Referees		
	Model 1	Model 2	Model 3
Gender	-0.141	-0.086	-0.107
Age group	-0.084	-0.045	-0.034
Education	0.066	0.047	0.038
Former player	0.102	0.053	0.019
Referee level	0.113	0.082	0.061
POS		0.732***	0.388***
PsyCap			0.526***
R2	0.049	0.673	0.752
ΔR2		0.668***	0.748***
Note. *p < 0.05, **p < 0.01, ***p < 0.001. The same applies below.			

Moderation Effects

Hypothesis 3

test: The PROCESS macro in SPSS 22.0 was used for hierarchical regression to test the moderation effect. Gender, age group, educational attainment, past experience as a football player, and referee level were entered as control variables; PsyCap was entered as the dependent variable; POS as the independent variable; role conflict as the moderator; and the interaction term POS × role conflict was included. Results are shown in Table 4.

In Model 2, with PsyCap as the dependent variable, the interaction term POS × role conflict was significant (b = − 0.004, p < 0.01). Hypothesis 3 was thus supported. As shown in Fig. 2, the slope of the regression of PsyCap on POS was steeper under conditions of low role conflict than under high role conflict, indicating a stronger positive effect. High levels of work–family conflict and role conflict between refereeing duties and other roles (e.g., student, teacher) attenuated the enhancing effect of POS on PsyCap.

Table 4
Regression Analysis of Moderation Effects

Variable	Psychological Capital of Football Referees		
	Model 1	Model 2	Model 3
Gender	-0.009	-0.055	-0.004
Age group	-0.055	-0.022	-0.012
Education	0.065	0.013	0.011
Former player	0.145	0.076	0.013
Referee level	0.167	0.022	0.003
POS		0.672***	-0.054***
Role conflict		-0.215***	-0.385***
POS × Role conflict			-0.004***
R2	0.045	0.734	0.954
ΔR2		0.729***	0.954***

Discussion

This study took Chinese football referees as the research population, constructed a theoretical model centered on the relationships among POS, PsyCap, role conflict, and OCB, and empirically tested the corresponding hypotheses. The results showed that POS significantly and positively predicted referees' OCB, supporting Hypothesis 1; POS significantly and positively influenced PsyCap, PsyCap significantly and positively influenced OCB, and PsyCap mediated the POS–OCB relationship, supporting Hypotheses 2a, 2b, and 2c; furthermore, role conflict significantly moderated the POS–PsyCap relationship, supporting Hypothesis 3. These findings not only validated the research hypotheses but also further elucidated the formation mechanisms and boundary conditions of OCB among football referees.

The Positive Effect of POS on OCB among Football Referees

The results demonstrated that POS significantly and positively influenced OCB among football referees, a finding consistent with prior research and further supporting the applicability of social exchange theory to this population. POS essentially reflects an individual's overall assessment of whether the organization values their contributions, cares about their welfare, and accords them respect and recognition. When the organization conveys positive support signals to referees — through officiating assignments, professional training, career advancement, rights protection, emotional care, and social recognition — referees are more likely to develop positive evaluations of and emotional attachment to the organization, thereby generating an intrinsic motivation to reciprocate.

This finding carries substantial practical explanatory power given the occupational characteristics of football referees. Unlike typical corporate employees, football referees — particularly Chinese football referees — generally face considerable officiating pressure, public opinion pressure, and multiple role pressures. Their work is often accompanied by high-intensity on-field decision-making, high-visibility public evaluation, and limited extrinsic rewards. Consequently, organizational support for referees signifies not only material and institutional assistance but also professional dignity, identity recognition, and emotional belonging. When referees perceive that the organization provides necessary resources at work, offers appropriate safeguards in daily life, demonstrates fairness and justice in evaluations, and extends understanding and respect on an emotional level, they are more likely to transcend formal job requirements and exhibit more behaviors conducive to the overall functioning and development of the organization — such as proactively attending training sessions, actively

cooperating with match organization arrangements, assisting younger referees in their development, safeguarding the image of the referee corps, and offering constructive suggestions for organizational development.

This finding aligns with Eisenberger et al.'s conclusion of a significant positive correlation between POS and OCB, and corroborates the theoretical assertion that "POS influences OCB as a dynamic process." That is, organizational support is not directly and mechanically translated into citizenship behaviors; rather, it operates by strengthening referees' trust in, identification with, and sense of responsibility toward the organization, thereby eliciting voluntary, altruistic, and constructive behaviors. OCB in sports settings further influences behavioral performance [27]. Thus, this study not only verified the direct facilitating effect of POS on OCB, but also demonstrated that within the distinctive occupational group of football referees, organizational support remains an important antecedent variable for stimulating individuals' positive behaviors.

The Mediating Role of PsyCap in the POS–OCB Relationship

This study further found that POS significantly and positively predicted PsyCap, PsyCap significantly and positively predicted OCB, and PsyCap played a mediating role in the POS–OCB relationship. These results indicate that POS not only directly promotes referees' OCB but also indirectly fosters more organizationally beneficial behaviors through the enhancement of positive psychological resources. Accordingly, Hypotheses 2a, 2b, and 2c were all supported.

First, the positive effect of POS on PsyCap suggests that the supportive resources provided by the organization constitute an important external source of referees' positive psychological states. Consistent with positive organizational behavior theory, PsyCap is a developable and enhanceable positive psychological resource encompassing self-efficacy, hope, optimism, and resilience. For football referees, organizational recognition, trust, care, and resource support can effectively alleviate uncertainty, tension, and feelings of isolation during officiating, thereby enhancing their confidence and sense of control when facing complex officiating situations. For example, when dealing with controversial match decisions, external public opinion criticism, intensive match assignments, or career advancement pressures, referees who perceive that the organization stands behind them — providing institutional safeguards, professional guidance, and emotional support — are more likely to develop positive psychological cognitions such as "I am capable of handling this," "difficulties can be overcome," and "the future is promising." [28] In this way, POS further enhances referees' self-efficacy, hope, optimism, and psychological resilience.

Second, the positive effect of PsyCap on OCB indicates that positive psychological resources serve as an important internal driver for referees' extra-role behaviors. Referees with higher PsyCap generally possess greater professional confidence, stress tolerance, and goal persistence; they are more willing to invest time and energy beyond formal duties and are better able to maintain stable, positive, and cooperative behavioral performance under high-pressure conditions. Specifically, such referees are more likely to voluntarily undertake additional tasks when needed by the organization, maintain a constructive attitude when facing work difficulties and interpersonal friction, and exhibit more helping, cooperative, and responsible behaviors in team interactions. Thus, PsyCap not only influences referees' cognition and attitudes toward work but also translates into practical behaviors beneficial to the organization and team functioning.

More importantly, this study verified the mediating role of PsyCap. This implies that POS does not influence OCB solely through external incentive mechanisms; rather, it operates to a substantial degree through shaping referees' positive psychological states. In other words, organizational support provides referees with external resources, whereas PsyCap embodies the outcome of individuals' absorption, internalization, and transformation of these resources. Only when external support is genuinely transformed into referees' confidence, hope, resilience, and optimism will OCB be manifested more consistently and sustainably. This finding deepens understanding of the POS–OCB relationship and suggests that research on football referee behavior should not remain confined to institutional or environmental explanations; the role of individual internal positive psychological mechanisms should also be considered.

The Moderating Role of Role Conflict in the POS–PsyCap Relationship

This study also found that role conflict significantly moderated the relationship between POS and PsyCap, indicating that the enhancing effect of POS on PsyCap varies as a function of referees' level of role conflict. This result supports Hypothesis 3 and further reveals the context-dependence of the POS mechanism.

This finding is highly congruent with the occupational realities of football referees. The majority of Chinese football referees serve on a part-time basis, typically simultaneously assuming primary occupational roles, family roles, and refereeing roles. For instance, a referee may concurrently be a school teacher, corporate employee, or self-employed individual while also needing to take on responsibilities including pre-match preparation, travel for off-site officiating, rule study, training participation, and post-match debriefing. Under conditions of multiple role occupancy, the temporal demands, behavioral norms, responsibilities, and performance expectations of different roles are often inconsistent, readily giving rise to work–work conflict or work–family conflict. When referees must continuously switch between primary occupation, family life, and officiating tasks, their cognitive resources, emotional resources, and physical resources are persistently depleted, and this resource depletion attenuates the extent to which organizational support is converted into positive PsyCap.

Theoretically, role conflict can be understood as a prototypical stressor or resource depletion factor. When role conflict is low, referees enjoy relatively stable role boundaries and higher resource integration capacity; under such conditions, organizational support is more readily perceived, accepted, and internalized, and more effectively converted into higher levels of self-efficacy, hope, optimism, and resilience. Conversely, when role conflict is high, even if the organization provides support, referees may — due to insufficient time, divided attention, psychological fatigue, or family responsibility conflicts — be unable to fully absorb and utilize these supportive resources, thereby weakening the enhancing effect of POS on PsyCap. In other words, role conflict impedes, to a certain extent, the transformation process from "external support" to "internal psychological resources."

This finding carries important implications. First, it indicates that organizational support does not exert a uniform effect across all contexts; the magnitude of its effect is constrained by the role environment in which the individual is situated. Second, it suggests that when analyzing football referees' positive behaviors, researchers should simultaneously consider both "resource provision" and "resource depletion" dimensions. Organizational support alone is insufficient to guarantee referees' development of high-level PsyCap; if referees persistently experience severe role conflict, the positive effect of organizational support may be markedly attenuated. Therefore, role conflict is not only a pervasive and significant practical issue within the football referee population but also an important boundary condition influencing their psychological states and behavioral performance.

Theoretical Implications

The theoretical contributions of this study are mainly reflected in the following aspects. First, this study integrated POS, PsyCap, role conflict, and OCB into a unified analytical framework, constructing and validating a mechanism model applicable to the football referee population. This extends the application of organizational behavior theories to the domain of sports officiating. Existing research on OCB has predominantly focused on employees in corporate, educational, or public sector settings, whereas studies targeting football referees — a group characterized by high pressure, strong professional demands, and multiple role occupancy — remain relatively scarce. This study goes some way toward filling this gap.

Second, this study elucidated the mediating role of PsyCap in the POS–OCB relationship, further addressing the question of "why POS can promote OCB." In contrast to research focusing solely on direct effects, this study explains, from the perspective of individual positive psychological resources, how the external organizational environment influences behavioral outcomes, thereby deepening theoretical understanding of the pathways through which POS exerts its effects.

Third, this study introduced role conflict as a moderating variable, revealing significant contextual variation in the effect of POS on PsyCap. This finding indicates that the behavioral generation mechanism among football referees is not a simple linear process, but rather a complex process influenced by the role structure and stress environment in which the individual is embedded. This result not only enriches the analysis of boundary conditions in related research but also provides a

theoretical basis for the subsequent construction of moderated mediation models that better correspond to the realities of sports organizational contexts.

Practical Implications

The findings of this study also offer several practical implications for the management and development of football referees.

First, POS among referees should be systematically enhanced. As Paul A. Potrac et al. [29] have argued, governing bodies should pay attention to referees at the grassroots level of football and provide socio-emotional support. The referee support system needs to be strengthened at both local and national levels [30]. Football administrative bodies and referee management organizations should approach POS enhancement from multiple dimensions, including institutional support, resource provision, and emotional care, so as to increase referees' perception of organizational concern and recognition. For example, a more transparent and fair appointment system and evaluation mechanism should be established; the system for safeguarding referees' rights and interests should be improved; officiating subsidies, career advancement pathways, and training and development programs should be optimized; and timely professional feedback and psychological support should be provided following highly controversial decisions. Only when referees genuinely feel the organization's respect, recognition, and protection are they more likely to develop higher levels of organizational identification and exhibit more OCB.

Second, attention should be devoted to the development and cultivation of referees' PsyCap. Given that PsyCap plays a key mediating role in the POS–OCB relationship, referee management practices should not remain limited to professional skill training but should also strengthen the development of positive psychological resources — by safeguarding football referees' professional rights and mental health, and thereby improving the quality of football competitions [31]. For instance, through psychological resilience training, stress management courses, emotion regulation counseling, experience-sharing mechanisms, and mentorship programs, referees can be helped to enhance self-efficacy, maintain professional hope, develop positive and optimistic explanatory styles, and strengthen their capacity to recover from setbacks. Enhancing PsyCap can further amplify the facilitating effect of organizational support on positive behaviors.

Third, measures should be taken to reduce referees' role conflict. Given that the majority of football referees serve on a part-time basis, role conflict is highly prevalent; therefore, organizations should pay greater attention to identifying and intervening in referees' multiple role pressures. Specifically, match scheduling should, to the extent possible, take into account referees' primary occupations and family responsibilities, and training and competition schedules should be reasonably optimized; communication with referees' workplaces and family support systems should be strengthened to secure greater external understanding and cooperation; and role conflict among referees should be reduced by clarifying role boundaries, reducing unnecessary administrative burdens, and improving communication efficiency. This will not only help alleviate their psychological burden but also facilitate the more effective conversion of organizational support into PsyCap.

Limitations and Future Directions

Although this study has yielded meaningful findings, several limitations should be acknowledged. First, as this study employed a cross-sectional design, causal inferences among the variables should be interpreted with caution. Future research could adopt longitudinal tracking designs or multi-wave data collection methods to more accurately elucidate the dynamic relationships among POS, PsyCap, role conflict, and OCB. Second, as the data were primarily derived from referees' self-report questionnaires, the potential for common method bias cannot be entirely excluded. Future studies could incorporate peer evaluations, supervisor ratings, or objective behavioral data to enhance the robustness of the findings. Third, this study focused on football referees; the generalizability of the conclusions to referees in other sports remains to be further examined. Additionally, future research could incorporate variables such as organizational justice, professional identity, work engagement, emotional exhaustion, and occupational stress to construct a more comprehensive explanatory model.

Conclusion

In summary, this study confirmed the positive effect of POS on OCB among football referees and further elucidated the mediating mechanism of PsyCap as well as the moderating role of role conflict. Specifically, POS not only directly promotes referees' OCB but also exerts an indirect effect through the enhancement of positive PsyCap, and this process is, in turn, influenced by the level of role conflict. Theoretically, this study deepens understanding of the formation mechanisms of positive behaviors among football referees; practically, it provides useful insights for optimizing referee management and support systems, strengthening psychological resource development, and alleviating multiple role pressures.

Declarations

Ethics approval and consent to participate

This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of Shanghai University of Sport (Approval No.102772025RT240). All participants were informed of the purpose and procedures of the study and provided informed consent before completing the questionnaire. The questionnaire was completed anonymously, and all data were processed and reported in aggregate form.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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Author Contribution

WH conceived the study, designed the research framework and the questionnaire, administered the questionnaire survey, curated and analysed the data, and was a major contributor in writing the manuscript; TRC co-designed the research framework, participated in the data collection and the statistical analyses, and revised the manuscript critically for important intellectual content; LC co-designed the research framework, supervised the data collection and the statistical analyses, provided critical revisions to the manuscript, and served as the corresponding author. All authors read and approved the final manuscript.

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Availability of data and materials

The de-identified dataset supporting the findings of this study — comprising the item-level responses of 384 registered Chinese football referees and the derived composite/standardized scale scores used in the analyses — is provided as Supplementary File S1.

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Figures

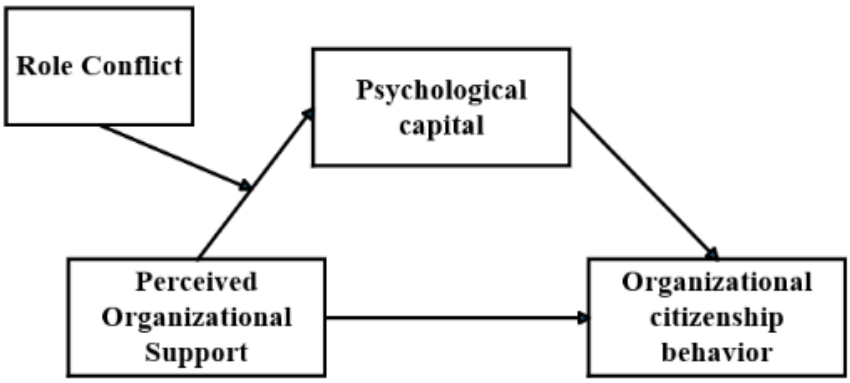


Figure 1

Research model.

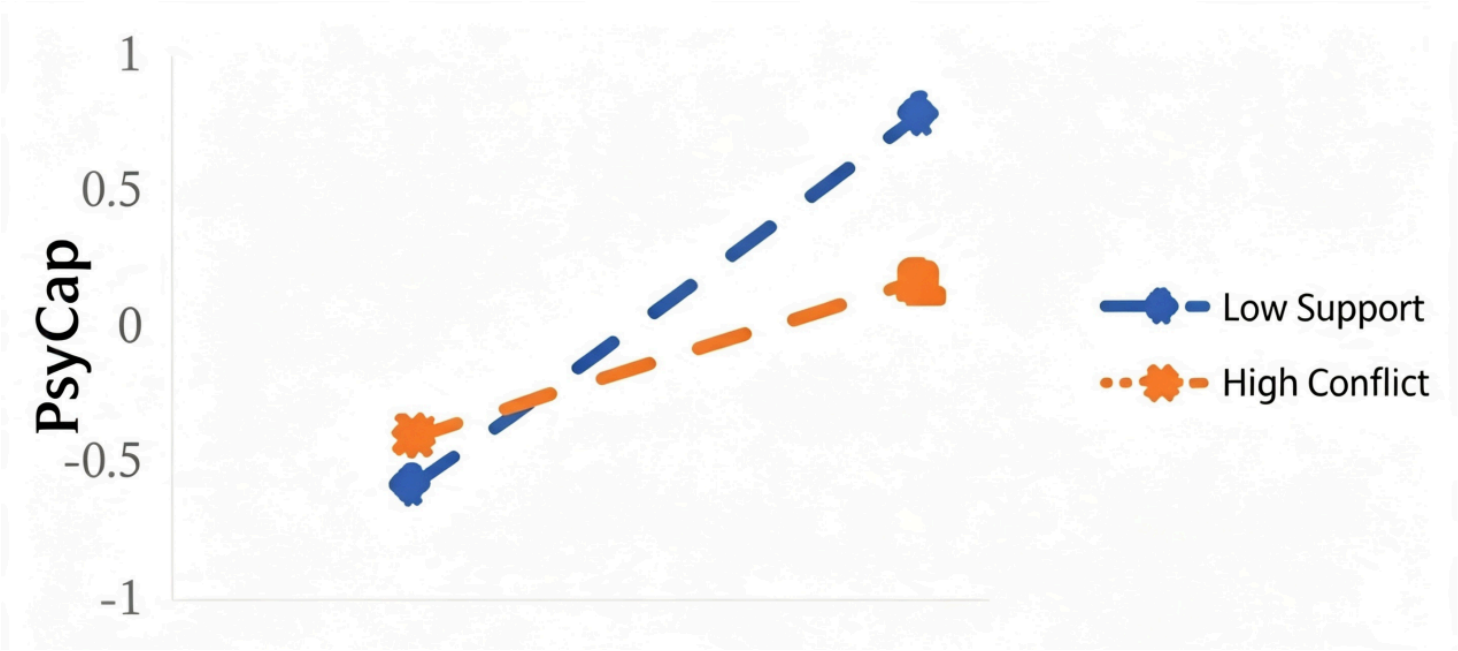


Figure 2

The moderating role of role conflict in the relationship between POS and PsyCap.

Supplementary Files

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- SurveyontheCurrentSituationofFootballRefereesWork.xls