ACTA GYMNICA, 2025, Volume 55, Article e2025.010
https://doi.org/10.5507/ag.2025.010

OPEN ACCESS

ORIGINAL RESEARCH

The role of coping strategies and psychological inflexibility in the mental health of soccer referees

Félix Arbinaga[1]✉, María-Isabel Mendoza-Sierra[2], Rafael Casillas-García[1], Jara Duran-Andrada[1], and Emilio Moreno-San-Pedro[1]

[1]Department of Clinical and Experimental Psychology, University of Huelva, Huelva, Spain; and [2]Department of Social, Development and Educational Psychology, University of Huelva, Huelva, Spain

Abstract

Background: Psychological inflexibility is considered a transdiagnostic etiological factor in the development and maintenance of psychological disorders and emotional difficulties. In turn, it can be stated that psychological health is directly related to behavioral efficiency in responding to situations faced on a daily basis. **Objective:** This study investigated whether psychological inflexibility and coping are related to psychopathological symptomatology in soccer referees. **Methods:** This cross-sectional study included 156 active referees (96.8% men), with 63.5% in amateur categories and 36.5% in semi-professional or professional categories. Psychopathological symptoms were assessed using the Symptom Assessment-45 Questionnaire, psychological inflexibility with the Acceptance and Action Questionnaire-II, and coping strategies with the Coping Inventory for Competitive Sport. **Results:** No significant differences were observed between amateur and semi-professional/professional referees in terms of mental health, coping strategies, or psychological inflexibility. High psychological inflexibility scores were associated with emotion-oriented coping ($p < .001$) but not with distraction ($p = .110$), or task-oriented coping ($p = .744$). Increased psychological inflexibility correlated with higher scores on psychopathological symptoms ($p < .001$). In regression models, task-oriented and distraction-oriented coping did not significantly contribute to the outcomes. Rather, psychological inflexibility ($p < .001$) and emotion-oriented coping ($p = .001$) were the strongest predictors of psychopathological symptoms. **Conclusions:** The study confirmed that psychological inflexibility is significantly related to mental health and with the choice of coping strategies, mainly emotion-oriented coping and distraction-oriented coping.

Keywords: coping, soccer referees, psychopathology, mental health, psychological flexibility

Introduction

Mental health in elite sports is an important issue (Poucher et al., 2021), as athletes face various challenges, pressures, and stressors (Gorczynski et al., 2017). In the context of refereeing, mental health problems are linked to various factors. Negative emotional symptoms in referees are associated with younger age, being single, reduced refereeing experience, injuries, and concerns about performance (Arbinaga et al., 2019; Carson et al., 2020; Lima et al., 2022). Moreover, female referees are at an increased risk for mental health problems when encountering abusive environments, including sexist and derogatory language (Webb et al., 2021).

Referees in amateur soccer face a different set of problems compared to professional referees. Higher rates of negative behavior towards referees are detected in amateur leagues (Webb et al., 2020), with concerns about being assaulted due to closer proximity to the public and the younger age of referees (Cuskelly & Hoye, 2013). Additionally, amateur referees have fewer resources available to perform their duties. Consequently, referees in lower leagues are more likely to suffer mental health problems than their higher-league counterparts (Lima et al., 2023).

Regarding the prevalence of mental health problems among referees, a study conducted across eight European countries revealed that 5.9% of referees exhibit symptoms of stress, 11.8% experience anxiety or depression, 9.1% have sleep disturbances, and 16.5% engage in harmful alcohol use (Kilic et al., 2018). Additionally, Gouttebarge et al. (2017) carried out a study involving 391 professional soccer referees from various European countries (mean age 33 years; mean career duration seven years), with 292 completing a follow-up period over one season. At baseline, the 4-week prevalence rates were 6% for stress, 12% for anxiety/depression, 9% for sleep disturbance, 19% for eating disorders, and 17% for harmful alcohol use. However, throughout the season, the incidence rates of these common mental disorder symptoms were 10% for stress, 16% for anxiety/depression, 14% for sleep disturbance, 29% for eating disorders, and 8% for harmful alcohol use. Moreover, a higher number of severe injuries (Arbinaga, 2025) and lower satisfaction with social support were significantly associated with the occurrence

✉ **Corresponding author:** Félix Arbinaga, e-mail felix.arbinaga@dpsi.uhu.es, ORCID® record https://orcid.org/0000-0001-6649-1904

Article history: Received September 28 2024, Accepted August 26 2025, Published September 8 2025

of common mental disorder symptoms, with odds ratios of 2.63 and 1.10, respectively (Kilic et al., 2018).

One way to address this health problem is by examining how individuals relate to an unpredictable and potentially stressful environment (Vela & Arbinaga, 2018). Building on the work of Lazarus and Folkman (1984), a three-dimensional coping model has been developed (Márquez, 2006). The first dimension, task-oriented coping (TOC), refers to actions taken to change or control some aspects of the situation. The second dimension, emotion-oriented coping (EOC), includes actions that change the meaning of a situation and regulate the emotional outcome. The third dimension, distraction-oriented coping (DOC), involves actions aimed at disengaging from the task and redirecting attention to non-relevant stimuli (Hudek-Knezevic et al., 1999).

According to the three-dimensional model, referees who fail to develop effective strategies may be more vulnerable to mental health problems (Cuskelly & Hoye, 2013). Indeed, functional coping behavior has a positive effect on mental health, as demonstrated in players, where it is associated with a 10% decrease in depressive symptoms (Kilic et al., 2021). Athletes with higher EOC and DOC scores tend to experience greater cognitive anxiety (Hammermeister & Burton, 2001; Ntoumanis & Biddle, 2000). Moreover, TOC predicts positive affect, while EOC predicts negative affect. The perceived efficacy of coping predicts positive affect and is inversely associated with negative affect (Ntoumanis & Biddle, 1998), while inadequate coping can intensify stress and negatively affect emotional states and performance (Márquez, 2006).

Conceptualizing coping as a contextual behavioral factor enables it to be linked to the construct of psychological flexibility. Psychological flexibility can be defined as the ability to act based on values and long-term goals, even in the presence of stress. This conceptualization is clinically relevant because operant behaviors are shaped by contextual factors, meaning they can be directly modified (Gentili et al., 2019).

In recent years, a construct that has been proposed to understand patterns of behavioral avoidance and persistence has been that of psychological flexibility (Chen et al., 2017; McCracken, 2013; Zhang et al., 2014). Psychological flexibility refers to the possibility of contacting private events occurring in the present, consciously and without setting up unnecessary defences. It is a way of accepting events as they are, not as one says they are. The decision is made to abandon or persist in an action that involves discomfort, but is in the service of the values that one identifies as one's own (Hayes et al., 2012). The psychological flexibility model promotes adaptive coping through various processes or skills (Hayes et al., 2012; Wicksell et al., 2010). The processes conducive to adaptive coping are: acceptance, cognitive defusion, present moment awareness, self-context, contact with one ' s values, and engaged action (Hayes et al., 2012; Wicksell et al., 2010).

In contrast, psychological inflexibility refers to a rigid dominance of certain unhelpful private events over effective actions, long-term goals, useful thoughts, and emotions (Bond et al., 2011). The behavioral pattern characterizing individuals with high psychological inflexibility is experiential avoidance, which becomes a generalized and rigid pattern, devoid of actions driven by what is meaningful to the individual (Hayes et al., 2012). Three key processes fundamentally characterize psychological inflexibility: cognitive fusion, experiential avoidance, and the conceptualized self, in which people define their identity through their thoughts (Hayes et al., 2012).

In psychopathology, psychological inflexibility is considered a transdiagnostic etiological factor in the development and maintenance of psychological disorders and emotional difficulties (Uğur et al., 2021). Psychological rigidity is associated with increased symptomatology related to distress, pain perception, anxiety, and depression (Arbinaga, 2025; Ruiz, 2010). Psychological inflexibility is often shown as a pattern of avoidance behaviors towards aversive stimuli and situations; it can be considered as an operant under contextual control (Hayes et al., 2012). His pattern of behavior is not associated with a decrease in distress or dysfunction (Trompetter et al., 2015); it can lead to the abandonment of the activity (Wicksell et al., 2010).

Regarding psychological inflexibility in the sport setting, it is indicated that athletes who show low psychological flexibility tend to manifest fewer effective behaviors and miss opportunities for optimal performance (Moore, 2009). Similarly, it is observed that psychological inflexibility can be associated with the presence of injuries (Arbinaga, 2025) and with higher scores in anxiety and depression (Chen et al., 2017; Zhang et al., 2014); confirming the difficult relationship between sport and health (Arbinaga & Cantón, 2013).

Following the classification by MacMahon and Plessner (2013), this study focuses on soccer referees, whose activities are characterized by high levels of interaction and heightened attention to multiple stimuli. Given the limited information available in the field of sports, and specifically in refereeing, the aim is to analyze the relationships between psychological inflexibility, coping strategies, and psychopathological symptomatology in soccer referees.. As a first hypothesis, it is predicted that amateur referees will exhibit higher levels of psychopathological symptoms compared to semi-professional and professional referees. As a second hypothesis, it is expected that greater psychological inflexibility will be positively associated with higher levels of psychopathological symptoms. The third hypothesis predicts that psychological inflexibility will be positively related to emotional and distracting coping strategies, and negatively related to task-oriented strategies. In the fourth hypothesis, it is expected that task-oriented coping strategies will be negatively related to psychopathological symptoms, while emotional and distracting strategies will show a positive relationship.

Methods

Participants

The inclusion criteria for this study were: (1) to be a soccer referee, (2) over 18 years of age, (3) to have been a member

of The Referees Committee of the Royal Spanish Soccer Federation for at least three years, (4) to be an active referee, and (5) to provide written informed consent.

The sample comprised 156 referees (151 men, accounting for 96.8% of the sample). Their mean age was 28.54 years (*SD* = 7.63). Regarding educational attainment, 65.4% reported having university degrees, 26.9% had completed secondary education studies, and 7.7% had basic education. On average, participants had been federation members for 9.15 years (*SD* = 5.48). Regarding referee categories, 63.5% officiated in amateur leagues, while 36.5% were involved in semi-professional or professional leagues.

Instruments

A custom questionnaire was developed to gather sociodemographic variables (age, sex, level of education), arbitration variables (years of federation membership, arbitration category).

Psychopathological symptoms were assessed using the Symptom Assessment-45 Questionnaire (SA-45, Davison et al., 1997, in the Spanish adaptation by Sandín et al., 2008), which is a 45-item self-report instrument derived from the Symptom Checklist (SCL-90; Derogatis & Cleary, 1977). Participants were asked to indicate how much each symptom had been present during the past week from 0 (*not at all*) to 4 (*extremely*). The questionnaire consists of nine scales with five items each, evaluating the dimensions of the SCL-90: somatisation, obsessive-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The reliability demonstrated in this study is Cronbach's α = .965.

The Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011, in its adaptation to Spanish by Ruiz et al., 2013) was used to assess psychological inflexibility. This instrument provides a general measure of psychological flexibility-inflexibility, consisting of a 7-item questionnaire concerned with how individuals relate to their private events and to what extent they perceive these events as an obstacle to leading the life they wish. Participants respond on a Likert-type scale from 1 (*never*) to 7 (*always*) to indicate the extent they believe the statements to be true. Low scores on the questionnaire indicate greater psychological flexibility, while high scores indicate greater inflexibility. The test used in this study has shown high internal consistency (Cronbach's α = .939). To determine the relationship between the level of flexibility and the rest of the variables, the participants were categorized according to tercile distributions of the total AAQ-II score (Roales-Nieto et al., 2016). Thus, three levels were established: high inflexibility (≥ 34 points), medium inflexibility (21–33 points), and low inflexibility (≤ 20 points).

To assess coping strategies, participants completed the Spanish version (Molinero et al., 2010) of the Coping Inventory for Competitive Sport (Gaudreau & Blondin, 2002). The Spanish version of the questionnaire has 31 items, which were scored based on a five-point scale ranging from 1 (*not at all*) to 5 (*very strongly*). The items are distributed over eight factors grouped into three second-order dimensions: TOC, EOC, and DOC. TOC included four factors: Logical analysis/Effort, Seeking support, Relaxation, and Mental Imagery/Thought control. EOC included the factors Resignation and Venting of unpleasant emotion. Finally, DOC incorporated the factors Mental distraction and Disengagement (Molinero et al., 2010). The reliability for the total score in this work is Cronbach's α = .898 (TOC: α = .908, EOC: α = .889, DOC: α = .899).

Procedure

This cross-sectional, anonymous, online study was conducted in accordance with the Declaration of Helsinki. All procedures were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and the Declaration of Helsinki of 1975, revised in 2013 and approved by the Andalusian Ethics Committee of Biomedical Research (Evaluation Committee of Huelva, act 05/24, date of approval May 14 2024, internal code SICEIA-2024-001020, study code 21071).

The Referees Committee of the Royal Spanish Soccer Federation was contacted, and all Territorial Committees were sent information on the study, requesting their collaboration by disseminating the address needed to access the online questionnaires among the active referees in the federation. In addition, data was collected in person at various training tests for referees organized by the territorial referees' committee. The participants accepted informed consent in order to complete the tests; in the online test, access was not allowed if the option to accept consent was not chosen.

Data analysis

An a priori power analysis was performed using G*Power-3 (Faul et al., 2007) to determine the minimum sample size necessary to test the study hypothesis. The analysis indicated that a sample size of N = 147 for Student's t-test for independent groups would provide 95% power to detect a mean effect, with a significance level of α = .05. The following was to carry out descriptive analyses (frequencies, percentages, means, and standard deviation) that were conducted to characterize the main research variables.

The normality of the variables was tested using the Kolmogorov-Smirnov test. The Mann-Whitney U test and the Kruskal-Wallis test were used to analyse variables that did not conform to normality. The effect size estimate in the Mann-Whitney U test was calculated using the formulation $r = Z\sqrt{N}$ (r < .099 is an insignificant effect size, r = .100–.299 a small effect size, r = .300–.499 a medium effect size, and r > .500 a large effect size).

The reliability of the tests was calculated using Cronbach's α. The comparison of quantitative variables was carried out using the Student's t-test for independent groups. The effect size was estimated using Cohen's d (d < 0.2 is a small effect size, d = 0.2–0.8 a medium effect size, and d > 0.8 a large effect size; Cohen, 1988).

In the case of quantitative variables with more than two categories, an analysis of variance was conducted, with Snedecor's F statistic and Bonferroni's post hoc tests. The effect size was calculated using eta-squared (η^2;

η^2 = .01–.06 is a small effect size, η^2 = .06–.14 a medium effect size, and $\eta^2 \geq .14$ a large effect size). In the case of categorical variables, the chi-square test (χ^2) was used. For categorical variables, Cramer's *V* was used to estimate the effect size (*V* < .2 is a small effect size; *V* = .2–.6 a moderate effect size, and *V* > .6 a large effect size). Associations between the variables were analyzed by Pearson and Spearman's Rho correlations, and Stepwise linear regression analysis was employed to determine the predictors of mental health. Analyses were conducted using IBM SPSS Statistics (Version 25.0; IBM, Armonk, NY, USA).

Results

Therefore, the obtained sample size of *N* = 156 is adequate for testing the study hypothesis. Of the total sample (*N* = 156), significant age differences were observed between amateur referees (*M* = 27.36 years, *SD* = 8.15) and semi-professional/professional referees (*M* = 30.58 years, *SD* = 6.193), *t*(154) = 2.580, *p* = .011, with a medium effect size (*d* = 0.45). Significant differences were also found in the federation membership duration between amateur referees (*M* = 7.77 years, *SD* = 4.825) and semi-professional/professional referees (*M* = 11.54 years, *SD* = 5.766), *t*(154) = 4.378, *p* < .001, with a medium effect size (*d* = 0.71).

The Kolmogorov-Smirnov test was conducted to assess the normality of the distribution of variables. It was found that psychological inflexibility (*Z* = 0.823, *p* = .058), task-oriented strategy (*Z* = 0.365, *p* = .054), emotion-oriented strategy (*Z* = 0.784, *p* = .570), and distraction-oriented strategy (*Z* = 0.936, *p* = .345) conform to a normal distribution. However, the tests for psychopathological symptoms and their subscales did not follow a normal distribution (SA-45: *Z* = 1.508, *p* = .021; Depression: *Z* = 1.894, *p* = .002; Hostility: *Z* = 2.548, *p* < .001; Interpersonal Sensitivity: *Z* = 2.117, *p* < .001; Somatization: *Z* = 1.424, *p* = .035; Anxiety: *Z* = 1.928, *p* = .001; Psychoticism: *Z* = 2.552, *p* < .001; Obsession-Compulsion: *Z* = 1.848, *p* = .002; Phobic Anxiety: *Z* = 3.706, *p* < .001; Paranoid Ideation: *Z* = 1.595, *p* = .012).

As shown in Table 1, there were no statistically significant differences in psychopathological symptomatology between amateur and semi-professional/professional referees, except for paranoid ideation, where amateurs scored higher, with a small effect size (*r* = –.175). Similarly, no significant differences were found in coping strategies or evaluations of psychological inflexibility.

However, significant differences were observed in the total psychopathological symptomatology scores and across all subscales (Table 2) linked to the participants' levels of psychological inflexibility. These differences among the groups were identified using the Kruskal-Wallis test, showing high statistical significance in all cases.

Significant differences were observed in the EOC strategy when grouping participants based on psychological inflexibility scores, with a medium effect size (η^2 = .10). The high inflexibility group differed significantly from both the low inflexibility (low < high, *p* < .001; medium < high, *p* = .032) and moderate inflexibility groups (low = medium, *p* = .120), with a medium effect size (η^2 = .10). However, no significant differences were found in the TOC (low = medium, *p* > .99; low = high, *p* > .99; medium = high, *p* > .99) or DOC strategies

Table 1 Symptom Assessment-45 Questionnaire (SA-45), Coping Inventory for Competitive Sport (ISCCS), and Acceptance and Action Questionnaire-II (AAQ-II) according to a referee category

Variable	Total (*N* = 156)	Amateur (*n* = 99, 63.5%)	Semiprofessional/Professional (*n* = 57, 36.5%)	Test statistic[a]	*p*
SA-45					
Total	33.71 (26.07)	35.13 (25.85)	31.25 (26.48)	–1.222	.222
Depression	4.46 (4.25)	4.78 (4.59)	3.89 (3.54)	–0.861	.389
Hostility	2.70 (3.12)	2.81 (3.24)	2.51 (2.93)	–0.528	.597
Interpersonal Sensitivity	4.06 (3.98)	4.33 (4.03)	3.60 (3.88)	–1.349	.177
Somatisation	4.33 (3.58)	4.35 (3.34)	4.30 (3.99)	–0.670	.503
Anxiety	3.94 (3.62)	3.96 (3.62)	3.91 (3.66)	–0.219	.827
Psychoticism	2.50 (2.85)	2.67 (2.95)	2.21 (2.66)	–1.159	.246
Obsession-Compulsion	5.47 (3.83)	5.72 (3.79)	5.04 (3.89)	–1.167	.243
Phobic Anxiety	1.47 (2.61)	1.27 (2.28)	1.81 (3.09)	–1.143	.253
Paranoid Ideation	4.78 (3.83)	5.24 (3.88)	3.98 (3.64)	–2.185	.029
ISCCS					
TOC	57.78 (12.99)	56.53 (12.77)	59.96 (13.19)	1.601	.111
EOC	32.78 (7.43)	32.72 (7.26)	32.88 (7.79)	0.129	.897
DOC	13.15 (4.63)	12.71 (4.67)	13.93 (4.48)	1.597	.112
AAQ-II					
Score	18.57 (9.00)	18.9 (9.37)	17.98 (8.37)	0.618	.538
Low PI category	97 (62.2)	61 (61.6)	36 (63.2)		
Medium PI category	48 (30.8)	31 (31.3)	17 (29.8)		
High PI category	11 (7.1)	7 (7.1)	4 (7.0)		

Note. TOC = task-oriented coping; EOC = emotion-oriented coping; DOC = distraction-oriented coping; PI = psychological inflexibility. Variables are presented as mean (standard deviation), except for AAQ-II categories where *n* (%) is used. [a]Man-Whitney *U* test Z(154) for the SA-45 scores and *t*(154) for the ISCCS and AAQ-II scores. For the AAQ-II categories, $\chi^2(2, 156) = 0.040$, *p* = .980.

Table 2 Coping Inventory for Competitive Sport (ISCCS) and Symptom Assessment-45 Questionnaire (SA-45) scores, according to the Acceptance and Action Questionnaire-II psychological inflexibility categories

	Low PI	Medium PI	High PI	Test statistic[a]	*p*
ISCCS					
TOC	57.41 (13.62)	58.90 (12.09)	56.18 (11.62)	0.297	.744
EOC	31.36 (7.27)	33.96 (6.99)	40.09 (5.80)	8.428	< .001
DOC	12.76 (4.61)	13.33 (4.60)	15.82 (4.38)	2.241	.110
SA-45					
Total	21.39 (15.64)	49.33 (22.09)	74.18 (37.97)	57.36	< .001
Depression	2.53 (2.49)	6.90 (3.76)	10.82 (6.66)	53.10	< .001
Hostility	1.66 (2.03)	3.98 (3.37)	6.27 (5.10)	25.53	< .001
Interpersonal Sensitivity	2.34 (2.35)	6.08 (3.79)	10.45 (5.63)	44.33	< .001
Somatisation	3.37 (3.07)	5.69 (3.19)	6.91 (5.89)	19.72	< .001
Anxiety	2.18 (2.11)	6.27 (3.18)	9.36 (4.93)	61.36	< .001
Psychoticism	1.42 (1.62)	3.81 (3.02)	6.27 (4.74)	36.32	< .001
Obsession-Compulsion	3.89 (2.85)	7.73 (3.54)	9.55 (4.82)	43.13	< .001
Phobic Anxiety	0.77 (1.39)	2.17 (3.15)	4.55 (4.76)	17.56	< .001
Paranoid Ideation	3.24 (2.77)	6.71 (3.53)	10.00 (5.00)	40.99	< .001

Note. PI = psychological inflexibility; TOC = task-oriented coping; EOC = emotion-oriented coping; DOC = distraction-oriented coping. Variables are presented as mean (standard deviation). [a]$F(2,155)$ for the ISCCS scores and Kruskal-Wallis $\chi^2(2)$ for the SA-45.

(low = medium, $p > .99$; medium = high, $p = .322$; low = high, $p = .114$), indicating no differences between the three inflexibility groups in these coping strategies; with a small effect size ($\eta^2 = .03$).

Table 3 presents the correlations among the variables. Notably, correlations between the subscales of psychopathological symptoms were excluded (highly significant correlations were observed across all pairs) as they were not relevant to the aims of this study. Significant correlations were observed between psychological inflexibility and all variables related to psychopathological symptomatology and coping, except for task-oriented coping strategies. EOC strategies demonstrated significant relationships with all mental health variables. DOC strategies showed significant associations with all subscales except for depression, where a residual significance was observed. In contrast, TOC strategies did not show significant correlations with psychological inflexibility or any of the mental health subscales.

After generating linear regression models (Table 4) with psychopathological symptomatology scores as the dependent variable and psychological inflexibility and coping strategies as predictors, four significant models emerged. In the first model, psychological inflexibility accounts for 51.2% of the variance, demonstrating a predictive power of $\beta = .716$ and a semi-partial correlation of .716. However, upon introducing the TOC strategy to the model, this variable was not significant.

The third model included the EOC strategy, accounting for 54.9% of the variance with a predictive power of $\beta = .268$ for psychopathological symptomatology (semi-partial correlation of .190). Including the EOC strategy enhances the negative predictive capacity of the TOC strategy ($\beta = -.138$), although this effect is marginally significant ($p = .060$). In the fourth model, including the DOC strategy does not significantly contribute to the explained variance (semipartial correlation of .038). However, the introduction of this variable further increases the negative predictive capacity of TOC to $\beta = -.143$, with greater significance than previous models.

Table 3 Bivariate correlation between scores on psychological inflexibility, coping and psychopathological symptoms

Variable	AAQ-II	ISCCS		
		TOC	EOC	DOC
AAQ-II	–			
ISCCS				
TOC	.03	–		
EOC	.32***	.64***	–	
DOC	.17*	.48***	.67***	–
SA-45				
Total	.73***	.07	.39***	.25**
Depression	.73***	.05	.31***	.19*
Hostility	.45***	.01	.30***	.22**
Interpersonal sensitivity	.65***	.10	.36***	.20*
Somatisation	.45***	.16	.29***	.22**
Anxiety	.73***	.06	.34***	.20*
Psychoticism	.60***	.09	.41***	.32***
Obsession-Compulsion	.62***	.04	.31***	.23**
Phobic anxiety	.40***	.01	.25***	.23**
Paranoid ideation	.60***	.09	.37***	.22**

Note. AAQ-II = Acceptance and Action Questionnaire-II; ISCCS = Coping Inventory for Competitive Sport; SA-45 = Symptom Assessment-45 Questionnaire; TOC = task-oriented coping; EOC = emotion-oriented coping; DOC = distraction-oriented coping. Pearson correlation was used for the AAQ-II and ISCCS, Spearman correlation for the SA-45. All correlations between the SA-45 subscales were removed as they are irrelevant to the objective, although they were all highly significant. *$p < .05$, **$p < .01$, ***$p < .001$.

Discussion

This study aimed to investigate the relationship between psychological inflexibility, coping strategies, and psychopathological symptomatology in soccer referees. Our first hypothesis proposed that amateur referees would show higher levels of psychopathological symptomatology compared to semi-professional/professional referees. However, the data do not support this hypothesis, as significant

Table 4 Linear regression analysis, taking psychopathological symptoms (SA-45) as the predicted variable and psychological inflexibility and copy as predictor variables

Model/Variable	β	*t*	*p*	R^2	ΔR^2	*p*	*F*	*p*
Model 1				.512	.512	< .001	$F(1, 155) = 161.5$	< .001
AAQ-II	.716	12.710	< .001					
Model 2				.513	.001	.578	$F(2, 155) = 80.6$	< .001
AAQ-II	.714	12.655	< .001					
ISCCS-TOC	.031	0.557	.578					
Model 3				.549	.036	.001	$F(3, 155) = 61.6$	< .001
AAQ-II	.635	10.764	< .001					
ISCCS-TOC	–.138	1.892	.060					
ISCCS-EOC	.268	3.483	.001					
Model 4				.550	.001	.485	$F(4, 155) = 46.2$	< .001
AAQ-II	.637	10.763	< .001					
ISCCS-TOC	–.143	1.939	.054					
ISCCS-EOC	.236	2.627	.009					
ISCCS-DOC	.052	0.700	.485					

Note. SA-45 = Symptom Assessment-45 Questionnaire; AAQ-II = Acceptance and Action Questionnaire-II; ISCCS = Coping Inventory for Competitive Sport; TOC = task-oriented coping; EOC = emotion-oriented coping; DOC = distraction-oriented coping.

differences were found between the two groups only in paranoid ideation. The lack of differences in other psychopathological indicators does not support the assertion that referees in more professionalized categories have lower scores on mental health measures compared to amateurs (Lima et al., 2023).

Significant differences were found in paranoid ideation, with amateur referees scoring higher. This finding may be linked to heightened concerns about potential assault and the perceived lack of resources to perform refereeing duties in lower categories (Cuskelly & Hoye, 2013). This aspect is particularly relevant when considering the items that constitute the paranoid ideation subscale (e.g., attributing problems to others, distrust of people, feeling scrutinized or talked about, and lack of recognition for achievements), as these may relate to performance and available resources. Moreover, the observed difference cannot be solely related to the younger age of amateur referees, as existing literature suggests that age does not typically correlate with differences in psychopathological symptoms (Fonseca-Pedrero et al., 2009; Scott et al., 2009).

Our second hypothesis predicted that greater psychological inflexibility would be positively associated with higher scores on psychopathological symptoms. The results fully support this hypothesis and align with previous research. In general population studies, psychological rigidity has shown strong associations with stress, anxiety, and depression (Arbinaga, 2025; Ruiz, 2010), and such inflexible behavioral patterns are not conducive to improved mental health outcomes, and, in fact, they may exacerbate existing issues (Trompetter et al., 2015; Wicksell et al., 2010). Similarly, in the context of sports, research has indicated that low psychological flexibility is linked to decreased behavioral efficacy and missed opportunities for optimal performance (Moore, 2009). Some studies have also found a significant association between low psychological flexibility and anxiety and depression among athletes (Chen et al., 2017; Zhang et al., 2014).

Similarly, our third hypothesis predicted that psychological inflexibility would show positive associations with EOC and DOC strategies and a negative association with TOC strategies. This hypothesis was partially supported, as psychological inflexibility exhibited positive and significant relationships with EOC strategies. Specifically, referees in the high inflexibility group tended to use EOC strategies more than those in the medium and low inflexibility groups. However, no significant data were found to support negative relationships with TOC strategies or positive relationships with DOC strategies.

These results are consistent with previous literature indicating that athletes with high scores in EOC strategies tend to experience more psychological problems (Hammermeister & Burton, 2001; Ntoumanis & Biddle, 2000). This finding supports the notion that higher psychological inflexibility, which is associated with mental health issues, may contribute to greater reliance on EOC coping strategies. However, it is worth noting that psychological inflexibility, often linked to patterns of behavioral avoidance and persistence, did not show significant relationships with DOC strategies. These strategies involve behaviors such as avoidance or engaging in activities unrelated to the stressor and are often considered inflexible (Chen et al., 2017; McCracken, 2013; Zhang et al., 2014).

Previous research has indicated that TOC strategies often predict positive affect, suggesting that perceived coping effectiveness is linked to positive emotional outcomes (Ntoumanis & Biddle, 1998). This finding aligns with the psychological flexibility model, which promotes adaptive coping through various processes or skills (Hayes et al., 2012; Wicksell et al., 2010). These results underscore the importance of further research to shed light on the relationships between coping strategies and psychological inflexibility.

Finally, our fourth hypothesis predicted that psychopathological symptomatology would correlate negatively with TOC strategies and positively with EOC and DOC strategies. This hypothesis was partially supported: EOC strategies significantly predicted higher levels of psychopathological symptomatology. Conversely, TOC strategies showed a negative association with mental health problems,

although this relationship was marginally significant. Additionally, DOC strategies did not predict mental health outcomes. These findings partially align with previous research suggesting that less adaptive coping strategies, such as emotion-focused coping, are associated with higher levels of mental health problems, while more adaptive strategies, such as task-oriented coping, are linked to better mental health outcomes (Cuskelly & Hoye, 2013; Hammermeister & Burton, 2001; Kilic et al., 2021; Ntoumanis & Biddle, 2000). Further studies could explore the absence of a relationship between distraction strategies and mental health problems and the potential buffering role of satisfaction with social support (Gouttebarge et al., 2017; Kilic et al., 2018).

Some of the limitations of the study include the relatively small size of the sample, which is not representative of all the referees in Spain, making it difficult to generalize the study or make it externally valid. In this sense, the gender imbalance should also be highlighted, as the participation of women was limited when it came to responding to the questionnaires. This could be explained by the low involvement of the governing bodies specifically dedicated to women in refereeing in the research process. Further areas for improvement concern the study design and methodology, which preclude establishing causal relationships, while the reliance on self-report measures may introduce response biases. Moreover, there is a need for greater control over the context in which referees carry out their duties, including considerations of the category of matches officiated, injuries, travel demands, and the importance of matches throughout the season. Future research could benefit from longitudinal designs that account for fluctuations over the season and consider factors such as family, work, social life, media relations, federation interactions, training demands, social support, and medical history when evaluating mental health outcomes.

Conclusions

In conclusion, it can be affirmed that no significant differences were observed between amateur referees and semi-professional/professional referees regarding mental health, coping strategies, or psychological inflexibility. It has been observed that psychological inflexibility is associated with emotion-focused coping strategies and high scores in psychopathological symptoms. Psychological inflexibility and emotion-focused coping predicted psychopathological symptomatology.

Acknowledgments

The authors thank the Technical Committee of Referees of the Royal Spanish Football Federation and the Autonomous Technical Committees of Referees for their cooperation and all the referees for their participation. This work has been funded in part by the EPIT-UHU support to the SEJ-451 Research Group.

Conflict of interest

The authors report no conflict of interest.

References

Arbinaga, F. (2025). Pain catastrophizing related to psychological inflexibility, self-reported injuries and perfectionism in soccer referees. *Journal of Science in Sport and Exercise, 7*(1), 84–96. https://doi.org/10.1007/s42978-023-00234-z

Arbinaga, F., & Cantón, E. (2013). *Psicología del deporte y la salud: Una relación compleja* [Sport psychology and health: A complex relationship]. Editorial EOS.

Arbinaga, F., Fernández-Ozcorta, E. J., Herrera-Macías, P. P., & Vela-Calderón, D. (2019). Síndrome de burnout y resiliencia en árbitros de fútbol y baloncesto [Burnout syndrome and resilience in soccer and basketball referees]. *Revista de Psicología del Deporte, 28*(2), 23–32. https://archives.rpd-online.com/article/view/v28-n2-arbinaga-fernandez-herrera-etal.html

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., Waltz, T., & Zettle R. D. (2011). Preliminary psychometric properties of the Acceptance and Action Questionnaire-II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy, 42*(4), 676–688. https://doi.org/10.1016/j.beth.2011.03.007

Carson, F., Dynon, N., Santoro, J., & Kremer, P. (2020). Examining negative emotional symptoms and psychological wellbeing of Australian sport officials. *International Journal of Environmental Research and Public Health, 17*(21), Article 8265. https://doi.org/10.3390/ijerph17218265

Chen, L. H., Wu, C. H., & Chang, J. H. (2017). Gratitude and athletes' life satisfaction: The moderating role of mindfulness. *Journal of Happiness Studies, 18*(4), 1147–1159. https://doi.org/10.1007/s10902-016-9764-7

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates. https://doi.org/10.4324/9780203771587

Cuskelly, G., & Hoye, R. (2013). Sports officials' intention to continue. *Sport Management Review, 16*(4), 451–464. https://doi.org/10.1016/j.smr.2013.01.003

Davison, M. K., Bershadsky, B., Bieber, J., Silversmith, D., Maruish, M. E., & Kane, R. L. (1997). Development of a brief, multidimensional, self-report instrument for treatment outcomes assessment in psychiatric settings: Preliminary findings. *Assessment, 4*(3), 259–276. https://doi.org/10.1177/107319119700400306

Derogatis, L. R., & Cleary, P. (1977). Confirmation of dimensional structure of the SCL-90: A study in construct validation. *Journal of Clinical Psychology, 33*(4), 981–989. https://doi.org/10.1002/1097-4679(197710)33:4<981::AID-JCLP2270330412>3.0.CO;2-0

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175–191. https://doi.org/10.3758/bf03193146

Fonseca-Pedrero, E., Lemos-Giráldez, S., Paino, M., Villazón-García, U., & Muñiz, J. (2009). Validation of the Schizotypal Personality Questionnaire – Brief Form in adolescents. *Schizophrenia Research, 111*(1–3), 53–60. https://doi.org/10.1016/j.schres.2009.03.006

Gaudreau, P., & Blondin, J. P. (2002). Development of a questionnaire for the assessment of coping strategies employed by athletes in competitive sport settings. *Psychology of Sport and Exercise, 3*(1), 1–34. https://doi.org/10.1016/S1469-0292(01)00017-6

Gentili, C., Rickardsson, J., Zetterqvist, V., Simons, L. E., Lekander, M., & Wicksell, R. K. (2019). Psychological flexibility as a resilience factor in individuals with chronic pain. *Frontiers in Psychology, 10,* Article 2016. https://doi.org/10.3389/fpsyg.2019.02016

Gorczynski, P. F., Coyle, M., & Gibson, K. (2017). Depressive symptoms in high-performance athletes and non-athletes: A comparative meta-analysis. *British Journal of Sports Medicine, 51*(18), 1348–1354. https://doi.org/10.1136/bjsports-2016-096455

Gouttebarge, V., Johnson, U., Rochcongar, P., Rosier, P., & Kerkhoffs, G. (2017). Symptoms of common mental disorders among professional football referees: A one-season prospective study across Europe. *Physician and Sportsmedicine, 45*(1), 11–16. https://doi.org/10.1080/00913847.2017.1248796

Hammermeister, J., & Burton, D. (2001). Stress, appraisal, and coping revisited: Examining the antecedents of competitive state anxiety with endurance athletes. *Sport Psychology, 15*(1), 66–90. https://doi.org/10.1123/tsp.15.1.66

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change* (2nd ed.). The Guilford Press.

Hudek-Knezevic, J., Kardum, I., & Vukmirovic, Z. (1999). The structure of coping styles: A comparative study of Croatian sample. *European Journal of Personality, 13*(2), 149–161. https://doi.org/10.1002/(SICI)1099-0984(199903/04)13:2<149:AID-PER326>3.0.CO;2-Z

Kilic, Ö., Carmody, S., Upmeijer, J., Kerkhoffs, G. M. M. J, Purcell, R., Rice, S., & Gouttebarge, V. (2021). Prevalence of mental health symptoms among male and female Australian professional footballers. *BMJ Open Sport & Exercise Medicine, 7,* Article e001043. https://doi.org/10.1136/bmjsem-2021-001043

Kilic, Ö., Johnson, U., Kerkhoffs, G. M. M. J., Rosier, P., & Gouttebarge, V. (2018). Exposure to physical and psychosocial stressors in relation to symptoms of common mental disorders among European professional football referees: A prospective cohort study. *BMJ Open Sport & Exercise Medicine, 4,* Article e000306. https://doi.org/10.1136/bmjsem-2017-000306

Lazarus, R. S., & Folkman, S. (1984). Coping and adaptation. In W. Doyle Gentry (Ed.), *The handbook of behavioral medicine* (pp. 282–325). The Guilford Press.

Lima, Y., Devran, S., Öz, N. D., Webb, T., & Bayraktar, B. (2023). Examining the mental health status of referees in the Turkish professional football league.

Science and Medicine in Football, 7(3), 272–278. https://doi.org/10.1080/24733938.2022.2084150

Lima, Y., Devran, S., Webb, T., & Bayraktar, B. (2022). Mental health symptoms of amateur association football referees: A cross-sectional study. *Journal of Clinical Sport Psychology, 18*(2), 199–214. https://doi.org/10.1123/jcsp.2022-0018

MacMahon, C., & Plessner, H. (2013). The sport official in research and practice. In D. Farrow, J. Baker, & C. MacMahon (Eds.). *Developing sport expertise. Researchers and coaches put theory into practice* (2nd ed., pp. 71–95). Routledge. https://doi.org/10.4324/9780203119914

Márquez, S. (2006). Estrategias de afrontamiento del estrés en el ámbito deportivo: Fundamentos teóricos e instrumentos de evaluación [Coping with stress in sport settings: Theoretical foundations and assessment instruments]. *International Journal of Clinical and Health Psychology, 6*(2), 359–378.

McCracken, L. M. (2013). Committed action: An application of the psychological flexibility model to activity patterns in chronic pain. *Journal of Pain, 14*(8), 828–835. https://doi.org/10.1016/j.jpain.2013.02.009

Molinero, O., Salguero, A., & Márquez, S. (2010). Propiedades psicométricas y estructura dimensional de la adaptación española del Cuestionario de Estrategias de Afrontamiento en Competición Deportiva [Psychometric properties and dimensional structure of the Spanish adaptation of the Coping Inventory for Competitive Sport]. *Psicothema, 22*(4), 975–982. https://www.psicothema.com/pi?pii=3829

Moore, Z. E. (2009). Theoretical and empirical developments of the Mindfulness-Acceptance-Commitment (MAC) approach to performance enhancement. *Journal of Clinical Sport Psychology, 3*(4), 291–302. https://doi.org/10.1123/jcsp.3.4.291

Ntoumanis, N., & Biddle, S. J. H. (1998). The relationship of coping and its perceived effectiveness to positive and negative affect in sport. *Personality and Individual Differences, 24*(6), 773–778. https://doi.org/10.1016/S0191-8869(97)00240-7

Ntoumanis, N., & Biddle, S. J. H. (2000). Relationship of intensity and direction of competitive anxiety with coping strategies. *Sport Psychology, 14*(4), 360–371. https://doi.org/10.1123/tsp.14.4.360

Poucher, Z. A., Tamminen, K. A., Sabiston, C. M., Cairney, J., & Kerr, G. (2021). Prevalence of symptoms of common mental disorders among elite Canadian athletes. *Psychology of Sport and Exercise, 57,* Article 102018. https://doi.org/10.1016/j.psychsport.2021.102018

Roales-Nieto, J. G., Pedro, E. M. S., García, R. C., Romero, B. M., López, F. R. J., Luciano, A. G., Arranz, A. S., Lao, I. R. F., Gámez, G. G., & Hernández-López, M. (2016). Flexibilidad psicológica y autoabandono del tabaco [Smoking self-quitting and psychological flexibility]. *International Journal of Psychology and Psychological Therapy, 16*(2), 111–130. https://www.ijpsy.com/volumen16/num2/437.html

Ruiz, F. J. (2010). A review of Acceptance and Commitment Therapy (ACT) empirical evidence: Correlational, experimental psychopathology, component and outcome studies. *International Journal of Psychology and Psychological Therapy, 10*(1), 125–162. https://www.ijpsy.com/volumen10/num1/256.html

Ruiz, F. J., Langer, A., Luciano, C., Cangas, A. J., & Beltrán, I. (2013). Measuring experiential avoidance and psychological inflexibility: The Spanish version of the Acceptance and Action Questionnaire-II. *Psicothema, 25*(1), 123–129. https://www.psicothema.com/pii?pii=4090

Sandín, B., Valiente, R. M., Chorot, P., Santed, M. A, & Lostao, L. (2008). SA-45: forma abreviada del SCL-90 [SA-45: A brief form of the SCL-90]. *Psicothema, 20*(2), 290–296. https://www.psicothema.com/pii?pii=3463

Scott, J., Martin, G., Bor, W., Sawyer, M., Clark, J., & McGrath, J. (2009). The prevalence and correlates of hallucinations in Australian adolescents: Results from a national survey. *Schizophrenia Research, 107*(2–3), 179–185. https://doi.org/10.1016/j.schres.2008.11.002

Trompetter, H. R., Bohlmeijer, E. T., Fox, J. P., & Schreurs, K. M. (2015). Psychological flexibility and catastrophizing as associated change mechanisms during online Acceptance & Commitment Therapy for chronic pain. *Behaviour Research and Therapy, 74,* 50–59. https://doi.org/10.1016/j.brat.2015.09.001

Uğur, E., Kaya, Ç., & Tanhan, A. (2021). Psychological inflexibility mediates the relationship between fear of negative evaluation and psychological vulnerability. *Current Psychology, 40,* 4265–4277. https://doi.org/10.1007/s12144-020-01074-8

Vela, D., & Arbinaga, F. (2018). Aplicación del listado de situaciones estresantes para el arbitraje (LISEA) en árbitros de fútbol [Application of the list of stressful situations for arbitration (LISEA) in football referees]. *Revista Iberoamericana de Psicología del Ejercicio y del Deporte, 13*(2), 281–287. https://www.riped-online.com/abstract/application-of-the-list-of-stressful-situations-for-arbitration-lisea-in-football-referees-19052.html

Webb, T., Dicks, M., Thelwell, R., van der Kamp, J., & Rix-Lievre, G. (2020). An analysis of soccer referee experiences in France and the Netherlands: Abuse, conflict, and level of support. *Sport Management Review, 23*(1), 52–65. https://doi.org/10.1016/j.smr.2019.03.003

Webb, T., Rayner, M., Cleland, J., & O'Gorman, J. (2021). *Referees, match officials and abuse: Research and implications for policy*. Routledge.

Wicksell, R. K., Olsson, G. L., & Hayes, S. C. (2010). Psychological flexibility as a mediator of improvement in Acceptance and Commitment Therapy for patients with chronic pain following whiplash. *European Journal of Pain, 14*(10), 1059.e1–1059.e11. https://doi.org/10.1016/j.ejpain.2010.05.001

Zhang, C.-Q., Chung, P.-K., Si, G., & Liu, J. D. (2014). Psychometric properties of the acceptance and action questionnaire-II for Chinese college students and elite Chinese athletes. *Measurement and Evaluation in Counseling and Development, 47*(4), 256–270. https://doi.org/10.1177/0748175614538064