

Soccer refereeing and resilient behavior: Relationships with psychological inflexibility and perfectionism

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ABSTRACT

The study analyzes how perfectionism and psychological inflexibility relate to resilience in soccer referees. Data were collected online from 199 referees (91.96% male, $M_{age} = 28.24$, $SD = 8.47$). Of the total sample, 73.37% were amateur and 26.63% were semi-professional or professional, with no significant differences in the scores of the three variables. Referees with low resilience reported higher psychological inflexibility, greater maladaptive perfectionism, and lower adaptive perfectionism. Participants grouped with high-medium psychological inflexibility showed a higher risk ($OR = 4.079$) of being in the low-resilience group compared to those with low psychological inflexibility. Linear regression models show a positive and significant predictive capacity for resilience for adaptive perfectionism ($\beta = 0.468$, $p < .001$), but a negative one for psychological inflexibility ($\beta = -0.213$, $p = .003$) and maladaptive perfectionism ($\beta = -0.323$, $p < .001$). The implications of these results in the sports context are analyzed.

Keywords. Soccer Referees; Coping; Inflexibility; Perfectionism; Resilience.

Introduction

Refereeing, both at the professional and amateur level, brings with it significant problems. These, poorly managed, can hinder professional and personal development. Without being exhaustive, among other risk behaviors or associated problems, the presence of injuries, pain-related behaviors, etc. can be highlighted. Data on injuries in soccer referees show an incidence of 20.8 injuries per 1000 match hours (Bizzini et al., 2009). The relative risk of injury during the match is 4.3 times higher than during training (Wilson, et al., 2011). The observed prevalence varies from 22.5% in referees of all categories (Bizzini et al., 2011) to 52% in professional referees (Oliveria et al., 2016). On the other hand, almost 90% of referees had pain or painful discomfort related to the musculoskeletal system (Arbinaga, 2025; Bizzini et al., 2009); in the past 12 months, 92% of main referees and 83% of assistant referees reported some type of pain complaints related to their refereeing activities. Hae-Young and Young-In (2014) stated that 87.5% of main referees and 89.3% of assistant referees reported musculoskeletal pain.

These data should lead us to reflect on the need for referees to develop skills, competencies, and effective coping strategies to deal with these situations. The objective should be to equip referees with skills that allow them to adaptively manage the challenges they face in their professional lives. All this, considering the multiple sources of stressful stimuli to which they are exposed (Vela & Arbinaga, 2018).

To cope with the demands and exigencies of high performance, two psychological constructs have been highlighted: resilience (Barton et al., 2020; Southwick et al., 2014) and perfectionism (Flett & Hewitt, 2002; Hill et al., 2019, 2020; Stoeber et al. 2007).

The construct of resilience refers to the abilities to achieve functional adaptation to stressful environments, with minimal adverse consequences (Barton et al., 2020;

Southwick et al., 2014). It is a multidimensional construct that addresses an individual's behavioral functioning (Malhi et al., 2019) and where low scores are associated with problems with performance and execution (Arbinaga et al., 2019). Resilience can be conceptualized as a contextual behavioral factor and defined as the abilities to engage in meaningful activities that promote quality of life and both current and future health, in the presence of potential disruptive factors (Goubert & Trompeter, 2017). This conceptualization is of particular clinical relevance, as operant behaviors are under contextual control, which implies that they can be directly changed (Gentili et al., 2019).

Perfectionism has been conceptualized as a multidimensional trait, characterized by a persistent striving for excessively high personal standards and a marked rigidity in setting them (Frost et al., 1990; Stoeber et al., 2018). This tendency is often accompanied by a marked inclination toward critical self-evaluation (Carrasco et al., 2010; Rice et al., 2013). Empirical evidence suggests that perfectionism plays a prominent role in shaping cognitive, behavioral, and emotional functioning (Carrasco et al., 2010; Frost et al., 1990; Hewitt and Flett, 1991). The defining characteristics are high personal requirement, adaptive or functional perfectionism, and negative self-evaluation, which have been found to be essentially dysfunctional (Frost et al., 1990; Hewitt and Flett, 1991; Hill et al., 2020).

In this sense, Flett and Hewitt (2005) proposed two different dimensions of perfectionism: Self-Oriented Perfectionism (SOP; tendencies to have exceedingly high personal standards), and Socially Prescribed Perfectionism (SPP; tendencies to aim for extremely high standards that are perceived to be the expectation of significant others). The two dimensions of perfectionism -functional and dysfunctional- can coexist within any individual (Gaudreau & Thompson, 2010).

Many studies have indicated how perfectionism is associated with both adaptive and maladaptive aspects (Appleton et al., 2011; Lizmore et al., 2017; Madigan et al., 2017). Perfectionism has been associated with adaptive aspects described by factors such as achievement expectations (a tendency to set high goals and engage in excessive self-evaluation) and organization (an emphasis on the importance of order and coherence in the proposed objectives) (Khawaja & Armstrong, 2005; Luszczynska et al., 2015). Thus, adaptive or positive perfectionism refers to the ability to work toward realistic goals with positive effort, which leads to feelings of satisfaction or reward. This is linked to adequate and adaptive functioning (Luszczynska et al., 2015).

On the other hand, maladaptive aspects are described by factors such as external expectations (understood as the athlete's perception of family and the high expectations of coaches) and fear of making mistakes (excessive concern related to errors and failure, which induces doubts) and reflections on performance quality (Hill et al., 2019; Stoeber & Rennert, 2008; Stoeber et al., 2018). Therefore, maladaptive perfectionism would refer to efforts aimed at achieving goals that are out of reach, motivated primarily by an inability to cope with failure, relating to psychological pathology or dysfunction (Hill et al., 2019; Stoeber et al., 2018).

Perfectionism is a widely studied construct within sport (Hill et al., 2019). In athletes, it is related to performance and plays a prominent role in both functional and adaptive aspects (Rice et al., 2013; Robazza et al., 2023; Ruiz et al., 2023; Taylor et al., 2016). Adaptive perfectionism is associated with achievement expectations and organization. In contrast, maladaptive aspects are characterized by high external expectations (imposed by family and coaches), fear of making mistakes, and reflections on performance quality (Appleton et al. 2011; Lizmore et al., 2017; Madigan et al., 2017).

International athletes recognize that while perfectionism can be a source of motivation, it can also be related to intrapersonal and interpersonal aspects, such as tensions with peers or the coaching staff (Hill et al., 2015). These relationships were mainly found with maladaptive perfectionism. However, it was also observed that adaptive perfectionism could be associated with distress (Hill et al., 2008). Likewise, it is equally related to adverse outcomes, such as stress, poor mental health, pain frequency/intensity, and fatigue (Molnar et al., 2012).

Furthermore, perfectionism has traditionally been conceptualized as a vulnerability factor (Sirois and Molnar, 2014), characterized by cognitive rigidity and behavioral inflexibility (Delor et al., 2019). More specifically, perfectionism is associated with reduced functioning and difficulties in achieving optimal health (Molnar et al., 2012). It is mediated by processes such as behavioral disengagement, denial, self-blame (Quartana et al., 2009) and experiential avoidance (Bisgaier, 2019).

In recent years, a construct that has been proposed to understand patterns of behavioral avoidance and persistence is psychological inflexibility (Chen et al., 2017; McCracken, 2013; Zhang et al., 2014). Psychological flexibility refers to the ability to fully contact private events occurring in the present as conscious human beings, without establishing unnecessary defenses -accepting them as they are and not as one says they are- while choosing to abandon or persist in an action that involves discomfort, but services values one identifies as one's own (Hayes et al., 2006; Hayes et al., 2014). The psychological flexibility model promotes adaptive coping through six components: acceptance, cognitive defusion, being present, self-as-context, being in contact with one's values, and committed action (Hayes et al., 2006; Wicksell et al., 2010).

In contrast, psychological inflexibility refers to the rigid dominance of certain unhelpful private events over effective actions, long-term goals, useful thoughts, and

emotions (Bond et al., 2011). Psychological rigidity is associated with increased symptomatology related to distress, pain perception, anxiety, and depression (Arbinaga, 2025; Ruiz, 2010). Psychological inflexibility is often manifested as a pattern of avoidance behaviors toward aversive stimuli and situations, which can be considered as an operant under contextual control (Hayes et al., 2006). This pattern of behavior is not associated with a reduction in distress or dysfunction (Trompetter et al., 2015) and can even lead to the abandonment of activities (Wicksell et al., 2010). The three processes that fundamentally characterize psychological inflexibility are: cognitive fusion, experiential avoidance, and the conceptualized self, in which people define their identity through their thoughts (Hayes, 2015).

Psychological inflexibility is considered a transdiagnostic etiological factor in the development and maintenance of various psychological disorders and coping difficulties (Uğur et al., 2021). An individual who has difficulty coping effectively with unpleasant situations-through one or more of the six core processes-is likely to be characterized as psychologically inflexible. This inflexibility, in turn, may contribute to emotional disturbances and impaired performance in athletic contexts (Tanhan, 2019; Orouji et al., 2022).

Analyzing these three constructs in the sport domain, it is possible to affirm that high performance promotes the pursuit of excellence, which is enhanced by perfectionism (Hill et al., 2019). Perfectionism in sport can act as a motivational force leading to better performance and achievement; however, it has also been related to risks for athletes (Flett & Hewitt, 2005), characterized by cognitive rigidity and behavioral inflexibility (Delor et al., 2019). From this perspective, it has been linked to problems such as stress, poor mental health, fatigue, and high pain frequency and intensity (Molnar et al., 2012). It is suggested that high scores in perfectionism and

negative affective identity in athletes are associated with higher levels of fear, pain avoidance, and pain catastrophizing, which may contribute to pain-related disability (Park et al., 2018).

Research relating perfectionism to resilient behaviors has been sparse. Individuals with high scores on socially prescribed perfectionism tend not to develop resilient skills (Besser et al., 2010; Hewitt & Flett, 2002; Klibert et al., 2014). It has been suggested that self-oriented and socially prescribed perfectionists tend to use less resilient strategies, such as catastrophizing (Rudolph et al., 2007) and dependency (Sherry et al., 2003). Only socially prescribed perfectionism has been negatively associated with resilience, whereas self-oriented perfectionism and other-oriented perfectionism have not been significantly related to resilience scores (Klibert et al., 2014). In this regard, it should be noted that maladaptive perfectionism is negatively associated with resilience (Sheppard & Hicks, 2017).

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, in athletes across various sports, psychological inflexibility can be associated with higher scores in anxiety and depression (Chen et al., 2017; Zhang et al., 2014); highlighting the complex relationship between sport and health (Arbinaga & Cantón, 2013).

It has not been possible to find research relating these three constructs -resilience, perfectionism, and psychological inflexibility- in the context of sport or high performance. The only study accessible to us jointly analyzed the constructs self-efficacy, perfectionism, and resilience in a sample of soccer referees (Guillén et al., 2014). This study showed that linear regression analyses indicated that self-efficacy and

adaptive perfectionism significantly predicted resilience scores, with the weight of self-efficacy being greater than that of perfectionism.

Despite the demands and responsibilities placed on sports referees, they are a sparsely studied group. This is particularly surprising given the crucial role referees play in as well as the variety of psychological and physiological factors that can affect them (Pizzera et al., 2022; Stølen et al., 2005). The present research aims to provide insight into the relationship between resilience, psychological inflexibility, and perfectionism among soccer referees. These constructs are relevant not only because of their impact on performance and execution, but also because they represent competencies and skills that can be targeted and modified through intervention. The first hypothesis posits that low scores in resilience will be positively related to high scores in psychological inflexibility, while high scores in resilience will exhibit a negative relationship with scores in psychological inflexibility. The second hypothesis predicts that high scores in resilience will show a negative relationship with maladaptive perfectionism and a positive relationship with adaptive perfectionism.

Method

Participants

An a priori power analysis was performed using G*Power 3 (Faul et al., 2007) to determine the minimum sample size needed to test the study hypothesis. The results indicated that the sample size needed to achieve 95% power in detecting a mean effect, with a significance criterion of $\alpha = 0.05$, was $N = 117$ in Student's t-test for independent samples. This was a descriptive cross-sectional study. The inclusion criteria were as follows: to be at least 18 years old, to be a member of the Royal Spanish Football Federation for at least three years, to be currently active (although they may have been temporarily unable to referee due to injury), and to give written informed consent. The

exclusion criteria were the following: being inactive due to illness, use of medication that could interfere with the reading and understanding of the questionnaires, being under psychiatric treatment and not meeting the inclusion criteria. Responses were collected from 206 referees. Two were excluded because they did not meet the age criterion, four because they had been qualified for less than three years, and one because he/she was not currently active. The obtained sample size of $N = 199$ ($M_{age} = 28.24$, $SD = 8.47$; 91.96%, male) was adequate to test the study hypothesis. Of the final sample, 146 (73.37%) were amateur and 53 (26.63%) reported refereeing in professional/semi-professional leagues.

Instruments

Data were collected on sociodemographic variables, including year of birth, gender, and education level (no education, basic education, high school education, and university studies) and variables related to their activity as referees (years federated and category in which he referees -professional/semi-professional vs. amateur-).

The Acceptance and Action Questionnaire (AAQ-II; Bond et al., 2011, in its Spanish adaptation 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 (e.g., thoughts, feelings, emotions, and memories) and to what extent to which they perceive these events as obstacles to leading the life they wish. Participants respond on a Likert-type scale (1: never, to 7: always) to indicate the extent to which they believe the statements are true (e. g. worries get in the way of my success). 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 $\alpha = .903$). To determine the relationship between the level of

flexibility and the other 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).

Perfectionism was assessed using the Frost Multidimensional Perfectionism Scale (FMPS) (Frost et al., 1990, in its Spanish version developed by Gelabert et al., 2011). The FMPS is a 35-item self-report instrument in which participants respond on a Likert-type scale (1: strongly disagree, to 5: strongly agree) to a series of statements (e.g., If I fail partly, it is as bad as being a complete failure). Good internal consistency was found for the total score ($\alpha = .922$) and the following dimensions of perfectionism: Concern over Mistakes (CM, $\alpha = .903$), reflecting negative reactions to errors; Doubts about Actions (DA, $\alpha = .776$), reflecting the tendency to doubt one's abilities; Personal Standards (PS, $\alpha = .752$), setting high standards for evaluation; Parental Expectations (PE, $\alpha = .813$), the belief that one's parents set very high standards; Parental Criticism (PC, $\alpha = .810$), the belief that one's parents were overly critical; and Organization (O, $\alpha = .919$), the importance attached to orderliness.

The Spanish version has made it possible to identify four factors: Factor 1: Fear of Making Mistakes (including Concern over mistakes and Doubts about actions); Factor 2: External Influences (including Parental expectations and Parental criticism), Factor 3: Expectations of Achievement (including Personal standards and two items of Concern over mistakes) and Factor 4: Organization. These factors can be grouped into an Adaptive Perfectionism (Factor 3 y Factor 4) and a Maladaptive Perfectionism (Factor 1 y Factor 2). The internal consistency for these two types of perfectionism: Adaptive Perfectionism ($\alpha = .838$) and Maladaptive Perfectionism ($\alpha = .926$).

Resilient behavior was assessed using the “Resilience Scale” (RS; Wagnild & Young, 1987, 1993; in its Spanish adaptation by Ruiz-Barquín et al., 2012). The RS contains two-factor scores and a total score. Factor 1 (F1) refers to "personal competence" and comprises items such as self-confidence, decision-making, and perseverance. Factor 2 (F2) refers to the "acceptance of self and life" and measures adaptability, balance, flexibility, and a stable life perspective that coincides with acceptance of life and a feeling of peace despite adversity. With these two factors - F1 and F2 - five areas of resilience are represented (personal satisfaction, feeling good alone, self-confidence, stability, and perseverance). The instrument consists of 25 items, where respondents assign a score to each item from 1 (disagree) to 7 (totally agree). Thus, the total factor score (TF) ranges between 25 and 175 points, with high scores indicative of good resilience (Wagnild & Young, 1993). According to these authors, the scores can be categorized to indicate low resilience (< 147 RS points) and high resilience (≥ 147 RS points). In this work, the scale has shown good internal consistency, as assessed by Cronbach's alpha, both in the total score (TF) ($\alpha = .945$) and in the F1 "personal competence" ($\alpha = .936$) and the F2 "acceptance of self and life" ($\alpha = .801$).

Procedure

All procedures were conducted 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. The study was approved by the Andalusian Ethics Committee of Biomedical Research (Evaluation Committee of Huelva. Internal Code: 2159-N-21. Date of approval: 14/12/2021; Act: 11/21). All participants completed the informed consent.

Data collection was carried out online. The Referees Committee of the Royal Spanish Football Federation and all its Territorial Committees were contacted. They were informed of the objectives of the study and invited to collaborate (Figure 1). Their collaboration consisted of disseminating the link to access the questionnaires among the active referees affiliated to the federation. Participation required the provision of informed consent as a prior step to accessing the questionnaires. No missing data were recorded, as it was mandatory to complete all items in order to continue with the survey. Nevertheless, it is important to point out that no information was received on which of the twenty Territorial Committees collaborated, nor on the number of referees to whom the link to the questionnaire was distributed.

Figure 1

Data Analysis

An a priori power analysis was conducted with G*Power 3 (Faul et al., 2007) to establish the minimum sample size needed to test the study hypothesis. The following descriptive analyses (frequencies, percentages, means, and standard deviation) were conducted to characterize the main research variables. The Kolmogorov-Smirnov test was used to analyze the normality of the data. 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 samples. The effect size was estimated using Cohen's d ($d < 0.2$ - small effect size; $d = 0.2$ to 0.8 - medium effect size and $d > 0.8$ - large effect size). In the case of categorical variables, the Chi-Square test (χ^2) was used, Odds Ratio. For categorical variables, *Phi* was used to estimate the effect size (< 0.2 - small effect size; between 0.2 and 0.6 - moderate effect size and > 0.6 - large effect size). Associations

between the variables were analysed by Pearson's bivariate correlations. Semipartial correlation and linear regression analysis were employed to determine the predictive variable (resilience) and predictor variables (psychological inflexibility, adaptive perfectionism, and maladaptive perfectionism). Analyses were conducted using the SPSS statistical package (IBM SPSS version 25.0, Armonk, NY, USA).

Results

The sample consisted of 199 referees, of whom 91.96% ($N = 183$) were men ($M_{age} = 28.41$ $SD = 8.67$) and 8.04% ($N = 16$) were women ($M_{age} = 26.25$ $SD = 5.37$). There were no differences between the two groups according to age ($t = 0.978$, $df = 197$, $p = .329$). Regarding education level, there were no differences by sex (Table 1). In terms of refereeing activity, 26.63% ($N = 53$) reported refereeing in professional/semi-professional leagues and 73.4% ($N = 146$) in Amateur leagues. The participants had been federated for a mean of 8.24 years ($SD = 5.23$; $Min = 3$, $Max = 28$). The Professional/Semi-professionals ($M = 10.32$, $SD = 4.96$) had been federated for more years than the Amateurs ($M = 7.48$, $SD = 5.13$), a difference that was statistically significant ($t = 3.483$, $p = .001$). There were no age differences ($t = 0.368$ $p = .713$) between Professional/Semi-professional ($M_{age} = 28.60$, $SD = 5.96$) and Amateur ($M_{age} = 28.10$, $SD = 9.22$) referees.

Table 1- Social and arbitration characteristics of the sample.

| | Total 199 | Men 183 (91.96) | Women 16 (8.04) | | <i>p</i> |
|--------------------------------|--------------|--------------------|--------------------|----------------------------|----------|
| Educational Level | | | | $\chi^2_{(2,199)} = 1.882$ | .390 |
| Basic Education | 5 (2.51) | 5 (2.73) | 0 | | |
| Secondary Education | 88 (44.22) | 83 (45.36) | 5 (31.25) | | |
| University Education | 106 (53.27) | 95 (51.91) | 11 (68.75) | | |
| Referee Category | | | | $\chi^2_{(1,199)} = 6.316$ | .012 |
| Amateur | 146 (73.37) | 130 (71.04) | 16 (100) | | |
| Professional/Semi-professional | 53 (26.63) | 53 (29.96) | 0 | | |
| Level International Referee | | | | $\chi^2_{(1,199)} = 0.266$ | .606 |

| | | | |
|-----|-------------|-------------|----------|
| Yes | 3 (1.51) | 3 (1.64) | 0 |
| No | 196 (98.49) | 180 (98.36) | 16 (100) |

Note: For categorical variables n(%).

After conducting the Kolmogorov-Smirnov test, it was found that the variables (psychological inflexibility, resilience, and perfectionism) had a distribution consistent with normality. Table 2 shows that there are no statistically significant differences in the scores obtained by amateur referees compared to professional/semi-professional referees across the various study variables. However, some residual differences are noted in Factor 2 of maladaptive perfectionism (External Influences) with a small effect size ($d = 0.32$), and in Factor 4 of adaptive perfectionism (Organization), where amateur referees tend to score higher than professional/semi-professional referees, also with a small effect size ($d = 0.31$).

Table 2.- Referees' scores (Amateur vs Professional/Semi-professional) on tests of psychological inflexibility, resilience, and perfectionism.

| | Total 199 | Amateur 146 (73.37) | Professional/ Semiprofessional 53 (26.63) | $t_{(gl=197)}$ | p |
|-----------------------|----------------|------------------------|---|----------------------------|------|
| PF-MALA | 45.54 (15.22) | 46.52 (15.74) | 42.83 (13.47) | $t = 1.631$ | .106 |
| PF-F1 | 25.69 (9.05) | 26.06 (9.28) | 24.712 (8.39) | $t = 0.921$ | .358 |
| PF-F2 | 19.84 (7.62) | 20.47 (7.88) | 18.11 (6.64) | $t = 1.938$ | .054 |
| PF-ADAP | 49.14 (9.38) | 49.69 (9.45) | 47.59 (9.09) | $t = 1.409$ | .160 |
| PF-F3 | 25.89 (6.69) | 26.01 (6.78) | 25.55 (6.47) | $t = 0.428$ | .669 |
| PF-F4 | 23.25 (5.35) | 23.69 (5.33) | 22.04 (5.26) | $t = 1.942$ | .054 |
| PI | 14.64 (7.26) | 14.58 (7.48) | 14.81 (6.69) | $t = 0.196$ | .845 |
| PI Categories | | | | $\chi^2_{(1,199)} = 0.913$ | .339 |
| Low PI | 156 (78.4) | 112 (76.7) | 44 (83.0) | | |
| High-Medium PI | 43 (21.6) | 34 (23.3) | 9 (17.0) | | |
| RS-TOTAL | 137.22 (23.11) | 136.04 (24.68) | 140.47 (17.92) | $t = 1.197$ | .233 |
| RSF1 | 84.27 (14.21) | 83.51 (15.24) | 86.36 (10.73) | $t = 1.466$ | .145 |
| RSF2 | 41.72 (7.88) | 41.38 (8.29) | 42.68 (6.58) | $t = 1.031$ | .304 |
| RS Categories | | | | $\chi^2_{(1,199)} = 0.063$ | .802 |
| RS-LOW (< 147) | 123(61.8) | 91 (62.3) | 32 (60.4) | | |
| RS-HIGH (\geq 147) | 76 (38.2) | 55 (37.7) | 21 (39.6) | | |

Note: For quantitative variables M(SD) and categorical variables n(%). PI.- Psychological inflexibility; RS-TOTAL.- Total Resilience; RSF1.- Personal competence; RSF2.- Acceptance of self and life; RS-LOW.- Resilience (< 147 RS points); RS-HIGH.- Resilience (\geq 147 RS points); PF-MALA.- Maladaptive Perfectionism; PF-F1.- Fear of Making Mistakes; PF-F2.- External Influences; PF-ADAP.- Adaptive Perfectionism; PF-F3.- Expectations of Achievement; PF-F4.- Organization.

When referees are grouped according to their scores on the Resilience Scale (Table 3), it is possible to observe that those who could be considered as having low resilience

show, statistically significantly, greater psychological inflexibility, with a large effect size ($d = 0.86$), and greater maladaptive perfectionism, with a medium effect size ($d = 0.45$); both in the factor "Fear of Making Mistakes," with a medium effect size ($d = 0.51$), and in the factor referred to as "External Influences," with a small effect size ($d = 0.29$). However, those with higher resilience scores indicate higher values in both the total score of adaptive perfectionism, with a small effect size ($d = 0.32$), and in the "Organization" factor, with a medium effect size ($d = 0.57$); but not in the "Expectations of Achievement" factor, where no differences are observed ($d = 0.003$).

Table 3.- Referees' scores on the psychological inflexibility and perfectionism tests according to high-low resilience scores.

| | Total 199 | RS-LOW 123 (61.81) | RS-HIGH 76 (38.19) | $t_{(df=197)}$ | p |
|----------------|---------------------------|---------------------------|---------------------------|---------------------------|-------|
| PF-MALA | 45.54(15.22)[43.41-47.67] | 48.11(14.75)[45.48-50.75] | 41.37(15.15)[37.91-44.83] | 3.103 | .002 |
| PF-F1 | 25.69(9.05)[24.43-26.96] | 27.42(8.87)[25.84-29.01] | 22.91(8.69)[20.92-24.89] | 3.516 | .001 |
| PF-F2 | 19.84(7.62)[18.77-20.91] | 20.69 (7.40)[19.37-22.01] | 18.46(7.82)[16.67-20.25] | 2.021 | .045 |
| PF-ADAP | 49.14(9.38)[47.83-50.45] | 48.02(9.57)[46.31-49.73] | 50.95(8.82)[48.93-52.96] | 2.162 | .032 |
| PF-F3 | 25.89(6.69)[24.95-26.82] | 25.88(6.4)[24.73-27.03] | 25.89(7.09)[24.28-27.52] | 0.017 | .986 |
| PF-F4 | 23.25(5.35)[22.50-23.99] | 22.14(5.38)[21.18-23.10] | 25.05(4.81)[23.95-26.15] | 3.864 | <.001 |
| PI | 14.64(7.26)[13.63-15.66] | 16.80(7.29)[15.50-18.11] | 11.14(5.69)[9.84-12.45] | 6.107 | <.001 |
| PI Categories | | | | $\chi^2_{(1,199)} = 11.2$ | <.001 |
| Low PI | 156(78.4) | 87(55.8) | 69(44.2) | | |
| High-Medium PI | 43(21.6) | 36(33.7) | 7(16.3) | | |

Note: For quantitative variables M(SD)[95% Confidence Interval on the Mean: Lower Limit-Upper Limit] and categorical variables n(%). PI.- Psychological inflexibility; RS-LOW.- Resilience (< 147 RS points); RS-HIGH.- Resilience (≥ 147 RS points); PF-MALA.- Maladaptive Perfectionism; PF-F1.- Fear of Making Mistakes; PF-F2.- External Influences; PF-ADAP.- Adaptive Perfectionism; PF-F3.- Expectations of Achievement; PF-F4.- Organization.

When considering the scores on the Psychological Inflexibility Scale, grouped into its three categories, it was observed that 2% ($n = 4$) of the participants had scores indicating high psychological inflexibility, 19.6% ($n = 39$) were categorized as having

medium psychological inflexibility, and 78.4% (n = 156) were in the low inflexibility group.

In this regard, it can be noted that participants (n = 43; 21.6%) with scores indicating high-medium psychological inflexibility show a higher risk (Odds Ratio [OR] = 4.079) of being categorized in the low resilience group (< 147 points on the RS) compared to those reporting low psychological inflexibility, with $\chi^2(1,199) = 11.157$, $p = .001$; Phi = 0.237; 95% CI [1.710, 9.727].

The results show that resilience scores are highly significant in their correlation with both psychological inflexibility scores and each of the perfectionism scales (Table 4); noting that this correlation is negative for psychological inflexibility and maladaptive perfectionism, but positive for adaptive perfectionism. Similarly, psychological inflexibility correlates positively with perfectionism; however, this correlation is only statistically significant with maladaptive perfectionism.

Table 4.- Pearson's bivariate correlations between resilience, perfectionism, and psychological inflexibility of referees.

| | | 1 | 2 | 3 |
|---|----------|---------------|--------------|--------------|
| 1 | RS-TOTAL | - | | |
| 2 | PI | -.313 (<.001) | - | |
| 3 | PF-MALA | -.213 (.003) | .494 (<.001) | - |
| 4 | PF-ADAP | .291 (<.001) | .129 (.070) | .461 (<.001) |

Note: RS-TOTAL.- Total Resilience; PI.- Psychological inflexibility; PF-MALA.- Maladaptive Perfectionism; PF-ADAP.- Adaptive Perfectionism.

The results obtained from developing predictive models of resilience based on adaptive perfectionism, maladaptive perfectionism, and psychological inflexibility as predictor variables can be seen in Table 5.

Table 5.- Lineal regression analysis, taking resilience as the predicted variable and perfectionism and psychological inflexibility as predictor variables, in football referees.

| | β | t | p | R^2 | ΔR^2 | p | F | p |
|-----------------------------|---------|-------|-------|-------|--------------|-------|------------------------|-------|
| Model 1 | | | | .098 | .098 | <.001 | $F_{(1,197)} = 21.347$ | <.001 |
| Psychological Inflexibility | -.313 | 4.620 | <.001 | | | | | |
| Model 2 | | | | .210 | .112 | <.001 | $F_{(2,196)} = 25.991$ | <.001 |
| Psychological Inflexibility | -.356 | 5.562 | <.001 | | | | | |
| Adaptive Perfectionism | .337 | 5.267 | <.001 | | | | | |
| Model 3 | | | | .272 | .062 | <.001 | $F_{(3,195)} = 24.264$ | <.001 |
| Psychological Inflexibility | -.213 | 3.006 | .003 | | | | | |

| | | | |
|---------------------------|-------|-------|-------|
| Adaptive Perfectionism | .468 | 6.738 | <.001 |
| Maladaptive Perfectionism | -.323 | 4.081 | <.001 |

The results of the predictive models of resilience based on the combination of psychological inflexibility, adaptive perfectionism, and maladaptive perfectionism as predictor variables can be seen in Table 5. It is noted that psychological inflexibility, as Model 1, explains 9.8% of the variance in resilience ($p < .001$), with a negative predictive capacity of $\beta = -0.313$ ($p < .001$); the squared partial correlation is 0.0979. When Model 2 is generated by introducing adaptive perfectionism, the explanatory power increases to 21.0% ($p < .001$); in this case, the negative predictive capacity of psychological inflexibility becomes $\beta = -0.356$ ($p < .001$), with a squared semi-partial correlation of 0.1246. Adaptive perfectionism reaches a predictive strength of $\beta = 0.337$ ($p < .001$), with the squared semi-partial correlation being 0.1116. Finally, when maladaptive perfectionism is included and Model 3 is generated, the model's explanatory capacity reaches 27.2% ($p < .001$). It is observed that the contribution of this variable reflects a predictive capacity of $\beta = -0.323$ ($p < .001$), with a squared semi-partial correlation of 0.0620. Psychological inflexibility decreases its predictive capacity ($\beta = -0.213$; $p = .003$) compared to previous models, with the squared semi-partial correlation being 0.0339. However, within the model, adaptive perfectionism achieves a predictive value for resilience of $\beta = 0.468$ ($p < .001$), with the squared partial correlation being 0.1697.

Discussion

The present research aimed to understand how the construct of resilience is related to psychological inflexibility and perfectionism, both adaptive and maladaptive, as demonstrated by soccer referees.

As the first hypothesis, it was expected that low resilience scores would be positively related to high scores in psychological inflexibility, and high resilience scores would maintain a negative relationship with scores in psychological inflexibility. The

data confirmed the hypothesis, showing that referees classified in the low resilience group significantly obtained higher scores in psychological inflexibility, while individuals with high resilience scores reflected scores indicating greater psychological flexibility.

These results support, in the sports context, what has already been found in other areas. There was existing evidence supporting psychological flexibility as an important mechanism for change, especially in research grounded in interventions based on exposure and resolution of adverse situations (Gentili et al., 2019; Vowles et al., 2014; Wicksell et al., 2010; Trompetter et al., 2015). This corresponds with studies showing how avoidance is associated with functioning and that addressing avoidance in exposure-based interventions can improve such functioning (Bonnert et al., 2018; Hedman-Lagerlof et al., 2018), in our case, that of referees.

Conceptualizing resilience as a contextual behavioral factor allows it to be related to the construct of psychological flexibility, which can be defined as the ability to act based on values and long-term goals in the presence of discomfort. Psychological flexibility is crucial for maintaining or improving functioning in individuals who must face and recover from adverse situations in an adaptive process (Hayes et al., 2006). Value orientation is another key aspect of psychological flexibility, defined as verbal guidelines that serve to initiate and sustain behavior over time, even in the absence of obvious reinforcers (Hayes, 2012). This highlights the usefulness of increasing interventions that promote value-oriented behaviors to improve resilient behaviors in sports referring.

Lack of psychological flexibility, or psychological inflexibility, commonly manifested as avoidance of aversive stimuli and situations, is often seen as an operant under contextual control from a learning perspective (Hayes et al., 2006). Avoidance

behaviors can be reinforced and, over time, become a predetermined strategy in situations perceived as threatening, leading to increasing difficulties for the referee to respond differently to the wide range of threats they typically face (Vela & Arbinaga, 2018; Vowles et al., 2007). Due to contextual factors, the repertoire of behaviors becomes increasingly narrow and less flexible.

This behavior pattern, based on avoidance, is not associated with a reduction in distress or dysfunction but rather with a reduced level of activity, avoidance-based life, and lower well-being (Trompetter et al., 2015). Avoidance can take many different forms, such as not participating in social or physical activities, using narcotics (overt behaviors), anticipating events by excessively thinking about experiences with adverse situations, or refraining from planning future events (covert behaviors); eventually leading to the abandonment of activities (Wicksell et al., 2010).

The data obtained in this study align with findings by Gentili et al. (2019), who highlighted the importance of psychological flexibility in explaining variations in how individuals cope with adverse situations. It can even be asserted that if behaviors indicative of psychological flexibility is demonstrated by individuals in the environment, the impact of adverse situations on the individual, in this case the referee, is lessened (Daks et al., 2020; Dindo et al., 2019).

On the other hand, the second hypothesis predicted that high resilience scores would show a negative relationship with maladaptive perfectionism and a positive relationship with adaptive perfectionism. The results of this study confirm this hypothesis by indicating that individuals classified as high resilience show significantly lower scores in maladaptive perfectionism compared to referees categorized as low resilience. Similarly, those with high resilience scores have higher scores in adaptive

perfectionism dimensions compared to those with low resilience, except in the "expectations of achievement" scale.

The results obtained from referees align with observations made in athletes or populations related to performance, where perfectionism was associated with functional and adaptive aspects (Rice et al., 2013; Taylor et al., 2016). Increasingly, studies support positive associations between self-oriented perfectionism, challenging evaluations, and functional experiences (Robazza et al., 2023; Ruiz et al., 2023). In this context, it has been noted that perfectionism tends to be associated with adaptive factors such as organization, an important aspect that fosters resilient behaviors, as well as with variables that contribute to maladaptive characteristics, such as external expectations and fear of making mistakes (Appleton et al., 2011; Lizmore et al., 2017; Madigan et al., 2017).

The findings of this study reinforce Hill et al. (2008), who indicated that problems are primarily associated with maladaptive perfectionism, whereas evidence also suggests that adaptive perfectionism can induce distress. This distinction can be interpreted by considering that adaptive perfectionism emphasizes structured behavior and goal setting to improve sport performance. In contrast, maladaptive perfectionism focuses on responses to errors or failures in goal attainment. Hence, perfectionism should be considered a vulnerability factor characterized by cognitive rigidity and behavioral inflexibility (Delor et al., 2019). It has been observed that referees classified within the low resilience group showed higher scores in maladaptive perfectionism, both in fear of making mistakes and in external influences. These factors had already been proposed as sources of stress in refereeing (Vela & Arbinaga, 2018), and they align with findings by Sheppard and Hicks (2017), who indicated that maladaptive perfectionism was negatively associated with resilience. Similarly, it has been shown

that individuals with high scores in socially prescribed perfectionism tend to avoid developing resilient skills (Besser et al., 2010; Hewitt & Flett, 2002; Klibert et al., 2014). Thus, it has been suggested that self-oriented and socially prescribed perfectionists tend to use less resilient strategies (Rudolph et al., 2007; Sherry et al., 2003).

On the other hand, referees classified as having high resilience scored higher in organization, but not in expectations of achievement. This result does not support findings from other studies where expectations of achievement appeared to characterize perfectionism with adaptive functions. It was indicated that individuals with high-performance standards experience a smaller gap between the stress they perceive and the internal resources needed to manage that stress (Rice et al., 2013; Taylor et al., 2016).

A possible explanation for the absence of differences in expectations of achievement is that these expectations might be common and generalized across the population when defining goal-setting. Therefore, what differentiates individuals is not the expectations themselves, but rather how they achieve these goals and how they react when they fail to meet them. Factors such as fear of making mistakes, criticism of errors made, and perception of external influences -variables that characterize maladaptive perfectionism- come into play here. Additionally, another possible explanation for the lack of differences in this subscale is that, in the Spanish adaptation of the scale, items related to concern over mistakes, which are associated with maladaptive perfectionism in the original scale, reflected factorial weight in the expectations of achievement subscale of adaptive perfectionism.

Finally, it is important to highlight the significant relationships found between psychological inflexibility scores and both adaptive and maladaptive perfectionism.

Psychological inflexibility has shown close relationships with perfectionism across various issues (Habibi-Asgarabad et al., 2023; Miles et al., 2023). Psychological inflexibility is likely a problem for those with high perfectionism, as it refers to a rigid style of responding to thoughts, feelings, and bodily sensations that causes psychological distress and avoidance behaviors (Crosby et al., 2013). A central characteristic of psychological inflexibility is problematic avoidance. Research shows that perfectionists may be more prone to using ineffective avoidance strategies, including experiential avoidance (Santanello & Gardner, 2007), avoidant coping (Noble et al., 2014), and emotional suppression (Richardson et al., 2014) when facing difficulties.

Among the limitations of this study, it is important to highlight the inability to establish causal relationships due to the design and methodology used. Data were collected through self-report measures, which can introduce response biases. Future research could incorporate different types of measures to provide more objective information. Additionally, the sample size was relatively small and not balanced by gender. A larger and more balanced sample could enhance the generalization and external validity of the results. In this context, the study's findings may have some difficulty generalizing to professional referees, as the majority of participants were non-professional referees who may have different motivations and less experience and knowledge. Lastly, future research should consider controlling for variables such as the timing of the competition when the tests were completed, the performance of referees throughout the season, and other psychological variables such as self-efficacy, burnout, stress, mental health, etc.

Conclusion

The research has contributed to the growing body of literature on resilience and its relationship with perfectionism and psychological inflexibility among soccer referees. Looking ahead, it is crucial to recognize the significance of psychological inflexibility and perfectionism in relation to resilient skills in soccer referees. Perfectionism, particularly in its more adaptive form, can enhance coping and recovery skills in the face of adversity. This is significant due to its impact on performance and execution, as well as the fact that these competencies and skills can be targeted and modified through intervention.

Referees may benefit from interventions that develop processes and skills to reduce the impact of maladaptive strategies, such as cognitive fusion and experiential avoidance. Therefore, official organizations involved in refereeing should implement processes and resources that enable referees to develop effective, adaptive coping skills for their sporting responsibilities. Acceptance and Commitment Therapy (ACT) effectively improves perfectionism because it focuses on psychological flexibility (Ong et al., 2020; Taghavizade-Ardakani et al., 2019). This can facilitate the development of resilience in referees, leading to significant improvements in sports performance and well-being.

In the context of ACT, mindfulness-based intervention programs have been found to be effective in predicting a decrease in psychological inflexibility, an increase in flow, more effective coping strategies, increased flexibility of behavioral response to high performance demands and improved sport performance in football (Carraça et al., 2019). Similarly, mindfulness-based programs have been shown to improve adaptive functioning and well-being (Marais et al., 2020).

Data show that a flexible and mindful attitude towards difficult psychological events improves responsiveness to change, better acceptance of environmental setbacks

and the ability to work more effectively (Ramaci et al., 2019). Thus, direct and indirect effects on resilient behaviors, self-confidence and emotional regulation in football players have been found in studies where an 8-week mindfulness acceptance engagement (MAC) intervention programme was applied (Oguntuase & Sun, 2022). Finally, meta-analytic studies on controlled trials of mindfulness training interventions have indicated that the best duration of the interventions was 7 weeks, with 60-minute sessions once a week (Zhang et al., 2025).

As a future recommendation, it is essential to conduct further research aimed at elucidating the causal relationships among the various components of psychological inflexibility, the dimensions of perfectionistic behavior, and changes in resilience-related skills. Similarly, we recommend delving deeper into the mechanisms through which mindfulness, acceptance, and commitment-based protocols influence psychological flexibility and interact with perfectionistic traits to contribute to changes in resilient behaviors and referee performance.

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