



Gender differences in coping strategies as predictors of psychopathological symptoms among soccer referees

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Abstract: *Introduction:* Previous research has yielded inconsistent findings regarding the relationship between athletes' gender and coping strategies. This study, therefore, aimed to examine whether there are gender differences in coping strategies as predictors of psychopathological symptoms. *Methods:* A cross-sectional, anonymous online study was conducted with 213 principal soccer referees, 70.9% of whom were men. The mean age was 27.69 years, with an average refereeing experience of 8.36 years. Assessment instruments included the Symptom Assessment-45 Questionnaire (SA-45) and the Coping Inventory for Competitive Sport (CICS). *Results:* Regression analyses indicated that, among women, coping strategies did not significantly predict psychopathological symptoms; instead, work-life balance (WLB) emerged as a negative predictor ($\beta = -0.305$). Among men, psychopathological symptoms were positively associated with emotion-oriented coping (EOC) ($\beta = 0.500$) and negatively associated with both WLB ($\beta = -0.204$) and task-oriented coping (TOC) ($\beta = -0.268$). *Discussion:* Gender differences in the predictive capacity of coping strategies for psychopathological symptoms should be interpreted within the broader theoretical framework contrasting situational and developmental hypotheses. *Conclusion:* Difficulties in achieving work-life balance are a key predictor of psychopathological symptoms for both men and women. However, coping strategies showed predictive value only among men, particularly EOC as a risk factor and TOC as a protective factor.

Keywords: mental health, psychopathology, refereeing, soccer, coping

Introduction

Mental health among athletes is a critical concern [1, 2] and referees are no exception [3, 4]. Mental health problems in referees have been linked to both intrapersonal and interpersonal factors [3]. Among the interpersonal factors, low satisfaction with social support [5], organizational stressors, abusive environments, and conflicts within refereeing structures have all been identified [6]. Female referees, in particular, appear to be at greater risk of developing mental health problems [3, 6, 7].

Alongside the functional aspects inherent to sports activity, one variable to consider – due to its impact on referees' mental health – is the potential work-family conflict. In this regard, Work-Family Conflict (WFC) theory shows how intense demands, irregular schedules, and performance pressure generate tensions between work and family roles, affecting not only emotional well-being but also mental health more broadly [8]. For example, excessive pressure may lead to anxiety, fatigue, and other psychological problems, while family responsibilities may generate feelings of

guilt and uneasiness [9, 10]. Likewise, it has been noted that the key to achieving a balance between work and personal life lies in the effective management of resources [8–10]. In the sports context, this conflict has been less studied, but its effects on athletic performance, family relationships, and athletes' health have also been documented [9–11].

One way to address this issue is to examine how individuals manage interactions within variable and potentially stressful environments [8, 12, 13, 14, 15]. In the sports domain, success is closely linked to behavioral effectiveness and efficiency in responding to stressors inherent to training, competition, and related demands [8, 16, 17, 18, 19].

The tridimensional model proposed by Lazarus and Folkman [20] distinguishes between task-oriented coping (TOC), emotion-oriented coping (EOC), and distraction-oriented coping (DOC). The first dimension, the task-oriented coping (TOC), refers to the actions that are employed in order to change or master some aspects of a situation that is perceived as stressful. This dimension

What is already known on this topic

There are few studies on coping as a predictor of psychopathology in arbitration.

What this study adds

Differential aspects of coping according to the gender of arbiters are reported.

How this study may affect sports psychiatry practice

Work-life balance is a key indicator of psychopathological symptoms. However, coping strategies did not significantly predict psychopathological symptoms among women, whereas they did among men.

subsumes specific coping strategies such as increased effort, planning, and logical analysis. The second dimension, the emotion-oriented coping (EOC), represents the actions that are employed in order to change the meaning of a stressful situation as well as to regulate the resulting negative emotions. This dimension subsumes specific coping strategies such as humor, venting of emotion, and acceptance. The third dimension, distraction-oriented coping (DOC) is understood as thoughts and behaviors that focus attention away from the stressful events; considering aspects related to distancing and mental distraction [21, 22]. Athletes who fail to develop effective coping strategies are more vulnerable to both health and performance problems [23, 24, 25, 26]. TOC has consistently been shown to have a positive effect on health [5, 27, 28, 29, 30], predicting positive affect, whereas EOC predicts negative affect [31].

An important question concerns the potential relationship between the type of coping strategy used and the athlete's gender. The literature shows a lack of consensus – and, in some cases, an outright rejection – of such an association [24, 25, 32, 33, 34, 35, 36, 37, 38, 39]. Several studies suggest that women rely more heavily on coping strategies involving emotional support [24, 36], possibly reflecting a greater tendency toward community-oriented coping [40, 41]. Women are therefore more likely to seek emotional and instrumental social support, express emotions, focus on problem-solving, invest in friendships, experience worry, and seek belonging [33, 38, 42, 43].

Within this framework, the present study aimed to analyze coping strategies as predictors of psychopathological symptoms according to the gender of referees. Three hypotheses were proposed. The first hypothesis posited that women would obtain higher scores on psychopathological symptoms. The second hypothesis predicted that women would score higher in emotion-oriented coping (EOC) and men in task-oriented coping (TOC). The third hypothesis proposed that EOC and distraction-oriented coping (DOC) would positively predict psychopathological symptoms in both genders, whereas TOC would negatively and significantly predict them.

Methods

Participants

The eligibility criteria for this study were: 1) to be a soccer main 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 consisted of 213 principal soccer referees. The mean age was 27.69 years ($SD = 7.202$). On average, participants reported 8.36 years of refereeing experience ($SD = 5.208$).

Instruments

An ad hoc set of questions was developed to characterize the sample both socially, balance family life and work (WLB) and sport related. Regarding how they perceive the balance between family life and their sports activity, the responses could be given in five categories (Very bad, Bad, Neither Good/Nor Bad, Good, Very Good). A question was included about whether they had considered seeking help from a psychologist (Have you considered the idea of consulting a psychology professional because you were not feeling well as a result of your refereeing activity? Yes/No).

Psychopathological symptoms were assessed using the Symptom Assessment-45 Questionnaire (SA-45, Davison et al., [44], in the Spanish adaptation by Sandín et al., [45]), which is a 45-item self-report instrument derived from the Symptom Checklist (SCL-90; Derogatis & Cleary, [46]). The questionnaire consists of nine scales (somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism), where responses range from 0 – Not at all to 4 – Very much or Extremely (e.g., 1 – The idea that another person could control your thoughts). The reliability demonstrated in this study is Cronbach's $\alpha = .963$. The scales evaluated and the Cronbach's alpha obtained for each of them were as follows: hostility ($\alpha = .824$), somatization ($\alpha = .795$), depression ($\alpha = .897$), obsession-compulsion ($\alpha = .797$), anxiety ($\alpha = .840$), interpersonal sensitivity ($\alpha = .851$), phobic anxiety ($\alpha = .832$), paranoid ideation ($\alpha = .792$) and psychoticism ($\alpha = .720$).

To assess coping strategies, we used the short version of the Coping Inventory for Competitive Sport (by its acronym from the original French version ISCCS; Gaudreau & Blon-din, [21], in its Spanish version adapted by Molinero et al. [22]). The Spanish version of the questionnaire has 31 items distributed over eight factors grouped into three second-order dimensions: Task-Oriented Coping (TOC), The Emotion-Oriented Coping (EOC) and, the Distraction-Oriented Coping (DOC); where the responses range from 1 – Never to

Table 1. Socio-sporting characteristics of the sample of soccer referees

	TOTAL 213	Men 151(70.9)	Women 62(29.1)		<i>p</i>
Age	27.69(7.202)	28.48(7.722)	25.76(5.321)	$t = 2.953$	.004
Level of Education				$\chi^2_{(2,213)} = 3.762$	.152
Básic	13(6.1)	12(7.9)	1(1.6)		
Secondary	64(30.0)	42(27.8)	22(35.5)		
University	136(63.8)	97(64.2)	39(62.9)		
Years Refereeing	8.36(5.208)	9.14(5.515)	6.47(3.788)	$t = 4.060$	<.001
Refereeing Category				$\chi^2_{(2,213)} = 8.215$	.016
Amateur	126(59.2)	97(64.2)	29(46.8)		
Semi-professional	77(36.2)	50(33.1)	27(43.5)		
Professional	10(4.7)	4(2.6)	6(9.7)		
Work-Life-Balance				$\chi^2_{(2,213)} = 5.328$	.070
Bad	12(5.6)	5(3.3)	7(11.3)		
Neither Good/Nor Bad	63(29.6)	45(29.8)	18(29.0)		
Good	138(64.8)	101(66.9)	37(59.7)		
Need for a Psychologist				$\chi^2_{(1,213)} = 7.250$	.007
Yes	128(60.1)	82(54.3)	46(74.2)		
No	85(37.9)	69(45.7)	16(25.8)		

Note: For quantitative variables M(SD) and categorical variables n (%).

4 – Very much (e.g., Item 1 – I imagined that I was completely in control of the situation). The showed reliability for the total score in this work is Cronbach's $\alpha = 0.888$ (TOC: $\alpha = 0.884$; EOC: $\alpha = 0.828$; DOC: $\alpha = 0.801$).

Procedure

This cross-sectional, anonymous, online study was conducted following the Declaration of Helsinki. The Territorial Referees Committees of the Royal Spanish Football Federation were contacted and information on the study was sent out, requesting their collaboration by disseminating the address needed to access the online questionnaires among the active referees in the federation. The participants had to accept 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.

Statistical analysis

The following was carried out descriptive analyses were conducted to characterize the main research variables. The normality of the variables is confirmed when analysed 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 reliability of the tests was calculated using Cronbach's alpha (α). The comparison of quantitative variables was carried out using the Student's t-test for independent groups and implementing adjustments through the Holm-Bonferroni multiple-

comparison correction method. The effect size was estimated using Cohen's d. 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. Associations between the variables were analyzed by Spearman's Rho correlations and Stepwise linear regression analysis was employed to determine the predictors of psychopathological symptoms and all statistical assumptions required for the analyses were examined (e.g., homoscedasticity, multicollinearity assessed via variance inflation factor [VIF]). Analyses were conducted using the SPSS statistical package (IBM version 25.0, SPSS).

Results

The participants were 213 principal soccer referees, 70.9% of whom were men (Table 1). Men were older ($d = 0.41$) and had more years of refereeing experience ($d = 0.56$). Significant differences, after performing the Chi-square test, are observed in the professional category, where there are more women than expected. However, in the amateur category, more men are found refereeing than would have been expected, while there are fewer women than expected (Cramer's $V = 0.196$). For their part, when asked whether they had considered the need to consult a psychology professional because they were not feeling well due to their activity as referees, more cases than expected were detected among female referees. However, in the case of men, there were more cases than expected of those who reported not having needed it ($\Phi = 0.184$).

Table 2. Scores for Coping and Psychopathological Symptoms in Soccer Referees

	TOTAL 213	Men 151(70.9)	Women 62(29.1)	Z <i>U Mann-Whitney</i>	P*
ISCCS					
TOC	58.48(13.017)	57.77(12.708)	60.21(13.694)	$t = 1.242$	.216
EOC	28.19(10.459)	32.68(7.252)	17.26(8.920)	-9.339	<.001
DOC	12.68(4.704)	13.09(4.603)	11.69(4.837)	-1.977	.048
SA-45-TOTAL	38.06(27.570)	33.33(25.891)	49.56(28.345)	-3.941	<.001
Depression	5.35(4.753)	4.48(4.283)	7.47(5.194)	-3.976	<.001
Hostility	2.81(3.271)	2.67(3.134)	3.16(3.586)	-0.702	.482*
Interpersonal Sensitivity	4.80(4.288)	4.04(3.900)	6.65(4.649)	-3.857	<.001
Somatisation	4.72(3.684)	4.32(3.588)	5.69(3.762)	-2.562	.010
Anxiety	4.80(4.124)	3.87(3.568)	7.06(4.523)	-4.925	<.001
Psychoticism	2.50(2.757)	2.50(2.882)	2.50(2.448)	-0.455	.649*
Obsession-Compulsion	5.92(4.199)	5.36(3.790)	7.27(4.829)	-2.578	.010
Phobic Anxiety	1.84(2.882)	1.38(2.391)	2.97(3.603)	-3.818	<.001
Paranoid Ideation	5.32(3.952)	4.72(3.837)	6.79(3.871)	-3.568	<.001

Notes: For quantitative variables M(SD) and categorical variables n (%). ISCCS: Coping Inventory for Competitive Sport; TOC: Task-Oriented Coping; EOC: Emotion-Oriented Coping; DOC: Distraction-Oriented Coping; SA-45: Symptom Assessment-45 Questionnaire. *Values rejected in SA-45 after applying the Holm-Bonferroni correction ($p = .025$).

Table 3. Spearman's bivariate correlations of coping strategies, psychopathological symptoms, and work-life balance in referees

	1	2	3	4
1.- TOC	1			
2.- EOC	.297/<.001	1		
3.- DOC	.321/<.001	.562/<.001	1	
4.- SA-45-TOTAL	.080/.247	.066/.340	.228/.001	1
5.- WLB	.010/.883	-.147/.032	-.208/.002	-.282/<.001

Notes: Rho-Spearman/p. TOC: Task-Oriented Coping; EOC: Emotion-Oriented Coping; DOC: Distraction-Oriented Coping; SA-45-TOTAL: Symptom Assessment-45 Questionnaire; WLB: Work-Life-Balance.

Since, when assessing the balance between family life and their sports activity, one of the categories included only a single person (Very bad = 1, Bad = 11, Neither Good/Nor Bad = 63, Good = 86, Very Good = 52), the responses were grouped into only three categories (Bad, Neither Good/Nor Bad, Good); no significant gender differences were observed in participants' assessment of their work-life balance (WLB).

According to the Kolmogorov-Smirnov test, only task-oriented coping (TOC) followed a normal distribution ($Z = 1.257$, $p = .085$). The remaining scales did not: emotion-oriented coping (EOC; $Z = 1.377$, $p = .045$), distraction-oriented coping (DOC; $Z = 1.436$, $p = .032$), SA-45 Total ($Z = 1.611$, $p = .011$), Depression ($Z = 2.309$, $p < .001$), Hostility ($Z = 3.041$, $p < .001$), Interpersonal Sensitivity ($Z = 2.132$, $p < .001$), Somatization ($Z = 1.714$, $p < .001$), Anxiety ($Z = 2.011$, $p = .001$), Psychoticism ($Z = 2.793$, $p < .001$), Obsession-Compulsion ($Z = 1.369$, $p = .047$), Phobic Anxiety ($Z = 3.970$, $p < .001$), and Paranoid Ideation ($Z = 1.695$, $p = .006$).

As shown in Table 2, no significant gender differences were found in TOC strategies; however, significant differ-

ences were observed in EOC and DOC, with men scoring higher on the use of these strategies.

Given the number of multiple comparisons carried out in the SCL-90 test, and in order to reduce the risk of increasing Type I error, a correction following the Holm-Bonferroni procedure was applied. Thus, the probability value obtained in the eighth comparison, from which the result is rejected, is $p = .025$. When assessing psychopathological symptoms, no significant gender differences were found in the Hostility and Psychoticism subscales. However, on all other subscales and in the total SA-45 score, women scored significantly higher than men.

When participants were grouped by refereeing level (amateur vs. semi-professional/professional), the Mann-Whitney U test revealed no significant differences in TOC ($Z = -1.389$, $p = .165$), EOC ($Z = -1.856$, $p = .063$), DOC ($Z = -0.468$, $p = .640$), or total SA-45 score ($Z = -1.128$, $p = .259$) and its subscales.

Considering total SA-45 scores across WLB ratings (1 = poor, 2 = neither good nor poor, 3 = good), the Kruskal-Wallis test revealed a significant difference, $\chi^2 = 13.508$, $p = .001$. Referees who rated their WLB as "poor" or

Table 4. Linear regression analysis, taking psychopathological symptoms as the predicted variable and coping strategies and work-life-balance as predictor variables, in soccer refereeing.

Total	β	t	p	R^2	ΔR^2	p	F	p
Model 1				.086	.086	<.001	$F_{(1,212)} = 19.767$	<.001
WLB	-.293	4.446	<.001					
Model 2				.121	.036	.040	$F_{(4,212)} = 7.186$	<.001
WLB	-.275	4.134	<.001					
TOC	.050	0.717	.474					
EOC	-.135	1.720	.087					
DOC	.207	2.539	.012					

Notes: TOC: Task Oriented Coping; EOC: Emotion Oriented Coping; DOC: Distraction Oriented Coping; WLB: Work-Life-Balance.

Table 5. Linear regression analysis, taking psychopathological symptoms as the predicted variable and coping strategies and work-life-balance as predictor variables, according to gender in soccer refereeing.

Women	β	t	p	R^2	ΔR^2	p	F	p
Model 1				.092	.092	.016	$F_{(1,61)} = 6.109$	.016
WLB	-.304	2.472	.016					
Model 2				.131	.039	.471	$F_{(4,61)} = 2.155$	.086
WLB	-.305	2.272	.027					
TOC	.089	0.699	.487					
EOC	-.087	0.541	.590					
DOC	.201	1.313	.194					
Men								
Model 1				.079	.079	<.001	$F_{(1,150)} = 12.860$	<.001
WLB	-.282	3.586	<.001					
Model 2				.235	.155	<.001	$F_{(4,150)} = 11.184$	<.001
WLB	-.204	2.749	.007					
TOC	-.268	2.879	.005					
EOC	.500	4.554	<.001					
DOC	.013	0.132	.895					

Notes: TOC: Task Oriented Coping; EOC: Emotion Oriented Coping; DOC: Distraction Oriented Coping; WLB: Work-Life-Balance.

“neither good nor poor” reported higher psychopathological symptoms than those who rated it as “good.” Regarding coping strategies, no significant differences were found for TOC ($F_{(4, 212)} = 1.439, p = .222$) or EOC ($\chi^2 = 1.016, p = .602$). However, a significant difference emerged for DOC ($\chi^2 = 7.049, p = .029$), with referees who rated their WLB as “good” obtaining lower scores.

Referees who had considered seeking help from a psychology professional scored significantly higher in psychopathological symptoms ($Z = -3.943, p < .001$). However, no significant differences were observed in TOC ($t = 1.240, p = .217$), EOC ($Z = -1.492, p = .136$), or DOC ($Z = -0.101, p = .919$).

Regarding the correlations among the different measures (Table 3), psychopathological symptoms were significantly and positively correlated with DOC and negatively correlated with WLB, indicating that lower WLB ratings were associated with higher levels of psychopathological symptoms. Similarly, WLB showed significant negative correlations with both EOC and DOC, but not with TOC.

After verifying homoscedasticity and collinearity through the variance inflation factor (VIF) and confirming that the assumptions for the regression models were met, two significant models were identified. In both models, the dependent variable was the score for psychopathological symptoms, while the predictor variables included the three coping strategies and work-life balance (WLB). In Model 1, WLB showed an acceptable VIF value (1.000). In Model 2, the VIF values were as follows: WLB = 1.045, TOC = 1.161, EOC = 1.464, and DOC = 1.570. These values indicate that the models met the assumptions for regression analysis and that multicollinearity was not a concern.

Considering the total sample, the regression models were significant (Table 4). The WLB variable maintained a protective role against psychopathological symptoms, showing a negative predictive contribution to the explained ($\beta = -0.293$). In the second model, WLB slightly reduced its predictive strength ($\beta = -0.275$), while DOC reached statistical significance as a positive predictor of psychopathological symptoms ($\beta = 0.207$).

When regression analyses were conducted separately by gender (Table 5), the results showed that among women, WLB was statistically significant, with a negative predictive contribution ($\beta = -0.304$). The second model was not significant; however, WLB continued to show a significant negative predictive effect ($\beta = -0.305$).

Among men, both regression models were significant. WLB maintained a negative predictive effect ($\beta = -0.282$). When coping strategies were added to the model, the predictive power of WLB slightly decreased ($\beta = -0.204$). In this model, TOC showed a significant negative predictive effect ($\beta = -0.268$), whereas EOC exhibited a significant positive predictive effect ($\beta = 0.500$). DOC did not show a significant predictive relationship with psychopathological symptoms.

Discussion

This study aimed to analyze coping strategies as predictors of psychopathological symptoms according to referees' gender. The first hypothesis proposed that women would score higher in psychopathological symptoms. The results appear to support this hypothesis, except in the dimensions of Hostility and Psychoticism, where no significant differences were found. These findings are consistent with previous research showing that women tend to score higher on measures of psychopathological symptoms [3, 4, 6, 7, 15, 47]. Previous studies have also indicated that female referees are at greater risk of experiencing mental health problems when exposed to abusive work environments – often of a sexual nature – including sexist or derogatory language [3, 6, 48, 49].

The second hypothesis predicted that women would obtain higher scores in emotion-oriented coping (EOC) and men in task-oriented coping (TOC). The data did not support this hypothesis, as no gender differences were observed in TOC – an absence of differences that had already been reported in previous studies [19, 27]. Conversely, men showed higher scores in both EOC and distraction-oriented coping (DOC), consistent with findings from previous research [50, 51]. Indeed, it has been reported that men are more likely to engage in emotion-focused coping when perceiving a high level of risk [34].

It was also observed that male referees reported higher scores in DOC. In this regard, previous studies have indicated that men tend to be more prone to substance use as a form of avoidance or distraction-based coping [43, 52, 53].

The third hypothesis proposed that EOC and DOC would positively predict psychopathological symptoms in both genders, whereas TOC would negatively and significantly predict them. When considering the sample as a whole, DOC emerged as a significant predictor of

psychopathological symptoms, whereas neither EOC nor TOC reached statistical significance. When predictive capacity was analyzed separately by gender, none of the three coping strategies made a significant contribution among women. However, it was observed that EOC, although not statistically significant, showed a negative predictive trend. This finding aligns with previous evidence suggesting that women tend to focus on emotions and seek relief through emotional expression and greater social support [43, 52, 53]. In this regard, social support is a key factor in preventing and mitigating the impact of environmental stressors on mental health [54, 55, 56].

However, among men, TOC appeared to act as a protective strategy, showing a negative predictive relationship, whereas EOC positively predicted psychopathological symptoms. These findings support previous research indicating that when a high level of risk is perceived, men tend to rely on emotional coping strategies [34]. Given that EOC typically provides short-term relief from distress without necessarily leading to situational change or resolution of the underlying stressors [50], it can be understood as a form of short-term avoidance coping. This interpretation is consistent with the fact that men also scored higher in DOC, as reported in the literature [43, 52, 53].

Concerning TOC, the results confirmed that among men, this strategy negatively predicted psychopathological symptoms; its use was associated with fewer mental health problems and greater positive affect [5, 19, 27–29, 31].

Future research should further examine the role of WLB in predicting psychopathological symptoms. Although this variable has not been widely studied in the context of refereeing, research in the broader sports domain has shown that poor WLB leads to stressful situations and negative health outcomes among sports professionals [57, 58, 59]. These problems tend to be exacerbated in female athletes [60, 61, 62], as it is frequently acknowledged that male athletes (including referees, coaches, football players, and others) often receive greater domestic support [63, 64], which facilitates balancing sporting activity with family life.

Limitations

This study presents several limitations. First, its correlational design does not allow for drawing causal inferences between the variables analyzed. Additionally, the absence of continuous assessment throughout the season limits the ability to capture specific contexts, time periods, and other critical influencing variables. Moreover, assistant referees and participants' clinical backgrounds were not considered. An area requiring enhancement in future research pertains to the more rigorous and systematic assessment of the role of Work-Family Conflict through the implementation of specialized measurement instruments.

In this regard, it is also essential to examine the reliability of specific items included in the ad hoc instrument. Finally, the use of self-report questionnaires introduces the inherent limitations associated with this method of data collection.

Conclusion

Difficulties in balancing family life with work emerged as a key predictor of psychopathological symptoms for both men and women. However, coping strategies did not significantly predict psychopathological symptoms among women, whereas they did among men – particularly emotion-oriented coping (EOC) as a risk factor and task-oriented coping (TOC) as a protective factor.

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History

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Conflicts of Interest

The author declares that there is no conflict of interest.

Publication ethics

Approved by the Andalusian Ethics Committee of Biomedical Research (Evaluation Committee of Huelva. Act: 05/24. Date of approval:14-May-2024, Internal Code: SICEIA-2024-001020, Study code: 21071. Informed consent was obtained from all individual participants included in the study.

Open data statement

All anonymized raw participant data are openly available in the Open Science Framework OSF (<https://osf.io/5jyza>), project doi: <https://doi.org/10.17605/OSF.IO/MER4V>

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