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XXVI

CONGRESSO NACIONAL DE GESTÃO DO DESPORTO Sport Management Congress

DESPORTO, SOCIEDADE E IA

- **Vilamoura**
- Hilton Vilamoura
- As Cascatas
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- **11-12 dez.**
- **2025**



Iniciativa



Apoios





XXVI Congresso Nacional de Gestão do Desporto **26th Sport Management Congress**

Desporto, Sociedade e Inteligência Artificial: Fatores de Valorização Social do Desporto

Resumos para edição especial do XXVI Congresso Nacional de Gestão do Desporto/ 26th Sport Management Congress na Revista Intercontinental de Gestão Desportiva

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Editors' Preface

The XXVI International Sport Management Congress / 26th Sport Management Congress, held on 11 and 12 December 2025 at the Hilton Vilamoura As Cascatas Golf Resort & Spa, in Vilamoura, brought together researchers, academics, professionals, and practitioners committed to the advancement of Sport Management in Portugal and beyond.

Each year, APOGESD's congress provides an important platform for presenting and discussing the professional and academic work developed throughout the year, recognising those who contribute most significantly to the growth and enhancement of Sport Management. In 2025, the congress was hosted by Vilamoura Marina, specifically at the Hilton Hotel, in partnership with APOGESD, under the central theme "Sport, Society and Artificial Intelligence – Factors for the Social Enhancement of Sport".

At an international level, Sport Management continues to focus on a wide range of contemporary themes, including Tourism and Sporting Events; Digital Transformation, Innovation and Technology; Leadership and Employee Motivation; Strategy, Leadership and Stakeholder Management in Sport; Sport Management Education; Governance, Policy and Law in Sport; Diversity and Inclusion in Sport Management; Consumer Behaviour in Sport; Sport, Media and Communication; Sport Development and Sociocultural Perspectives; Sustainability and Sport Management; Sport Marketing and Sponsorship; and Public Health, Well-being and Physical Activity Management.

Within the national context, however, particular prominence was given to the themes that emerged most strongly from this congress: Digital Transformation, Innovation and Technology; Diversity, Inclusion and Sociocultural Development; Health, Well-being and Leadership; and Tourism, Media and Governance. These themes reflect current priorities and challenges in the Portuguese sport sector and provide meaningful directions for future research and professional practice.

The congress was designed for professionals who value theory as a foundation for practice, for academics who see practice as an opportunity to apply research and generate impact, and for coaches, managers, teachers, psychologists, researchers, athletes, and sports practitioners who recognise Sport Management as a key driver for improving national sport systems.

A special emphasis was also placed on supporting emerging scholars through the Albino Maria Award, an important initiative aimed at promoting excellence in Sport Management research among young researchers. This award provides an opportunity for early-career scholars to present and discuss their work with the support of senior academics and researchers, encouraging collaboration, mentorship, and the development of academic and professional networks.

The scientific quality of this event was further strengthened by the participation of distinguished national and international researchers in the field of Sport Management, creating a dynamic environment for learning, reflection, debate, and scientific exchange.

As editors and members of the scientific coordination team, it was a great privilege to be part of the organisation and scientific development of this congress. We extend our sincere gratitude to all authors who submitted oral presentations, projects, and full papers, as well as to all participants who contributed to the richness of discussion and knowledge sharing throughout the event.

We hope that this publication reflects the scientific excellence of the congress and serves as a valuable contribution to the continued development of Sport Management research and practice.

Celina Gonçalves / Isilda Dias / Miguel Pacheco/ Vera Pedragosa



Oral presentations

1.1. Digital Transformation, Innovation and Technology

Intention to Use Platforms in the Brazilian Fitness Market

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Objective and Research Questions: This summary aims to analyze the factors that influence the intention to use digital platforms for hiring fitness professionals.

Theoretical Foundation and Literature Review: The growing migration to the technological service environment and the advancement of platforms have transformed the way consumers interact with products and services, and this transformation has also been identified in the fitness market (Sun and Yuan, 2024). In Brazil, this market is a global leader, with over 59,000 registered gyms, making it the second largest in number of units worldwide, behind only the United States (SEBRAE, 2023). This growth is driven both by the pursuit of quality of life and by the professionalization of the sector, which encompasses everything from fitness instructors and personal trainers to nutritionists and exercise physiologists (Zhong et al., 2025). Thus, the demand for qualified and accessible professionals through digital platforms becomes a strategic opportunity to bring consumers closer to personalized health and wellness services. According to Liang et al. (2021) and Blackburn et al. (2023), digital platforms have characteristics that directly impact the perception of value and, consequently, consumption decisions (Zhong et al., 2025). System architecture, trust, and information quality play fundamental roles in building the user experience. Digital platforms with user-friendly interfaces tend to generate greater user engagement, facilitating navigation and, consequently, increasing intended use (Matos, Curth, and Garcia, 2020), representing an important gap for analysis.

Research Design, Methodology, and Data Analysis: The research used a quantitative methodology, administering a survey to 250 potential users in the Vale do Sinos region, southern Brazil, and analyzing the data using structural equation modeling (SEM) with the aid of SmartPLS 4 software. The study adopted the Technology Acceptance Model (TAM) scale (Davis, 1989). TAM is one of the most appropriate frameworks for understanding the adoption of digital platforms and applications in diverse contexts, including the health and fitness sector (Angosto, García-Fernández & Grimaldi-Puyana, 2023). In particular, applying the model allows us to measure how individuals perceive the functional value and ease of interaction with platforms, decisive factors for engagement and continued use. Based on this, hypotheses were established regarding the relationships between the model's constructs: perceived usefulness (PU), perceived ease of use (PEOU), and behavioral intention to use (BI). Three hypotheses were formulated: H1 – PEOU positively influences UI; H2 – PU positively influences UI; H3 – PEOU positively influences PU.

Results and Discussion: The analysis revealed composite reliability above 0.85 for all constructs and convergent validity (AVE) above 0.50, with no multicollinearity ($VIF < 3.5$). The coefficients of determination also demonstrated high predictive capacity of the model: R^2 of 0.648 for intention to use and R^2 of 0.403 for perceived usefulness, indicating that 64.8% of the variation in intention to use can be explained by PU and PEOU. The three hypotheses formulated based on the literature were confirmed. The first hypothesis (H1) was supported with a path coefficient of $\beta = 0.338$ ($p < 0.001$), confirming Venkatesh and Davis's (2000) argument that intuitive technologies tend to be more accepted, especially in contexts where decision-making needs to be fast and frictionless. The second hypothesis (H2) obtained the highest coefficient among the tested relationships ($\beta = 0.520$; $p < 0.001$), aligning with other studies, such as those by Mello et al. (2021) and Zhou (2011), which indicate that perceived value in terms of practicality and personalization is decisive in the adoption of platforms in health and fitness services. The third hypothesis (H3) was also confirmed ($\beta = 0.635$; $p < 0.001$), demonstrating that systems that require low operational effort are automatically considered more useful, as suggested by Davis (1989) and reinforced by Kim, Chan, and Gupta (2007).

Conclusion, Contribution, and Implications: A positive experience with digital platforms for hiring professional fitness services depends heavily on the platform's perceived usefulness and ease of use. The study reinforces the TAM model in personalized service contexts, especially in Brazil, where its application in technology is well known. From a practical perspective, the results guide developers and managers to prioritize usability and the delivery of perceived user value as strategic factors for adoption. According to Alalwan (2020), digital solutions must be clear, reliable, and capable of generating personalized experiences, as this set of attributes is essential for building user trust and, therefore, their propensity for continued use. The study advances knowledge about the validation of the TAM model in the sector, providing support for the design and management of platforms aligned with the expectations of fitness service users.

Keywords: Perception of usefulness; Perception of ease of use; Intention to use; Digital platforms; Fitness.

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Artificial Intelligence in Fitness: Emotions, Trust, and Willingness to Use in Fitness Centres

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Aim and Research Questions: The general objective of this study is to analyze how emotions and trust influence the intention to continue using artificial intelligence (AI) in fitness contexts using structural equation modeling. The proposed hypotheses are:

H1: Positive emotions in the use of AI positively influence trust in AI.

H2: Trust in AI positively influences the intention to continue using AI.

H3: Positive emotions directly influence the intention to continue using AI.

H4: Trust in AI mediates the relationship between emotions and the intention to continue using AI.

Theoretical Background and Literature Review: AI is transforming various sectors through the use of automation tools such as chatbots, service robots, and virtual assistants, particularly in the services sector (Yanit et al., 2023). Organizations use AI to optimize processes, reduce costs, and support decision-making (Benbya et al., 2020).

In fitness, the integration of AI has enabled more personalized and effective experiences. Through algorithms that process biometric data, intelligent platforms can adjust training plans, provide real-time feedback, and recommend corrective actions, thereby increasing the effectiveness of programs and user satisfaction (Nakip, 2025). These applications range from exercise prescription to monitoring training load and recovery.

However, the adoption of AI-based technologies does not depend solely on their functional utility. The literature highlights the central role of emotions in the relationship with technology (Gursoy et al., 2019). Positive emotions such as enthusiasm or well-being can strengthen users' engagement with AI (Ahn & Park, 2023), while negative emotions may lead to rejection or disinterest. Trust is also fundamental, especially when AI influences decisions related to health and physical performance. Studies show that trust is shaped by both technical aspects and emotional experience with the technology, and it can be decisive for continued use (Salih et al., 2025).

Research Design, Methodology and Data Analysis: This is a cross-sectional study. The sample consists of 428 fitness center clients in Portugal (269 female and 159 male). The emotions scale was adapted from the SRIW scale (Lu et al., 2019), trust was measured using the scale of Fernandes and Oliveira (2021), and



willingness to continue using AI was adapted from UTAUT2 (Venkatesh et al., 2012). Data were collected online and processed using Smart-PLS version 4.1.1.4 (Ringle et al., 2024).

Results and Discussion: The evaluation of the measurement model was the first step. All items in the present study met the reference value of 0.70 in the outer loadings. The dependability of internal consistency was assessed using Cronbach's alpha and rho_A. All of the study's constructs demonstrated strong internal reliability by exceeding the acceptable level of 0.70. The AVE (Average Variance Extracted) was used to evaluate convergent validity. The AVE values for every construct were higher than the suggested threshold of 0.50. 89% of the variance was explained by emotions, 75% by trust, and 88% by willingness to use. To assess discriminant validity, the Heterotrait-Monotrait Ratio (HTMT) was used. Since every HTMT value was below the 0.90 cutoff, the discriminant validity was deemed acceptable.

The sign, magnitude, and significance of the path coefficients, the effect sizes (f^2), and the coefficient of determination (R^2) were used to evaluate the structural model. With appropriate confidence intervals and substantial route coefficients, all structural relationships were validated. According to Hair et al. (2024), the connections between Emotions and Trust ($f^2 = 0.528$) and Trust and Willingness to Use AI ($f^2 = 0.628$) indicating large effect sizes.

Regarding the explanatory power of the model, the R^2 values indicate that it explains 65.7% of the variance in Willingness to Use and 35% of the variance in Trust in Interaction with AI.

The mediating effects were also analysed. Trust mediated the relationship between Emotions and Willingness to Use AI ($\beta = -0.337$, $p < 0.001$). This value is practically equivalent to the direct effect of Emotions on the intention of continued use ($\beta = -0.327$), demonstrating that Trust plays a central mediating role in this relationship.

Conclusion, Contribution and Implications: A positive emotional experience with AI not only directly affects the willingness to continue using it but also strengthens trust in the technology, which in turn significantly increases the intention of continued use. This dual mechanism—both direct and mediated—highlights the importance of integrating affective and relational dimensions to better understand the sustainable engagement of clients with AI solutions in fitness contexts.

Keywords: Artificial intelligence; gym; technology; consumer behavior; PLS-SEM.

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Analysis of Toxic Behaviors among Video Game Players in Portugal

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Objective and Research Questions: The practice of video games has emerged as one of the main sources of toxicity among young people worldwide (Granic et al., 2014). Toxic behaviors, such as verbal harassment, trolling, or cyberbullying, negatively affect mood and the enjoyment of playing (Türkay et al., 2020), subsequently influencing performance and teamwork (Cheng, 2020). Despite growing academic interest, gaps persist in the definition and measurement of CTs, due to the absence of a unified theoretical framework that integrates behavioral and social dimensions (Kordyaka et al., 2020). This study explores: (1) the prevalence and typology of CTs among Portuguese youth; (2) the triggering factors; and (3) outlines mitigation strategies that allow for the identification of relationships underlying the development of effective interventions.

Theoretical Framework and Literature Review: Toxic behaviors (TBs) are a social phenomenon manifested through negative actions or attitudes displayed by individuals within gaming communities (Kordyaka et al., 2020), including sexism (Freitas et al., 2021), flaming (hostile language for psychological advantage; Saarinen, 2017), trolling (intentionally disrupting while pretending sincerity; Neto & Becker, 2018), cheating (gaining unfair advantages; Freitas et al., 2021), among other TBs that harm players and online communities (Kwak et al., 2015). These behaviors disrupt gameplay, compromise the player's experience (Türkay et al., 2020), and threaten the integrity of the video game industry (Holden et al., 2020). Factors such as online disinhibition, anonymity, and reduced accountability amplify the problem, creating systemic risks for gameplay and organizational credibility (Kordyaka et al., 2020). The complexity of TBs is further aggravated by the unique subcultures of gaming communities, where clans (Zhang et al., 2024) often develop norms that normalize certain toxic actions. Despite growing academic interest, gaps persist in the definition and measurement of toxic behaviors (TCs) due to the absence of a unified theoretical framework that integrates behavioral and social dimensions. This study investigates: (1) the prevalence and typology of TCs among Portuguese youth; (2) triggering factors; and (3) mitigation strategies, using a quantitative method to identify patterns and relationships that support effective interventions.

Research Design, Methodology, and Data Analysis: This study is framed within the scope of the European project LAENOG, co-funded by the European Union, which seeks to analyze risks and TBs among young video game players, developing tools for self-assessment, awareness, and the measurement of social impact over time.

To address the first goal, a quantitative cross-sectional design was employed, comprising a sample of 250 students aged between 14 and 18 years, recruited through contact primary and/or secondary schools in the Lisbon Metropolitan Area. This type of design allows for a broad and objective characterization of online toxicity behaviors among Portuguese youth, identifying prevalence patterns and associations between variables at a specific point in time. All participants answered a questionnaire composed of 54 questions on

online toxicity on a 5-point Likert scale (including trolling, grieving, racism, sexism, cheating, cyberbullying, flaming, nationalism/xenophobia, and a general dimension), as well as 7 sociodemographic questions (age, gender, type of game, number of hours played, etc.). After acceptance to participate in the study, a team of two researchers presented the study through an explanatory lecture on the topics and their social causes/consequences. Data collection will be carried out online between September 15 and October 15, 2025, through the questionnaire available on the LAENOG project platform (<https://laenog.com/self-assessment/>). All participants, or their legal guardians, will sign informed consent. Participants will respond independently, without any intervention from parents, researchers, or educators.

Results and Discussion: The study is expected to identify TBs and their prevalence among young video game players in Portugal, as well as their distribution across sociodemographic variables. Significant relationships are anticipated between triggering factors and the frequency of toxic behaviors, as well as possible correlations between the individual perception of social impact and exposure to TBs. Furthermore, results are expected to identify priority areas for intervention, providing useful data for the development of self-assessment tools, social awareness, and strategies to mitigate negative impacts in the gaming environment for parents, educators, clubs, and national policymakers.

Conclusion, Contribution, and Implications: The main contribution of this study lies in the integration of quantitative data on toxic behaviors (CTs) among video game players in Portugal. The results, grounded in theories such as the Online Disinhibition Effect (Suler, 2004) and the Social Identity Model of Deindividuation Effects (Spears & Lea, 1994), are expected to clarify how anonymity, group norms, and social identity influence the prevalence and typology of CTs. The empirical evidence may support the development of educational policies and awareness programs that promote safer and healthier gaming experiences. Furthermore, the findings may guide future research on the relationship between gamer subcultures, community norms, and toxic behaviors in online video game contexts.

Keywords: online toxicity; video games; youth; social inclusion; Portugal.

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Keywords: online toxicity; video games; youth; social inclusion; Portugal.

Business Process Management as a Structuring Factor for Digital Transformation: A Case Study in Portuguese Youth Football

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Objective and Research Questions: This study aimed to analyze how digital transformation (DT) influences planning and organization in youth football, based on the Business Process Management (BPM) approach. It seeks to understand how the integration between DT and BPM can enhance efficiency, collaboration, and process sustainability within the context of Portuguese youth football.

Theoretical Framework and Literature Review: Digital transformation (DT) is understood as a cultural, structural, and strategic change process that goes beyond mere technological digitalization (Vial, 2019; Verhoef et al., 2021). In the sports sector, literature highlights the role of digital technologies in improving administrative efficiency, fostering organizational innovation, and creating value for athletes, coaches, and other stakeholders (Warner & Wäger, 2019; Ratten, 2020).

In Portugal, youth football represents a strategic component of the national sports ecosystem, with significant investment in academies and training centers that aim to combine sporting, educational, and human development (FPF, 2023). Within this context, planning plays a critical role in integrating pedagogical, logistical, and relational dimensions (Ford et al., 2020; Relvas et al., 2010), demanding structured and technology-supported management practices. Business Process Management (BPM) provides a systematic approach to modeling, analyzing, and optimizing organizational processes (Dumas et al., 2018), aligning technology, people, and organizational culture to improve efficiency and transparency (Kerpedzhiev et al., 2021). The integration between DT and BPM thus appears strategic for consolidating adaptive, collaborative, and sustainable management practices in Portuguese youth football, particularly in institutions seeking to modernize their planning.

Digital transformation in sport must comply with data protection regulations. The General Data Protection Regulation (GDPR; European Union, 2016/679), transposed into Portuguese law through Law no. 58/2019, establishes principles such as data minimization, informed consent, and enhanced security—especially relevant for handling minors' personal data. Therefore, the integration of BPM and DT should be accompanied by sound data governance practices ensuring legal compliance, transparency, and stakeholder trust (Voigt & Von dem Bussche, 2017; Mikalef et al., 2020).

Research Design, Methodology, and Data Analysis: The research followed a qualitative design, structured as a case study (Yin, 2018), conducted within a Portuguese top-tier football club recognized for the excellence of its youth development system. Five semi-structured interviews were conducted with managers, coaches, and planning analysts to capture diverse perspectives on planning and digitalization.



Data were analyzed using the Computational Grounded Theory approach (Nelson, 2020), combining qualitative coding with the support of Large Language Models (LLMs). This method enabled triangulation between theory, practice, and technology, applying deductive categories derived from DT, BPM, and GDPR (Law no. 58/2019), while identifying emergent concepts reflecting the organizational reality of Portuguese youth football.

Results and Discussion: Findings show that planning is perceived as a core organizational pillar in youth football, integrating logistical, pedagogical, and relational dimensions. However, current practices remain manual, fragmented, and highly dependent on individual managerial experience, which diverges from the structured and process-oriented logic of BPM. Participants recognized the need for integrated digital solutions but reported cultural resistance, a lack of systematic monitoring, and weak data governance as key barriers to digital transformation. The club's current digital maturity corresponds to the initial stages of DT (Fischer et al., 2020), characterized by isolated initiatives and the absence of consistent performance metrics. Emergent concepts included the value of experiential learning, the balance between schooling and sport, process flexibility, and the need for stronger technical-administrative integration. Concerns were also raised regarding data protection, particularly due to the handling of sensitive information about minors. The absence of robust digital governance systems increases the risk of non-compliance with GDPR (European Union, 2016/679), emphasizing the importance of anonymization, informed consent, and data security (Voigt & Von dem Bussche, 2017). Overall, digital transformation in Portuguese sport requires not only technological solutions but also organizational change management that ensures efficiency, transparency, and data protection while preserving the formative and pedagogical nature of youth football.

Conclusion, Contribution, and Implications: The integration between DT and BPM represents a structural pathway for Portuguese youth football, enabling greater organizational efficiency, transparency, and sustainability. Such integration must, however, respect the cultural, pedagogical, and social specificities of the formative context. This study contributes to the literature by revealing the gap between theory and practice in the digitalization of youth football academies and by proposing BPM as a methodological instrument to model and accelerate digital maturity in sports organizations. Practical implications include implementing integrated planning platforms, developing GDPR-aligned performance indicators, and promoting professional training programs that combine organizational culture with technological innovation. Ultimately, this study offers relevant contributions to sports management in Portugal, providing a conceptual and empirical framework that can support clubs, federations, and public entities in developing digitally sustainable and pedagogically aligned management models for youth sport.

Keywords: Digital Transformation; Business Process Management; Youth Football; Planning; Sport Management

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Adoption of Artificial Intelligence in Sports Management and Marketing: Motivations, Barriers and Facilitators

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Aim and Research Questions: The aim of this systematic review is to identify and synthesize the organizational motivations driving the adoption of artificial intelligence (AI) in sports management and marketing, as well as the obstacles and factors that facilitate its successful implementation. Research questions: What organizational motivations promote the adoption of AI in the sports domain? What technological, human, and ethical barriers hinder its deployment? What facilitators help overcome these barriers and ensure the success of AI projects?

Theoretical Background and Literature Review: The reviewed literature (2010–2025) reveals a growing interest in AI in sports, linked to technology adoption theories such as the Technology Acceptance Model (TAM) and the Resource-Based View. Previous studies document applications in injury prevention, performance analysis, fan management, and optimization of operational processes. However, many organizations face skills gaps, cultural resistance, and ethical concerns that delay the integration of AI-based solutions. This review identifies knowledge gaps regarding organizational factors and proposes a framework to holistically address motivations, barriers, and facilitators. By doing so, it contributes to bridging the divide between technological potential and practical implementation in sports organizations.

Research Design, Methodology and Data Analysis: The PRISMA guidelines were followed for systematic reviews. The search was conducted in Scopus using six Boolean strings combining terms related to “artificial intelligence”, “sport management/marketing” and “adoption/barriers/facilitators” with filters for language (English or Spanish), document type (research articles and reviews), and period (2010–2025). After removing duplicates and applying inclusion/exclusion criteria, 27 studies were selected. The thematic content analysis grouped findings into three dimensions: motivations, barriers, and facilitators.

Inclusion criteria. Studies focused on AI applied to sports marketing or sports management from organizational, managerial, user, or strategic perspectives. Studies that explicitly address adoption, use, acceptance, implementation, challenges, benefits, or facilitating/limiting factors. Empirical, theoretical, or systematic/narrative review studies with a focus on sports organizations, clubs, federative bodies, events, fan management, sports communication, or similar contexts.

Exclusion criteria Studies focused solely on athletes’ physical performance or technical-tactical performance. AI applications in biomechanics, motion analysis, injury prevention, personalized training, or related areas. Articles without full-text access. Duplicates.

Results and Discussion: The results highlight four main organizational motivations: Optimization of athlete performance and well-being through predictive algorithms and real-time monitoring.

Improvement of decision-making and operational efficiency in event planning and resource allocation. Personalization of marketing and increased fan engagement through content recommendation and dynamic offers. Knowledge management and long-term competitive advantage through centralization and analysis of historical data. Five critical barriers were identified:

Technical skills gap and lack of training. Resistance to change and conservative organizational culture. High initial costs and budget constraints. Data integration difficulties and dependence on legacy infrastructures. Ethical, privacy, and information security concerns. The analyzed studies agree that six facilitators mitigate these barriers: Strategic leadership with a long-term vision and innovation plan. Continuous training programs and digital skills development. Robust technological infrastructure and data governance. Ethical protocols and proactive algorithmic audits. Incremental approach with low-risk pilot projects. Interdisciplinary collaboration and external partnerships with universities and technology providers. The discussion examines how the interplay between human, technological, and organizational factors determines the success or failure of AI projects, emphasizing the need for holistic strategies that integrate leadership, culture, and resources.

Conclusion, Contribution and Implications: The adoption of AI in sports management and marketing requires balancing technological ambition with organizational readiness. This review provides a consolidated framework of motivations, barriers, and facilitators that guides sports managers in designing strategic roadmaps. It is recommended: Define clear objectives aligned with the institutional mission. Invest in training and cultural change alongside technology. Establish data and ethics policies from the outset. Start with controlled pilots to build trust and measure ROI. Foster partnerships with external stakeholders to complement capabilities. Practical implications: include the creation of multidisciplinary committees to oversee AI projects, the promotion of common standards at the federation level, and the development of benchmarking tools to compare adoption progress across organizations. Academic implications: point to the need for longitudinal studies, comparative analyses across regions, and explorations in underrepresented contexts such as small clubs, amateur sports, and emerging economies. Future research should also incorporate the perspectives of athletes and fans, who are directly affected by AI-driven decisions. In conclusion, AI adoption in sports is not a question of *if* but *how*. Organizations that proactively address barriers and leverage facilitators will be better positioned to harness AI as a source of sustainable competitive advantage, while ensuring ethical and socially responsible practices.

Keywords: Artificial intelligence; sports management; sports marketing; barriers; facilitators.

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Impact of the Introduction of VAR on the Satisfaction, Performance and Retention of Football Referees in Portugal

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Aim and Research Questions: Referees are crucial to the success of the sport, ensuring fairness and integrity in football (e.g., Cuskelly & Hoyer, 2013). However, refereeing in football is an increasingly demanding role, given the high pressure and media exposure. This context has contributed to difficulties in retaining referees, as many leave the profession early (Livingston et al., 2020). This low retention rate is problematic for refereeing, compromising the quality of the game and undermining the credibility of competitions (e.g., Potrac et al., 2022). In this sense, retention is fundamental to ensuring the quality, sustainability and credibility of sports competitions (Cuskelly & Hoyer, 2013), as well as the integrity of football in particular (Livingston et al., 2020).

Theoretical Background and Literature Review: To counteract this trend, the introduction of new technologies (e.g., VAR) seeks to increase the fairness of decisions and reduce obvious errors (e.g., Held et al., 2024). However, this technology has also brought new challenges, which can impact not only referees' job satisfaction (JS) but also their performance (JP) and retention, and this reality is still largely unexplored in the Portuguese context. Considering that JS (e.g., Giel & Breuer, 2021; Kim, 2017) and JP (e.g., Hacıcaferoğlu et al., 2018) are fundamental to the retention of these professionals, the present study aimed to understand how the introduction of VAR may have influenced JS, JP, and the retention of football referees in Portugal.

Research Design, Methodology and Data Analysis: The research followed a qualitative approach, based on semi-structured interviews conducted with four Portuguese Premier League referees with different levels of involvement with VAR: one main referee, two assistants, and one VAR specialist. The sample was selected for convenience, favoring diversity of experience. The interviews were transcribed in full and analyzed using thematic analysis (Braun & Clarke, 2012), which allowed us to identify key dimensions related to the transition to VAR, the differentiation between referee and VAR roles, and career retention.

Results and Discussion: The results showed a paradoxical impact of VAR on referees' experience. On the positive side, the system contributed to reducing serious errors, promoting fairness in sport, and giving referees greater peace of mind in the post-match period, corroborating the literature (e.g., Held et al., 2024). The data also indicated that the introduction of VAR may increase referee retention, as it opens up new career possibilities (e.g., specialization in VAR room functions) and/or allows experienced referees to remain in these roles after retiring from the pitch. In this way, VAR can help mitigate the premature loss of qualified human capital, enabling the construction of alternative paths within refereeing, and thus increasing referee retention, which is essential for the credibility of competitions (Potrac et al., 2022). It was also found that, for these referees, VAR directly influences JS by providing greater confidence in decision-making and reinforcing the perception of integrity in the game. At the same time, it also contributes to improving JP, ensuring greater accuracy in complex plays and reducing the occurrence of clear errors. Considering the influence of JS (e.g., Giel & Breuer, 2021; Kim, 2017) and JP (e.g., Hacıcaferoğlu



et al., 2018) on referee retention, the introduction of VAR may effectively favour their retention. On the other hand, challenges such as technological dependence and different psychological pressure have arisen. This redistribution of pressure proved to be fundamental, as criticism and responsibilities now also fell on the VAR referee and not exclusively on the main referee, which seems to corroborate previous studies (Tamir & Bar-Eli, 2021; Karan & Kashveer, 2023). However, these results add specificities to the Portuguese context, especially with regard to the initial phase of adaptation to technology and the learning processes of referees.

Conclusion, Contribution and Implications: The introduction of VAR in the Portuguese League has had an ambivalent effect: while it has strengthened confidence and fairness in refereeing, it has also introduced new pressures and limitations. The research sought to fill a gap in the literature by qualitatively exploring the experience of Portuguese referees, revealing clues as to how technology impacts JS, JP and retention. From a practical point of view, the results offer relevant evidence for entities such as the FPF, suggesting the need to strengthen training and social recognition for referees, as well as continuing to invest in decision support technologies, given their positive influence on JS, JP and retention.

Keywords: Digital Transformation, Technology, Innovation, VAR, Refereeing.

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1.2. Diversity, Inclusion and Sociocultural Development

Universal Sports for Social Impact (USSI) Project - Social Valorisation of Sport

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Aim and Research Questions: The Universal Sports for Social Impact (USSI) - Social valorisation of sport project aims to develop and validate sports training modules designed to empower and enhance grassroots sports organisations through innovative, inclusive and evidence-based training programmes. The sports training modules are aimed at coaches and sports practitioners. Rooted in judo's values of respect, discipline and co-operation, the methodology also integrates other sports to broaden its social reach. Its focus is on empowering sports clubs to promote long-term involvement, intrinsic motivation and the holistic development - moral, mental, physical and social - of their practitioners.

Theoretical Background and Literature Review: Sport has been widely valued for its potential to tackle social problems and promote positive change in communities. Politically, governments justify significant investments in sport because of its impact on community identity and social cohesion at different scales (Green, 2007; Houlihan, 2005). It is argued that sport, promoted by sports organisations, can: (a) stimulate active citizenship (Karadakis & Kaplanidou, 2012); (b) encourage healthy lifestyles and increase physical activity (Veal, Toohey & Frawley, 2012; UNESCO, 2021); (c) reduce social exclusion and antisocial behaviour (Bailey et al., 2009); and (d) strengthen community capacity and local empowerment (Misener & Mason, 2008). With the growing recognition of the social value of sport, there has been a shift in focus towards the development of social benefits, exploiting resources and good practices from successful initiatives (Misener & Schlenker, 2016; Schlenker & Edwards, 2012). The Universal Sports for Social Impact (USSI) project applies martial arts principles to promote positive values, social inclusion and personal development among European citizens. Its community development model is asset-based and includes training modules such as: parent and child training, acrobatic fitness, judo athletic training, medical gymnastics, mental trainer and judo for the blind.

Research Design, Methodology and Data Analysis: To ensure the quality, relevance and adaptability of each thematic sports training module, a structured evaluation tool was created to gather feedback from stakeholders during the pilot phase. This tool aims to: (i) assess the effectiveness and applicability of each module and (ii) guide improvements before its wider implementation. The Protocol for Validation of the



Sports Academy Methodology (SAM) tests the effectiveness, feasibility and reliability of the data collection tools in Albania, Kosovo and Montenegro. It includes a theoretical review, cultural validation and pilot testing. After fine-tuning, a final online survey will cover a representative sample of sports clubs from different regions and sizes. The analysis will identify the three most relevant modules for the social valorisation of communities in each country. A stratified purposive sampling method will be used to include a diverse and balanced representation of organisations in: a) geographical regions (North, Centre, South), b) types of organisations (sports clubs, federations, local authorities, NGOs, schools/universities) and c) size of organisations (small, medium, large) ensuring equal proportions for a minimum of 60 responses. The Sports Academy Methodology (SAM) seeks to educate for life, using sport as a tool for social integration, resilience and community development. The modules are validated using eight criteria (0-10 points): 1) local social and sporting relevance; 2) feasibility with available resources; 3) impact on vulnerable groups; 4) age appropriateness; 5) qualification of trainers; 6) cost-benefit ratio; 7) compatibility with existing programmes; 8) reproducibility and sustainability.

Results and Discussion: The 'Universal Sports for Social Impact (USSI)' project and the SAM methodology offer a robust and adaptable framework for integrating inclusive and evidence-based practices in diverse social contexts. Each sports training module responds to physical and psychological needs, promoting community cohesion, confidence and lifelong participation. Partner organisations select modules suited to their populations and resources. Three modules are being adopted per country (Albania, Kosovo and Montenegro), geared towards physical, psychological and social objectives, reinforcing the value of sport as a tool for inclusion and community development.

Conclusion, Contribution and Implications: The 'Universal Sports for Social Impact (USSI)' SAM methodology provides a robust and adaptable framework for incorporating inclusive and evidence-based practices into diverse social, organisational and cultural contexts.

Each validated module will allow sports clubs and organisations to select the modules aligned with their populations, available resources and short-, medium- and long-term community objectives.

The main contribution was to have a model for analysing the modules based on criteria applicable to the social contexts in which they will be implemented. The implications of the project are to create a robust structure that will allow sports clubs and organisations in Europe to design and select modules that are validated and aligned with their populations, available resources and short-, medium- and long-term community objectives.

Keywords: Capacity building, Grassroots sport, Martial arts, Social inclusion, Sports clubs.

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Accessibility to Sports Facilities: A Factor in the Social Value of Sport

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Objective and Research Questions: The major challenge of United Nations Sustainable Development Goal No. 10 (United Nations, 2022) requires all government bodies to take two actions: 1) ensuring equal opportunities by eliminating discriminatory laws, policies and practices, and 2) promoting social inclusion, regardless of age, gender, disability, race, ethnicity, origin, religion or economic status. In the context of sport, accessibility to sports facilities for persons with disabilities is essential to eliminate these discriminatory practices, guarantee equal opportunities and ensure social inclusion (Pereira, 2023). In order to eliminate these discriminatory practices and guarantee equal opportunities, it is necessary for sports managers to have appropriate tools to assess the accessibility of sports facilities. This study has two main objectives: to develop the Sports Pavilion Accessibility Assessment Tool (IAAPD); and to assess the accessibility conditions of sports pavilions in the Municipality of Caldas da Rainha – namely the Rainha D.^a Leonor Pavilion and the Mata Pavilion – using this tool. The purpose of the IAAPD is to identify barriers that may limit the participation of people with disabilities or reduced mobility and to propose solutions that promote full accessibility and inclusion in these sports facilities. Key questions: What are the obstacles to full accessibility? What actions can transform sport into a true factor for social enhancement in communities?

Theoretical Basis and Literature Review: Universal Design is a concept of products and environments to be used by all people, to the greatest extent possible, without the need for adaptation or specialised design (Mace, 2010). Participation in sporting activities has been shown to promote social inclusion by providing people with disabilities with opportunities to build social networks, increase self-esteem and develop social skills (Al Harthy et al., 2025). The Convention on the Rights of Persons with Disabilities (CRPD, 2011) reinforces the need to eliminate these barriers, emphasising that persons with disabilities face ongoing challenges that affect their inclusion in society, including access to sport. The development of the IAAPD is based on a solid theoretical foundation, starting from national regulatory requirements, specifically Decree-Law No. 163/2006. In addition, references from relevant international literature have been incorporated, with emphasis on the works of Affar et al. (2024), Rimmer et al. (2017), Yi et al. (2022), Verdú (2015) and Viegas (2017).

Research Design, Methodology and Data Analysis: The study was based on a mixed approach, involving direct observation, document analysis and semi-structured interviews for the construction and initial validation of the IAAPD. The instrument, based on standards such as Decree-Law No. 163/2006 and international best practices, organises 17 dimensions and a total of 502 items, ranging from access, corridors and changing rooms to technical and spectator areas. The pilot version of the IAAPD was validated by a panel of three experts, selected for their higher education qualifications in areas such as sports management, accessibility and inclusion.

Results and Discussion: The IAAPD is currently in the validation phase and is expected to provide a rigorous tool for diagnosing and planning improvements in accessibility, aimed at both managers and users of sports facilities. The IAAPD covers multiple essential dimensions: Access and Exterior Environment, Entrance and Reception Areas, Signage and Orientation, Inclusion and Accessibility Policies, Human Resources Training, Doors, Corridors, Ramps, Stairs, Handrails and Grab Bars, Lifts/Elevators, Lifting Platforms, Sanitary Facilities, Changing Rooms/Lockers, Sports Venue and Equipment, Hydromassage Area, Sauna and Turkish Bath, as well as areas for spectators and stands.

The application of the IAAPD in the sports pavilions of the municipality of Caldas da Rainha made it possible to identify specific barriers to accessibility. Obstacles such as the absence of properly sized ramps, insufficient signage on emergency routes, the existence of steps without accessible alternatives, and a lack of adapted parking spaces of adequate number and size were highlighted. Limitations were identified in changing rooms, toilets and technical areas in terms of manoeuvring space for wheelchair users and the absence of handrails in strategic locations. These results highlight the need for structural and organisational interventions to ensure universal access, demonstrating that the tool not only serves as a diagnostic tool, but also guides the planning and implementation of effective improvements in the facilities assessed.

Conclusion, Contribution and Implications: The IAAPD will enable improved accessibility to sports facilities, which is vital for enhancing the social value of sport, promoting inclusion, equal opportunities and active participation in communities. The model presented can be replicated in other structures, serving as a reference for public policies and management strategies focused on community development. Accessibility is therefore an essential condition for sport to fulfil its transformative social role, contributing to fairer, more cohesive and healthier societies.

Keywords: Accessibility; Universal Design; Inclusive Sport; Sports Facilities; Social Enhancement.

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Social Inclusion in Youth Sports: A case Study of Sport Clubs in Trofa

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Objective and Research Questions: Based on the question “In what way can sport promote social inclusion in Trofa’s sport clubs”, this study aimed to assess the state of inclusivity, strategies used and possible areas of improvement in youth sport clubs in Trofa, with the goal of proposing measures of support that can be implemented by the Municipality.

Theoretical Framework and Literature Review: Social inclusion is essential to the development of a balanced society following the insertion of new cultures. To achieve social inclusion, social integration must also be considered (DeLuca, 2013), as it is a necessary requirement for community cohesion. This study is grounded in Schulenkorf’s (2012) Sport for Development model, which provides a framework for creating initiatives and projects that foster community participation through the development of events. The success of such events depends on attracting the population through sport, creating a liminoid space for the promotion of inclusion (Schulenkorf et al., 2016). For this, strategies for promoting social inclusion were considered, such as the creation of events that lead to further actions that promote social causes (Schulenkorf & Edwards, 2012), the utilization of youth as catalysts for change (Corvino et al., 2023), the promotion of skills through sport and their use to stimulate social connections (Lange et al., 2024).

Research Design, Methodology, and Data Analysis: This research used a qualitative methodology, through semi-structured interviews with youth development directors from three sports clubs in Trofa, representing different modalities: Basketball, Football, and Futsal. The information gathered was transcribed using MAXQDA Analytics and Fireflies.ai as tools, followed by free transcription and later correction of incorrectly transcribed excerpts. The resulting data was analyzed using Braun & Clarke’s (2006) data analysis methodology, divided into five phases for this investigation.

Results and Discussion: From the findings, a conceptual map was created highlighting four subthemes: (i) definition; (ii) internal practice; (iii) improvements; and (iv) barriers. Regarding the definition of social inclusion, it was associated with Zwahlen et al.’s (2018) definition of social integration, and, when linked to sport, it was associated with the term “family,” as a common concept tied to fostering a sense of community, supporting Bailey (2008).

In terms of internal practice, discrepancies were found in the way social inclusion was considered within clubs. These differences were reflected in the strategies adopted, with evidence of competence-building and social connection initiatives (Lange et al., 2024). Similarly, events were used to promote broader social causes (Schulenkorf & Edwards, 2012), showing early applications of the Sport for Development model (Schulenkorf, 2012). When analyzing improvements, needs highlighted included training to foster behavioral changes among sports agents (Corvino et al., 2023), the creation of records, and gatherings to promote the development of cultural exchange (Lange et al., 2024). Barriers to social inclusion were also identified within clubs, with the focus on language, additional costs, personal and family-related blocks, and



bureaucracy. Bureaucracy, in particular, highlighted the difficulty in obtaining the necessary documentation for full athlete participation, leading to challenges in achieving full inclusion (Angelo, 2019).

Conclusion, Contribution, and Implications: Sport clubs in Trofa already appear to hold an idealized notion of social inclusion when connected with sport, which is applied within the clubs through practices that follow some elements of the Sport for Development model (Schulenkorf, 2012). This study enabled the formulation of practical implications to be implemented by the municipality to further promote social inclusion in youth sports. The suggestions include, for example, the creation of a manual to apply Schulenkorf's (2012) Sport for Development model; the development of social inclusion initiatives within the municipality, and the establishment of an Athlete Support Office.

Keywords: Sports Management; Social Inclusion; Sport for Development; Event Management.

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Women's Sports Participation Determinants in Peniche (Portugal): A Study on Capabilities, Opportunities, and Motivations (COM-B)

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Aim and Research Questions: Identifying and understanding the factors that influence informal sports participation among women residing in Peniche. What are the facilitators and barriers to women's participation in sport, according to the COM-B model?

Theoretical Background and Literature Review: Sport participation has been recognized as an essential factor for promoting health, social inclusion, and population well-being (EU, 2008; Jeanes, 2019), being particularly relevant in countries such as Portugal, which exhibit low levels of physical activity among women (Eurobarometer, 2022). One of the frameworks recently employed to study sport participation is the Theoretical Domains Framework (TDF), which identifies the determinants of behavior change that affect individuals' motivation, capability, and opportunity (Atkins et al., 2017). For this reason, it is often used in conjunction with the COM-B model (Capability, Opportunity, Motivation, and Behavior), which postulates that behavior is influenced by the interaction among these three components (Michie et al., 2011). This model enables an in-depth analysis of the factors that shape people's decisions to engage or not engage in sport and physical activity (Brown et al., 2024). The usefulness of the TDF in understanding these factors was demonstrated by Brown et al. (2024), who identified six prominent TDF domains as facilitators of physical activity among university staff and students: environmental context and resources, intentions, social influences, knowledge, beliefs about capabilities, and social/professional role and identity. In this sense, the study involving women from the municipality of Peniche may contribute to filling gaps in the literature, particularly regarding the in-depth analysis of behavioral determinants in specific and underrepresented populations. Based on the analysis of the COM-B model dimensions, it is possible to design interventions aimed at overcoming barriers and strengthening facilitators of sport participation, such as changing social norms, which may prove effective in increasing engagement in physical and sporting activities (Ndupu et al., 2023).

Research Design, Methodology and Data Analysis: A mixed-methods design was adopted (Creswell, 2003), structured around the COM-B model (Capability, Opportunity, Motivation, and Behaviour) and the Theoretical Domains Framework (TDF) (Michie et al., 2011; Atkins et al., 2017). The quantitative component consisted of a structured questionnaire comprising 42 items, grouped by the COM-B/TDF domains and adapted from validated instruments, including the *Eurobarometer* and studies by Brown et al. (2019). The survey was administered to a sample of 173 women (M = 40.5 years, SD = 11.2). Statistical analyses



included both descriptive and inferential procedures (*t*-tests and ANOVA) to compare facilitators and barriers across age groups, residential parishes, and types of physical activity. A significance level of 5% ($p < 0.05$) was established. The qualitative component involved four focus groups with a total of 30 participants. Data were analysed using thematic analysis, with coding procedures guided by the COM-B and TDF frameworks (Denzin, 2012).

Results and Discussion: The results revealed that 68.2% of participants engaged in informal sport activities, primarily in gyms or outdoor settings, with *fitness*, *dance*, *running*, and *cycling* being the most common activities. Participation occurred mainly in groups (67%), with a frequency of two to three times per week. Among the most prominent facilitators, the capability domain ($M = 4.22$) stood out, particularly knowledge ($M = 4.54$) and beliefs about consequences ($M = 4.49$). Conversely, the most significant barriers among non-participants were structural ($M = 3.24$), such as lack of time ($M = 3.80$), limited programme availability ($M = 3.55$), and family responsibilities ($M = 3.69$), consistent with the hierarchical model of leisure constraints (Alexandris et al., 2002). No statistically significant differences were found ($p > 0.05$) among the analysed groups, a finding that may be explained by the homogeneity in the perception of facilitators and the specific social context of the participants. The triangulation of quantitative and qualitative data with the scientific literature reinforced the evidence that, even in contexts characterised by high motivation and perceived capability, the absence of real and accessible opportunities constitutes a critical barrier to participation among different groups of women (Ndupu et al., 2023; Rich et al., 2019).

Conclusion, Contribution and Implications; Understanding the behavioural mechanisms that sustain or constrain women's sport participation can support the development of public policies that are more sensitive to women's social, economic, and cultural contexts. The study conducted in Peniche complements the international literature by applying frameworks such as COM-B and TDF to analyse behaviour related to physical and sport activity. In terms of practical implications, it is recommended that municipal governments promote more inclusive communication strategies, expand the provision of programmes tailored to women's specific needs, and invest in the creation of safe and welcoming urban environments that encourage informal physical activity.

Keywords: women's sports participation; public policies; COM-B; barriers; informal sports.

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Globalization in Portuguese Football: The Effect of Foreign Investors on Fans

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Aim and Research Questions: This study aims to analyze how the entry of foreign investors in Portuguese football clubs affects the relationship of fans with their clubs, in particular with regard to identification, loyalty and supportive behaviors. It aims to understand how globalization and the growing presence of foreign capital influence the emotional connection of fans, their long-term commitment and involvement in practices such as watching matches and consuming official products. The study recognizes clubs as key social actors in community development, whose management contributes to the cohesion, identity and social enhancement of sport.

The research questions formulated are:

- Does the entry of foreign investors have an effect on the identification of fans with the club?
- Does the entry of foreign investors have an effect on fan loyalty?
- How do fans perceive the team's performance after the entry of foreign investors?

These issues are relevant, as sporting success is recognized as a factor of social valorization of sport, capable of mobilizing communities and reinforcing the sense of belonging.

Theoretical Background and Literature Review: Globalisation has turned football into a global consumer product and an investment platform for international companies and funds (Giulianotti & Robertson, 2018). Studies suggest that foreign investment modernizes infrastructure and increases competitiveness, but can generate emotional distance when it disregards the cultural identity of the clubs (Merkel, 2012). In the Premier League, the influx of foreign capital resulted in a global spectacle and record revenues, but also in the perception of loss of authenticity by fans (Doyle et al., 2012). For fans and followers, sports clubs play a central role in the social development of communities and fans and, therefore, are a factor of social appreciation. In the portuguese context, this phenomenon is particularly important, since many clubs have low stadium occupancy rates, a sign of a growing distancing of fans. As Bee and Havitz (2010) point out, the involvement of fans is decisive for the financial and emotional sustainability of clubs, playing a structuring role in the social life of communities. By addressing these issues, this study contributes to the understanding of the social pillar of sport, aligning with the theme of the congress – Sport, Society and Artificial Intelligence.

Research Design, Methodology and Data Analysis: The study combines qualitative and quantitative methods. In the qualitative component, 15–20 semi-structured interviews will be conducted with fans of

clubs recently acquired by foreign investors, representing different ages, levels of involvement and gender. The script will follow thematic analysis (Braun & Clarke, 2006), exploring perceptions about identity, loyalty and the impact of the new management.

The following fans were defined as eligible:

- over 18 years old;
- belonging to clubs in the Portugal Betclic or SABSEG Leagues acquired or financed by foreign investors recently;
- who regularly follow the club, in person or through digital media.

Employees, directors and individuals with commercial ties to the sports societies analyzed were excluded. In the quantitative component, an online questionnaire will be applied to ≥500 fans of the Liga Portugal SABSEG and Betclic, with Likert scales to measure identification, loyalty and perception of performance. The analysis will include descriptive statistics, Pearson's correlation, regressions, and ANOVA, allowing the identification of patterns and relationships between variables.

Results and Discussion: Based on the literature (Giulianotti & Robertson, 2018; Doyle et al., 2012), the entry of foreign investors is expected to have a significant impact on the emotional relationship of fans with clubs. It is expected that older fans will show resistance and less identification when they perceive loss of traditional values or excessive commodification, while younger fans will show greater acceptance of internationalization and value increased competitiveness. It is also expected that sports performance will work as a factor of social appreciation: victories and good results reinforce community cohesion, increase stadium attendance and contribute to a positive image of the clubs, mitigating negative effects of the loss of identity. On the other hand, poor results can intensify the distancing and reduce continued support.

Conclusion, Contribution and Implications: This study contributes to the literature by empirically analyzing a phenomenon that is still little explored in Portuguese football, providing evidence on how globalization and foreign investment affect fan identification and loyalty. The results will have practical implications, helping clubs to design management strategies that preserve cultural identity, promote fan engagement and maximise the social impact of sport in communities.

By aligning with the theme of the congress – Sport, Society and Artificial Intelligence – this work emphasizes that clubs are pillars of social appreciation, and that their sports performances have the potential to mobilize communities, strengthen local identities and contribute to a more inclusive and sustainable sport.

Keywords: Portuguese football; Globalization; Fan identification; Foreign investment; Loyalty.

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Instrument Validation: Challenges and Difficulties in the Dual Career in Women's Football Refereeing

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Aim and Research Questions: This study analyzes the dual career of female football referees, focusing on the challenges and difficulties of balancing refereeing, professional life, and personal life, including motherhood. The main objective was to understand how these factors influence career retention and progression.

Theoretical Background and Literature Review: Women's refereeing has made significant progress in Portugal, but continues to face gender inequalities, professional precariousness, and structural barriers that limit advancement and retention in the sector (Monteiro et al., 2020; Silva-Santos et al., 2025).

Despite the growing appreciation of women's sports, women still face additional difficulties in asserting themselves with legitimacy and authority in a space still marked by gender stereotypes and high pressure (Reid & Dallaire, 2020). The literature points to the existence of structural challenges, such as a lack of institutional recognition, pay disparities, difficulties in balancing family life, and the absence of effective policies (Monteiro et al., 2020; Segado et al., 2021; Silva-Santos et al., 2025). In the specific case of refereeing, the need to maintain a dual career stems from financial instability and the lack of professional contracts. For most female referees, arbitration is merely a source of supplemental income, requiring them to juggle parallel activities that make it difficult to fully dedicate themselves to the role (Skrubbeltrang et al., 2020). The literature on dual careers also indicates that developing associated skills can foster resilience, balance, and well-being to cope with the pressure of juggling multiple roles (De Brandt et al., 2018; Stambulova & Wylleman, 2015).

Another relevant factor is motherhood. Studies point to a lack of institutional support, creating logistical challenges in postpartum return and perpetuating inequalities in advancement (Wowdzia et al., 2021). The literature review reinforces that female arbitration remains marked by precariousness, lack of recognition, and structural challenges that require effective institutional policies, otherwise they could perpetuate inequalities and compromise retention and capacity development in the sector.

Research Design, Methodology and Data Analysis: The study adopted a quantitative methodology, through the construction and validation of a questionnaire with 39 items grouped into two dimensions:



Financial Sustainability and Motherhood/Professionalization. The items were constructed based on the studies by Segado et al. (2021) and Silva-Santos et al. (2025). The questionnaire was administered via Google Forms, and an access link was sent via WhatsApp to a convenience sample of 40 referees from seven different district associations. They voluntarily agreed to participate, with the guarantee of anonymity. Data were analyzed using exploratory factor analysis in SPSS (version 30), with sampling adequacy verified by KMO and Bartlett's test.

Results and Discussion: In stage 1 of the study, the instrument was constructed based on the studies by Segado et al. (2021) and Silva-Santos et al. (2025) to analyze the social, professional, and personal implications of female football referees' activities in Portugal. The initial instrument was submitted to evaluation by a panel of three experts, who validated the content and suggested adjustments for clarity and relevance. In stage 2, the validation results demonstrated that the questionnaire's factor structure was not adequate when analyzed across all 39 items, but presented acceptable conditions when observed at the subdimension level and partially at the dimension level. The objective was to preliminarily validate the questionnaire and identify the need to eliminate (10) and reformulate (4) items in order to improve the instrument's validity.

Conclusion Contribution and Implications: Thus, the questionnaire presents acceptable conditions in terms of sub-dimensions and partially, in terms of dimensions to constitute a valid instrument to understand the challenges and difficulties of reconciling arbitration, professional and personal life, including motherhood.

Keywords: Motherhood; Women Referees; Gender Equality; Financial Sustainability; Dcdcaf Instrument.

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1.3. Health, Well-being and Leadership

University Sports: Sports Financing for Higher Education Institutions in the State of Ceará

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Aim and Research Questions: The objective of this research is to investigate the sports funding of higher education institutions (HEIs) in the State of Ceará, taking into account their investment in food, competition registration fees, travel expenses, scholarships, and other forms of assistance, along with the results achieved in competitions at the municipal, state, regional, national, and international levels.

Theoretical Background and Literature Review: University sport is a strategic element for sports development, acting as a bridge between school practice and high performance. It is well established in countries such as the United States and Japan but remains marked by inequalities in Brazil, particularly in Ceará.

The status of student-athlete relates to the concept of dual career, defined as “a career with a focus on sport and on education or work” (Guidotti et al., 2015; Stambulova & Wylleman, 2019). These individuals combine academic and athletic paths, depending on governmental and institutional support, which makes this trajectory challenging and highlights the need for greater assistance to ensure its sustainability.

University sport plays a central role in athlete development and in strengthening sports performance, serving as a transitional environment between school and professional phases (Coakley, 2016). Therefore, this study analyses the funding and institutional support provided by HEIs in Ceará to student-athletes, in light of the dual career concept (Stambulova & Wylleman, 2014; Guidotti et al., 2015; Coakley, 2016; Marques, 2024).



Research Design, Methodology and Data Analysis: Six HEIs were analysed — four public (UFC, URCA, UVA, IFCE) and two private (UNIFAMETRO, UNIFOR) — located both in the capital and in the interior of the state, through a mixed-method approach (qualitative and quantitative) of descriptive and comparative nature.

Data collection involved documentary analysis and interviews with sports managers, aiming to identify the types of support provided to student-athletes: funding for travel, accommodation, meals, registration fees, insurance, and scholarship policies (percentages and criteria), as well as participation in competitions in 2024.

Data analysis was based on the SPLISS Model (Sports Policies Leading to International Sporting Success), developed by Veerle De Bosscher and collaborators from the Vrije Universiteit Brussel (De Bosscher et al., 2006; 2015). This model evaluates sports policies through nine interdependent pillars. In this study, Pillar 1 (financial support) and Pillar 8 (national and international competition) were emphasised, being applied to examine institutional investments and the competitive performance of student-athletes.

Results and Discussion: The results show that 50% of the HEIs — UFC, IFCE, and UNIFOR — offer the most comprehensive support to student-athletes, covering travel, accommodation, meals, and registration fees for competitions. UNIFOR stands out for its scholarship policy, granting tuition discounts ranging from 20% to 100%. UFC, as a federal university, provides full scholarships and maintains its own sports programme with paid scholarships for student-athletes. Conversely, URCA and UNIFAMETRO offer partial support, while UVA provides no direct financial assistance.

Institutions with higher investments displayed better performance in state, national, and, in UNIFOR's case, even international competitions. In contrast, universities located in the interior face financial and logistical limitations that restrict participation.

Quantitatively, the findings indicate that:

- 66.7% (4) of the universities provide support for travel;
- 50% (3) cover transport and meals partially or fully;
- 66.7% (4) cover registration fees for competitions;
- Only 16.7% (1) offer health insurance or an athlete protection plan.

Regarding scholarship policies:

- 16.7% (1) grant scholarships of 20% to 40%;
- 50% (3) offer up to 80%;
- 66.7% (4) provide full scholarships (100%).

These results reinforce the relationship between institutional investment and sports performance. Universities with better structures and financial support demonstrated greater presence in competitions: 16.7% (1) participated only in local events; 66.7% (4) in state competitions; 50% (3) at regional and national levels; and 16.7% (1) at the international level.

Conclusion, Contribution and Implications: The analysis confirms that the level of institutional support directly influences competitive performance and continuation in the dual career path, corroborating Marques (2024), who identifies institutional recognition of the needs of the student-athlete as a central factor for the success of this balance.

The final considerations point to the need to expand scholarship programs, include benefits such as health insurance and coverage, establish standardized policies among institutions, and strengthen partnerships with federations and public bodies, so that Ceará can adopt internationally established practices, strengthen university sports, expand opportunities for athletes, and guarantee the viability of the dual career.

In general, it is observed that institutional support is a determining factor for sports performance and for increasing the participation of universities in Ceará in more representative events.



Keywords: College Games, Dual Career, College Athlete, Sports Financing, Education.

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Formulation of the Social Enhancement Strategy – Rio Maior Swimming Club

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Objectives: To formulate the mission, vision, values, and strategy of the Rio Maior Swimming Club (CNRM) through a replicable development model that simultaneously promotes the social enhancement of the community and the long-term sustainability of the club.

Research Questions: To what extent is the analysis of the contextual, transactional, and internal environment an essential condition for formulating a long-term development strategy?

Theoretical Framework and Literature Review: Sport in Portugal is rooted in associations that perform social and educational functions, giving it relevance as a key factor in social cohesion and development (Constitution of the Portuguese Republic, 1976; Council of the European Union, 2021; Mariovoet, 2001).

Organizational identity, expressed through mission, vision, and values, is essential for decision-making (Pires, 2007; Rashid et al., 2014). The mission is the organization's *raison d'être*, the vision describes the direction and strategic positioning to be achieved, and the values reflect the shared principles and beliefs that shape behaviors (Gomes, 2001).

The materialization of organizational identity is based on the analysis of the contextual, transactional, and internal environment. PEST analysis, the stakeholder matrix, SWOT analysis, and McKinsey's 7S model allow us to understand this context (Santos, 2008). The Balanced Scorecard (BSC) stands out as an instrument capable of translating strategy into measurable operational objectives (Araújo, 2018; Santos, 2008).

Research on strategic change in sports organizations puts the concept of change into practice, while analyzing the impact of the internal and external context on the strategic evolution of a sports club (Berqui & Cherkaoui, 2023).

Research Design, Methodology, and Data Analysis: A mixed approach was adopted for the different analyses carried out, based on the concepts and methodologies of descriptive statistics, content analysis, and meta-analysis:

- Documentary and statistical analysis: Contextual, transactional, and internal environment (internal CNRM documents and official data: INE, IPDJ, European Commission, DGS).
- Questionnaire survey on strategy pre-formulation applied to members and stakeholders.
- Semi-structured interviews with former and current managers and coaches.
- PEST analysis, stakeholder matrix, SWOT analysis, McKinsey's 7S model, and Balanced Scorecard (BSC).

Results and Discussion: Political factors highlight national and European policies to encourage physical activity (WHO, 2018; EU, 2024). The Basic Law on Physical Activity and Sport (2007) and the National Health Plan 2030 recognize sport as a factor that promotes well-being, health, and inclusion.

In terms of economic factors, Portugal's growth is above the eurozone average (Bank of Portugal, 2024). The municipality of Rio Maior has a lower monthly income and purchasing power. These constraints limit families' ability to invest in leisure. Municipal programs represent opportunities for financial stability.

Social factors reflect the aging population, the high prevalence of sedentary lifestyles, excess weight, and the progressive increase in sports participation (INE, 2024). In Rio Maior, there is a significant presence of young people between the ages of 5 and 19.

In terms of technological factors, the high penetration of the internet and smartphones (INE, 2024) stands out, associated with the massive use of social networks.

The analysis of the transactional environment identified growth in all club modalities. It was also identified that 58% of the population of Rio Maior are potential participants.

Direct and indirect competitors include clubs, gyms, schools, and recreational activities within the radius of the sports facilities. In terms of suppliers, dependence on municipal infrastructure and public funding classifies its bargaining power as low, reinforcing the need to diversify revenues.

The stakeholder analysis confirmed the importance of deepening and/or creating institutional ties.

The internal analysis highlighted the technical qualities of excellence, revealing a significant deficit in terms of defining its organizational identity, strategic planning, and shared values.

Conclusion, Contribution, and Implications: The formulation of the mission, vision, values, and strategy is an essential condition for the sustainable development of CNRM. The weak organizational identity has limited management consistency, relegating the club to a logic of consummation of daily tasks and without a long-term vision.

It can be concluded that identifying the organizational identity of the CNRM, while integrating logically organized and targeted management tools, is essential for structuring a replicable development model in the formulation of a strategy that socially values the community.

The work made it possible to create a replicable model; emphasize the role of cultural identity as an essential foundation for building a sustainability strategy; and highlight the relevance of including management tools in sports clubs in the development of sport.

Keywords: Sports Clubs, Strategy, Strategic Management, Organizational Identity.

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Crisis Management in Fitness Centers from the Managers Perspective: A Pilot Study

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Aim and Research Questions: The present pilot study aimed to explore the perception of Crisis Management (CM) among Fitness Center (FC) Managers (FM) to analyze the impact of crises and mitigate adverse effects. Although this is a preliminary study, it serves as a starting point to identify adopted strategies, challenges faced, and emerging practices. It, therefore, provides initial insights for further research. More specifically, this study seeks to answer the following research questions: What were the main challenges faced by FM and the strategies adopted in CM throughout the three phases of the crisis? How do FM contribute to crisis prevention and planning in the FC? How do FM experiences promote organizational learning and influence leadership in responding to crisis situations?

Theoretical Background and Literature Review: FC's play a central role in promoting health and preventing disease (Bigica et al., 2025). However, recent crises involving health, energy, and the economy have altered consumers daily lives and exposed vulnerabilities (Csorba et al., 2025). Despite this risk, Portugal has had a 20% growth in FC's in 2023 (Pedragosa & Ferreira, 2024), and in 2024, overcoming 2019 levels, with increases of 21.4% in facilities, 10.1% in memberships and 27.6% in revenue (Pedragosa & Ferreira, 2025). FM are in charge of FC operations and following Law No. 39/2012 of 28 August, play an important role in CM. In this context, organizational resilience is essential for facing crises and ensuring the continuity of organizations (Marques et al., 2025). To better understand this, the Bundy et al. (2017) model provides a structured framework for CM, with a holistic and integrated approach, organized into three main phases: pre-crisis, crisis, and post-crisis. In addition, the model includes internal and external perspectives, allowing for an analysis of how FC's position themselves to prevent, respond, and learn from crises, with consideration of stakeholders.

Research Design, Methodology and Data Analysis: This study is qualitative, using semi-structured interviews with CF DTs active since 2019. The pilot interview was conducted with a manager of a traditional FC in the district of Porto, aged 54 and with a degree in Physical Education and Sport. The aim was to test and improve the script before applying it to the general group of participants. The script included



prevention/preparation, response, and recovery in crisis situations, based on the framework proposed by Bundy et al. (2017). The interviews were conducted individually and in person at the participants workplace. After transcription, the data will be subjected to thematic analysis based on Braun and Clarke (2022), allowing for a deep understanding of the experiences, perceptions, and strategies taken in each phase of the crisis.

Results and Discussion: Through analysis of the pilot interview, the experience reported by the participant was organized into emerging themes, allowing us to identify preliminary patterns in the challenges faced and the most relevant strategies adopted by fitness manager. The most prominent themes were Crisis Response, Leadership, and Relationships. Regarding Crisis Response, the response from the interviewee illustrates the need for adaptation: “*Then, depending on what happens, we have to adjust and understand what kind of situation is occurring and what measures should be taken,*” supporting the idea of real-time adaptive responses (Bundy et al., 2017; Vašíčková, 2019). In terms of leadership, the FM noted that “*...great achievements were made by people united, engaged in the same purpose and responsible, with everyone doing their part*”. Regarding relationships, the respondent highlights that, due to their proximity, professionals are able to understand the emotional state of members “*...they can tell if someone is having a good day or if something has not gone as expected or according to their expectations...*”. Other themes were identified, such as Pre-Crisis Prevention/Preparation, Post-Crisis Learning, Social Impact, Risks, Personal Development, Financial Impact, and Organizational Sustainability, reflecting the extent and complexity of CM in FC’s.

Conclusion, Contribution and Implications: The study aims to fill the gap in the literature on CM in FMs. By analyzing the perspective FM, the pilot study facilitated the identification of preliminary trends in how to respond to crisis events. On a practical level, it contributed to improving the interview guide to be used with the other interviewees. The preliminary results suggest FM’s should focus on Crisis Response, Leadership, and Relationships as key factors to manage the crises

Keywords: Fitness Centers; Sports Organizations; Crises; Fitness Manager; Exploratory Interview.

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Influence of Social Support and Population Density on Recreational Physical Activity: A Socioecological Approach

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Aim and Research Questions: This study seeks to examine the determinants of recreational physical activity (RPA) among Portuguese adults residing in urban and rural contexts, through the lens of a socio-ecological framework. Four primary research questions guided the investigation: (1) How are individual-level factors (age, gender, educational attainment, and employment status) associated with engagement in RPA?; (2) What are the specific contributions of various forms of social support—emotional, informational, companionship, instrumental, and validation—to RPA participation?; (3) Does population density moderate the relationship between social support and RPA?; (4) In what ways do individual, social, and environmental factors interact in informing effective strategies for RPA promotion?

Theoretical Background and Literature Review: Physical inactivity constitutes a major global public health concern, and it is particularly salient in Portugal, where a substantial proportion of adults remain insufficiently active (World Health Organization, 2022, 2024), falling short of the targets outlined in the National Program for the Promotion of Physical Activity (PNPAF) (European Commission, 2022; Ministério de Saúde, 2023). RPA, defined as intentional and structured physical activity undertaken during leisure time, is especially beneficial for health and well-being.

The socio-ecological model (Ainsworth & Ananian, 2020; Salis, et al., 2006) provides a comprehensive theoretical foundation for examining behavioral influences across multiple levels. Within this model, social support has emerged as a robust and multidimensional predictor of physical activity behaviors. Empirical evidence consistently highlights the relevance of emotional, informational, instrumental, validation, and companionship support (Golaszewski, et al. 2021). Furthermore, disparities in RPA between urban and rural populations have been noted, attributable to differences in infrastructure, resource accessibility, and social capital—factors that are integral to behavior modeling within socio-ecological frameworks.



Research Design, Methodology and Data Analysis: A cross-sectional, exploratory research design was employed, with stratification based on population density (urban vs. rural). The final sample comprised 916 adults aged 18–64 years (54.9% women). RPA was assessed using version 2 of the Global Physical Activity Questionnaire (GPAQ v2) (Armstrong & Bull, 2006), focusing exclusively on the recreational domain. Perceived social support was measured via the Physical Activity Social Support Scale (PASSS) (Golaszewski & Bartholomew, 2019), which operationalizes five distinct dimensions. Key sociodemographic variables included age, gender, educational level, and employment status. Statistical analyses encompassed descriptive statistics, correlation matrices, multiple regression models, mediation analyses, and subgroup analyses stratified by population density, aiming to identify relevant predictors of RPA across contextual settings.

Results and Discussion: Results showed gender- and context-based differences in RPA and perceived social support. Men reported higher levels of RPA as well as greater informational, validation, and companionship support, while women revealed higher emotional support perceptions. Urban residents showed greater engagement in RPA and received more informational and validation support, whereas companionship support was particularly influential in rural areas.

All five dimensions of social support were positively associated with RPA, and age was negatively associated with both activity and support levels. Regression models identified gender and population density as significant predictors. Informational support was a dominant predictor in urban contexts, while companionship support was more significant in rural settings. Mediation analyses suggested that companionship and instrumental support partially mediated the association between population density and RPA. These findings underscore the need for tailored, context-sensitive interventions: urban environments may benefit from enhanced informational resources and professional guidance, whereas rural settings may require the incentive of community networks and collective engagement strategies.

Conclusion, Contribution and Implications: This study reinforces the socio-ecological model's relevance for understanding physical activity behavior in context-specific ways. It demonstrates that RPA is influenced by the dynamic interplay of individual, social, and environmental determinants, with social support and population density emerging as critical factors.

Theoretically, the study advances the application of socio-ecological theory within the Portuguese context by clarifying how diverse forms of social support interact with geographical and demographic characteristics. The findings also offer strategic direction for sports managers and policymakers. Urban initiatives should prioritize informational support and accessibility to qualified personnel, while rural programs should emphasize social cohesion and collective activities.

Despite limitations inherent to its cross-sectional design and reliance on self-reported measures, the study offers a robust groundwork for future longitudinal and geospatial research. Ultimately, effective RPA promotion requires sensitivity to both sociocultural and environmental contexts, with sports managers assisting as essential mediators between empirical evidence, policy frameworks, and community needs.

Keywords: Physical Activity, Social Support; Socioecological Model; Population Density; Tailored Interventions.

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Transformational Leadership Style and its Impact on Employee Motivation in Fitness Centres

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Aim and Research Questions; This study analyzes the impact of transformational leadership on employee motivation in fitness centers. The research sought to answer the following questions: (H1) How does transformational leadership influence the organization of work? (H2) What is the impact of this leadership on employee performance? (H3) Does transformational leadership promote employee fulfillment/empowerment? (H4) Is there a positive relationship between transformational leadership and emotional engagement with the organization?

Theoretical Background and Literature Review; Leadership is associated with organizational success, increased productivity, and efficiency. Transformational leaders inspire and empower through communication, implementation of the organizational vision, and individual development (Kleine et al., 2024). The Fitness Barometer 2024 (Pedragosa & Ferreira, 2025) shows the sector's recovery with an increase in the number of fitness centers (1,282), revenue (€345 million, excluding VAT), penetration rate (7.6%), and retention rate (58.4%). Transformational leadership is based on four dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, driving motivation and organizational performance (Beauchamp et al., 2010; Beveren et al., 2017). In the domain of motivation, three central theories stand out. In Maslow's hierarchy of needs (1973), states that individuals seek to satisfy progressively higher needs (Bueno, 2002). Herzberg's two-factor theory (1959) distinguishes between factors that prevent dissatisfaction (hygiene) and those that promote satisfaction (motivational) (Bueno, 2002). Deci and Ryan's self-determination theory (2000) highlights the role of intrinsic motivation in satisfying the needs for autonomy, competence, and relatedness. In the fitness industry, employee motivation translates into greater organizational engagement, lower turnover, and better customer service (Ribeiro et al., 2022; Bucăta et al., 2022). Effective leadership and appropriate motivational strategies are key factors in improving performance and promoting healthier and more sustainable organizational environments (Miragaia & Constantino, 2019; Pedragosa & Ferreira, 2025).

Research Design, Methodology and Data Analysis; The Global Transformational Leadership (GTL) Scale (Beveren, 2017) assesses transformational leadership behaviors based on employee perceptions. It encompasses four dimensions: idealized influence, inspirational motivation, intellectual stimulation, and

individualized consideration, with 7 items. The Multifactorial Work Motivation Scale (Multi-Moti) (Ferreira et al., 2006) analyzes motivation levels in the organizational context with the dimensions: work organization, performance, achievement/power, and involvement, with 28 items. The study included 163 fitness center employees in different roles. A questionnaire on a 1-7 Likert scale was applied, and the data were analyzed using SPSS (version 1.9.3). Descriptive statistics characterized the sample, Cronbach's alpha assessed the reliability of the dimensions, and simple linear regression analyzed the effects predicted in the hypotheses, with a significance level of $p < 0.05$.

Results and Discussion; The study results support the idea that transformational leadership has a positive influence on employee motivation, supporting the four hypotheses. In the GTL Scale assessment, the questionnaire presents an excellent internal consistency of $\alpha = .96$. In the assessment of the dimensions of the Multi-Moti scale, work organization has an $\alpha = .87$, performance has an $\alpha = .74$, achievement/power has an $\alpha = .68$, and involvement has an $\alpha = .64$, with weak reliability, but considered for the model. Thus, transformational leadership influences work organization by 32% (H1, $\beta = .56$; $R^2 = .32$), performance by 37% (H2, $\beta = .61$; $R^2 = .37$), achievement/power by 19% (H3, $\beta = .44$; $R^2 = .19$) and involvement by 13% (H4, $\beta = .36$; $R^2 = .13$). Transformational leadership exerts a positive impact on the dimensions analyzed, corroborating the theoretical assumptions identified in the literature review (Beveren et al., 2017).

Conclusion, Contribution and Implications; This study confirmed that the transformational leadership style has a positive impact on employee motivation in fitness centers, particularly in the dimensions of work organization and performance. Leaders who adopt this style foster more motivating and productive environments and greater emotional engagement within their teams.

The research is based on a national sample (Portugal), limiting the generalizability of the results to other cultural and legal contexts. The scales used, although validated, were not originally developed for the fitness industry, which may influence the accuracy of the measurements.

This work fills a gap in research on leadership and motivation in the specific context of fitness centers, proposing a model that relates leadership behaviors to dimensions of work motivation. Managers should invest in developing transformational leadership skills, communicating vision, individual recognition, and intellectual stimulation to increase motivation, reduce turnover, and improve customer loyalty.

Keywords: Transformational Leadership; Motivation; Fitness Centers; Employees; Leader.

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Funding: Factor in the Social Valorisation of Sport

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Aim and Research Questions: The objectives of the work were 1) to show the social importance attributed to sport by Portuguese governing bodies, as observed by the funding granted to it and 2) to assess the correspondence between funding granted, as an indicator of the social importance of sport, and the performance of sport in Portugal.

Theoretical Background and Literature Review: People and institutions value an area of society to the extent that they attach importance to it in their choices and priorities. The social relevance of sport in Portugal is reflected in the political choices and funding patterns adopted. According to Public Choice Theory (Mengiste, 2020), rulers act as rational agents, seeking to maximise political benefits, such as votes or support, rather than just pursuing the common good. They therefore tend to favour investments in areas of greater visibility and popularity. In sport, this translates into greater funding for football, to the detriment of disciplines such as athletics, judo or swimming, which are equally relevant to education and international prestige, but have less public support.

The WHO Global Action Plan for Physical Activity 2018-2030 recommends strengthening funding mechanisms that support policies to promote physical activity and combat sedentary lifestyles (WHO, 2018). In elite sport, the SPLISS 2.0 project (De Bosscher et al., 2015) emphasises funding as a strategic basis for ensuring international competitiveness. These policies reflect the importance attached by decision-makers to the creation of 'public value' (van Eekeren, 2021) and the social valorisation of sport.

Research Design, Methodology and Data Analysis: The research design is descriptive and longitudinal (2012-2024), with data from institutional sources.

A) The social importance of sport was analysed using: 1) municipal spending on sports activities and equipment (INE, 2024); 2) IPDJ funding for the COP (IPDJ, 2024); and 3) spending on sport in the EU as a % of GDP (European Commission, 2024). B) Sporting performance was measured by: 1) participation and sedentariness (European Commission, 2014-2022); 2) Olympic medals; and 3) European position (IOC, 2024).



Results and Discussion: Spending by Portuguese municipalities on sport increased from 257 million euros in 2013 to 426 million in 2023 (INE, 2024). There was an annual variation of 6 per cent, expressing the greater social value attributed by local government bodies to sport, reflected in the funding granted. IPDJ, IP funding to the COP for Olympic preparation - elite sport (IPDJ, 2025), from 2012 (London Olympic Games) to the 2028 Olympic Games (Los Angeles), increased by 110%, from 23.5 million in the 2012-2016 cycle to 49.6 million (contract) in the 2014-2018 cycle (6.9%/year). This result suggests a political and social valorisation of sport, expressed in the financial amounts allocated by the government. Government spending on recreation and sport as a percentage of GDP did not grow between 2012 and 2023, remaining at 0.3 per cent of GDP, while the EU average is 0.4 per cent (European Commission, 2024). In this indicator, Portugal ranked 14th in 2012 and 15th in 2023, revealing a divergence in the public choice of investment as a % of GDP. The performance evaluation suggests an unfavourable assessment of sports participation: in 2014 it was 28%, with 64% of the population sedentary, and in 2022 it fell to 22%, with the rate of sedentary people increasing to 73% (European Commission, 2014; 2018; 2022). Within the European Union, Portugal was in last place in 2022, with the highest level of sedentary behaviour, whereas in 2014 it was second to last. Its relative position has therefore worsened. In elite sport, the 2012 Olympic Games brought only one medal (position 23 out of 27 EU countries), while in 2024 4 medals were won, translating into position 19. This result suggests that the social valorisation of sport has benefited from increased funding and better results.

Conclusion, Contribution and Implications: In terms of the funding allocated, Portugal appears to be valorising sport. In terms of % of GDP, public policy choices are stagnating, but in nominal terms they are growing - expenditure by municipalities and IPDJ - COP. The results of the public policy choices are negative in terms of the population's participation in sport and levels of sedentary lifestyles. On the other hand, in elite sport there are improvements in results in terms of the number of medals and Portugal's relative position within the European framework. The implications of this work for the social valorisation of sport are 1) to increase the levels of public funding to the European Union average and 2) to increase the efficiency and evaluate existing public policies in order to increase the rate of sports participation and reduce the levels of sedentary lifestyles among the Portuguese population.

Keywords: Elite Sport; Funding; Olympic; Sports participation; Social value.

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1.4. Turismo, Media e Governação

The Representation of Female Athletes in the Media in Portugal: Multichannel Evidence from the POWER Project

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Aim and Research Questions: This research analysed the visibility and framing of female athletes across different media formats in Portugal and aimed to: (i) quantify the presence of women in sports news; (ii) identify textual and visual patterns (e.g., sexism, stereotypes, objectification, positivity/negativity); (iii) compare formats (press, online magazines, X/Twitter, TV); and (iv) incorporate stakeholder perspectives on the topic through a focus group. The study therefore sought to examine: Q1) How frequently are female athletes mentioned? Q2) How are they textually and visually framed? Q3) What are the associations between visual prominence (image size) and framing? Q4) What barriers and solutions are recognised by professionals and athletes?

Theoretical Background and Literature Review: The literature highlights the underrepresentation and stereotyped media portrayals of women in sport (Bruce, 2016; Cooky, Messner, & Musto, 2021), often focusing on appearance and emotion rather than performance (Frisby, 2017; Jones & Greer, 2011). In Portugal, previous studies have revealed the need for change in the coverage of women's sport, such as greater visibility in communication and a reduction in the sexualisation of female athletes' images (Saraiva, Ferreira & Silveirinha, 2019). European strategies reinforce the role of the media in promoting equality and positively influencing the representation of female athletes (European Commission, 2014; IOC, 2021).



Research Design, Methodology and Data Analysis: Multifactorial and multichannel studies contribute to understanding the phenomenon and adjusting communication practices (Krippendorff, 2018). A multimethod content analysis approach was adopted across different media formats. Between May 2024 and February 2025, 62 editions of printed newspapers, 36 entries from online sports magazines, 59 social media posts, and 39 television episodes were examined. For each medium, indicators were collected concerning frequency, textual framing (positivity, sexism, objectification), and visual framing (image size and connotation). For newspapers, statistical comparisons were conducted (Student's t-test, chi-square, likelihood ratio, and Fisher's exact test), while for the other media, descriptive analysis was applied due to the smaller number of cases. The qualitative component included a focus group with nine participants (i.e., journalists, communicators, Olympic athletes, managers, and academics). A content analysis identified six macro-categories concerning the media representation of female athletes.

Results and Discussion: In the newspaper, only 27.4% of editions included references to women in sport, while 72.6% did not mention them. In the 55 editions with complete data, statistically significant differences were observed ($t_{men} = 22.081$; $t_{women} = 4.524$; $p < .001$) when comparing the mean number of articles about male athletes ($M = 3.05$; $SD = 1.03$) and female athletes ($M = 0.49$; $SD = 0.69$). The textual framing was mostly positive (87.5%), with no evidence of sexism. The associated images were generally small, and 79.2% presented positive visual framing. The association between image size and positive framing was significant (Likelihood ratio $p = .01$; $\chi^2 p = .052$; Fisher $p = .118$). In online sports magazines, 19.4% of entries referred to female athletes, although only seven articles met the analysis criteria. No cases of sexism were identified, and 100% of images displayed a positive framing, although the small sample size limits statistical inferences. On social media, 37.3% of posts mentioned female athletes, 63.6% of which included an image. Both textual and visual framing were positive in 50% of cases, though some instances of trivialisation or stereotypical portrayals were identified. On television, only five episodes featured female athletes, all related to professional sport. The total coverage time was approximately seven minutes, with positive framing focused on performance. The focus group highlighted six categories: inequality of coverage, stereotypes and sexualisation, insufficient emphasis on performance, impact on career progression, persistence of gendered stereotypes, and the need for change in media coverage.

Conclusion, Contribution and Implications: These findings suggest an overall underrepresentation of female athletes in the Portuguese media. They point to a low frequency of articles and mentions of female athletes and limited visual prominence. The tone was predominantly positive, with some focus on achievement/talent. The focus group contextualised underlying causes (e.g., editorial routines centred on men's football, male-dominated leadership, audience expectations) and consequences (e.g., fewer sponsorships and opportunities, pressure for self-promotion strategies), reinforcing the need to understand the issues explored in this study. The results reveal both existing gaps and potential pathways for transformation. Improving the media representation of female athletes requires structural changes in journalistic criteria. Policies ensuring parity in coverage, anti-stereotype guidelines, continuous training in gender-sensitive journalism, and mechanisms for monitoring equity indicators should be integrated as part of a more inclusive organisational culture. These actions aim not only to correct quantitative imbalances but also to promote symbolic change in how women's sport is perceived, valued, and narrated in the Portuguese media.

Keywords: Gender; Media; Female Athletes; Framing; Portugal.

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Esports Participation: A New Approach to Event Strategic Leverage

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Aim and Research Questions: Given the growing relevance of esports as a social phenomenon, new challenges are guiding the exploration of strategies to foster community participation. Based on that, this study seeks to explore how digital technologies influence esports participation. More specifically, this research aims to conceptualize an event leverage model with a digital objective.

Theoretical Background and Literature Review: The sports event leverage literature has engaged in a rich spectrum of subjects, from benefits to host communities such as economic (Chalip; 2004), social (Chalip, 2006), environmental (O'Brien & Chalip, 2008), sport participation (Chalip et al., 2016), to non-host communities leverage (Fairley & Kelly, 2017). Nonetheless, there is still a lack of research in different contexts and a need to advance in event leverage conceptualizations (Schulenkorf et al., 2022). Duignan et al. (2021) have addressed these gaps by outlining how digital spaces can be leveraged through social media in a food festival. Digital spaces were used to promote local business and resist gentrification, creating economic and social benefits. This was later referred to as digital leverage by Ziakas (2021), an emergent area with new means, emphasizing the need for further research to understand digital leveraging opportunities. From a theoretical standpoint, considering digital leverage as a potential strategy requires the establishment of at least one explicit digital strategic objective. This was evident in Chalip (2004) and O'Brien and Chalip's (2008) studies, where economic and social leverage have different strategic objectives, even if they share an opportunity. A potential digital strategic objective is the enhancement of esports participation. Drawing on the literature from sports participation leverage (Chalip et al., 2016), esports participation may generate benefits for communities, given its potential to foster cognitive, social and emotional gains (Granic et al., 2014). Although a sports participation model exists (Chalip et al., 2016), little is known about how it applies to esports. This study addresses that gap by adopting Chalip's (2004) framework and by identifying effective strategies to specific outcomes (Schulenkorf et al., 2022).

Research Design, Methodology and Data Analysis: Presential and online semi-structured interviews were conducted between January 2025 and July 2025. The established criteria for participant selection were: (a) have experience in organizing esports events; (b) be at least 18 years old; (c) be fluent in Portuguese. The

interview guide focused on the use of traditional and digital strategies to benefit the host and surrounding communities. A total of 11 participants were interviewed. The interviews were recorded after each participant signed a participation consent. Transcription and data analysis were done by using MAXQDA 24.0. A six-step thematic analysis was conducted according to the process outlined by Braun and Clarke (2006).

Results and Discussion: Four different opportunities were identified, integrating several strategic objectives and means: 'Attraction of esports players', by organizing esports competitions the event attracts athletes, fulfilling strategic objectives like establishing new local teams, elite esports players development, and female esports players development by using local tournaments, wildcards to international competitions, and wildcards to enter esports teams. 'Auxiliary events', by using auxiliary events, there is an opportunity to leverage the esports context and improve general understanding of esports, by using educational activities like online talks or school sessions. These actions occur in a different space and time period from the main event. 'Attract schools on site', highlights how the event organizer invites schools to the main event, followed by a videogame competition and educational programs for these schools. Therefore, there is an opportunity to promote esports understanding and participation. 'Online streaming', an online broadcast tool is a simple way to spread a message to viewers. By showcasing female esports teams in cultural trips, as well as a space to freely discuss their experience, the event promoted esports female participation.

Conclusion, Contribution and Implications: This study contributes to event leverage literature by (1) conceptualizing a new event leverage model and addressing a digital strategic objective, i.e., esports participation, associating it with a new dominion (i.e., digital leverage); (2) addressing strategic leverage lack of context diversification by applying the framework in an esports event; (3) Exploring the use of digital technologies as strategies to leverage an event and relate them with specific outcomes; (4) extending Chalip's (2004) model to a new event context and digital objectives, reinforcing its adaptability to novel settings.

In practice, this study informs event managers by illustrating how creative uses of digital technologies can attract communities to esports participation. The findings may also guide sports managers in adapting these strategies to sports events. Local governments may also gain valuable insights into the potential benefits that esports events can bring to their communities.

Keywords: Event Leverage; Esports Participation; Esports Events; Sports Tourism; Digital Technologies.

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The Process of Event Leverage in Training Camps of the Non-Host Region of the 2030 World Cup

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Aim and Research Question: The concept of event leveraging has received significant attention from researchers in recent years (Schulenkorf et al., 2022). Event leveraging refers to the strategic use of an event to maximize opportunities and generate lasting benefits for the community (Principe et al, 2025). The main objective of this study is to understand how non-host regions of the 2030 World Cup can capitalize on hosting team training centres as a strategic resource to generate local benefits. The more specific research questions relates to how these regions, which will not host official matches of the event, can position themselves to benefit from hosting participating teams during the event. This research also addresses other secondary questions: What opportunities does the region perceive from being a training base? What impact does the training centre host hope to achieve through the event?

Theoretical Background and Literatura Review: The literature review focused on the management of mega-sporting events, particularly studies analysing event leverage strategies. Although this topic has been investigated in several events, Schulenkorf et al. (2022) note that research primarily focuses on host regions, leaving a gap in understanding of the leveraging potential for non-host regions. The literature emphasises the need for planned strategies to transform opportunities into concrete benefits (O'Brien & Chalip's 2007). O'Brien and Chalip's (2007) event leveraging conceptualises how benefits be achieved through four different means: attracting visitor spending, extending their stay, retaining event-generated expenses, and, finally, using the event as a mechanism to improve commercial relationships. More recently, Chien et al. (2017) developed a conceptual model of event leverage for non-host regions, adding that developing partnerships is fundamental to this process.

Research design, methodology and data analysis: A qualitative approach was used for this research, based on semi-structured interviews with six sports officials in the municipalities that were potential hosts of training centres, but not event hosts, for the 2030 FIFA World Cup. The sample was selected for convenience, analysing five of the 16 regions that are training centres candidates. The interviews lasted approximately 40 minutes and were subsequently transcribed and analysed through a thematic analysis (Braun & Clarke, 2022). This allowed the development of a conceptual map with four main themes: Opportunities, Strategic Objectives, Means, and Impacts, based on the study by Fairley and Kelly (2017).



Results and Discussion: The results showed that municipalities view hosting participating teams as an opportunity for the region to enhance its prestige and strengthen its territorial and sport reputation. Furthermore, the presence of fans and family members was also seen as a means of boosting tourism and the economy, and finally, media coverage was perceived as a mechanism for global exposure. This is consistent with previous research literature (Rachiotis & Poulaki, 2023), which emphasizes the value of mega-events for external exposure. Regarding strategic objectives, municipalities identified maximising the value of the teams they host, promoting local tourism, strengthening their sporting reputation, and stimulating economic benefits. The aspects were also highlighted by Ziakas (2023), reinforcing that events are drivers of tourism and territorial identity. Five leveraging means to achieve objectives were identified: adapting to the demands of the participating teams, marketing campaigns, organizing parallel events, investing in infrastructure improvements and developing partnerships. This was highlighted by Getu (2023) defending the multisectoral articulation and strategic communication as important factor to take in account. The final theme addressed expected impacts, which were international exposure, growth in sports tourism, expansion of sports legacy, and economic growth. These preliminary results notes that the event will contribute to global recognition and boost tourism in the region, confirming what was investigated by Gonçalves (2021). However, the interviewed caution regarding economic potential, as benefits will only be realised in the long term if they are accompanied by ongoing strategies.

Conclusion, contribution and implications: In conclusion, this research reveals that non-host regions can potentially benefit from hosting participating teams during the 2030 FIFA World Cup, provided they implement leveraging initiatives and engage with local stakeholders. The theoretical contribution of this research involves expanding the impacts that mega-events can have on regions, specifically in the less-explored non-host regions. It also provides valuable insights for municipalities to leverage hosting participating teams into sustainable benefits. The implications are clear, confirming that the success of regions does not depend on the location of the event, but rather on how they manage to transform this opportunity into a lever for sustainable territorial development.

Keywords: Non-Host Region; Training Centers; Opportunity; Strategies; Sporting Events.

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The Esports Paradox: The Role of Online Disinhibition in Esports Environments on The Players' Toxic Consumption Practices and Need Satisfaction.

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Aim and Research Questions: Esports' rocketing growth has transformed competitive gaming into a global, cultural and economic phenomenon, effectively reshaping how individuals interact, compete and consume. Yet, toxicity (i.e., anti-social behaviors harmful to other players and their communities; Kwak et al., 2015) persists as one of its most urgent challenges, with at least one in five players perceiving their communities as toxic (Richter, 2022). Electronic sports thus raise an enthralling paradox: the same mechanisms behind player toxicity may also play a crucial role in satisfying the players' needs (Suler, 2004). This study aims to explore the role of online disinhibition as a key determinant of this contradictory tension, aiming to understand how it simultaneously (a) fosters toxic consumption (i.e., a toxic behaviour composed of smurfing, indoctrinating and excessive spending) and (b) facilitates the satisfaction of players' psychological needs.

Theoretical Background and Literature Review: The Online Disinhibition Effect Theory (ODET; Suler, 2004) provides a robust framework to explain how digital environments reduce psychological restraints, enabling behaviors that might otherwise be inhibited in face-to-face interactions. Within esports, this phenomenon can provoke toxic consumption practices (Huston et al., 2023). These practices reflect a collective consumption logic, emerging through networks of social relationships centered on consumer goods and online platforms in the gaming marketplace (Huston et al., 2023). At the same time, the dynamics that enable toxicity can also facilitate the fulfilment of basic psychological needs (i.e., competence, relatedness and autonomy; Formosa et al., 2022). This duality reveals a paradoxical tension: environments are simultaneously harming players through toxic consumption practices while providing satisfaction, sustaining esports' growth (Lopes Angelo et al., 2022).

To explain this apparent contradiction, Paradox Theory (PT; Smith & Lewis, 2011) conceptualizes the coexistence of opposing yet interdependent forces within social systems. Applied to esports, it highlights how online disinhibition creates a dynamic interplay between dysfunctional behaviors and the psychological fulfilment players experience.



Research Design, Methodology and Data Analysis: A mixed-methods approach was adopted. First, a questionnaire was employed targeting players of Counter-Strike, EA FC and League of Legends, conducted between August 2024 and January 2025. A total of 309 valid answers were retained. Sociodemographic questions and 7-point Likert scales measuring six ODET dimensions, three toxic consumption practices, and three psychological needs, were used. Scales were adapted through backtranslation to ensure cultural validity (Banville et al., 2000). Data was analyzed through a Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) in AMOS 26.0 with maximum likelihood estimation (Marôco, 2018).

Second, semi-structured interviews were conducted with 9 Portuguese esports players between July and September 2025. The inclusion criteria were: (a) over 18 years old, (b) fluency in Portuguese, and (c) direct experience in playing in competitive settings in esports. Interviews were conducted online, recorded with informed consent, transcribed, and analyzed thematically in MAXQDA 24.0, following Braun and Clarke's (2006) six-step process.

Results and Discussion: The results of the structural equation modelling revealed that only three dimensions of the ODET had a positive and significant influence on toxic consumption practices ($\beta = 0.55$). In turn, toxic consumption significantly predicted the satisfaction of players' psychological needs ($\beta = 0.31$). The model explained 53% of the variance in toxic consumption and 13% in need satisfaction, highlighting the explanatory strength of our model. Interestingly, the qualitative analysis contrasted with these findings. The thematic analysis of players' interviews confirmed the relevance of all six dimensions of ODET, as participants consistently described experiences that reflected each aspect of the theory. This divergence between methodological strands suggests that, while ODET retains practical validity in lived esports experiences, its conceptualization may not be fully reflected through current quantitative measures to generalize it.

Conclusion, Contribution and Implications: The findings advance our understanding of the paradox between toxicity and need satisfaction in esports environments through the integration of a mixed-methods design. Quantitatively, only three ODET dimensions emerged as significant drivers of toxic consumption, whereas the qualitative analysis underscored the relevance of all six, pointing to a richer and more nuanced lived reality. This point highlights the need for theoretical reconfiguration capable of capturing the full scope of the phenomenon in electronic sports environments. Theoretically, the study reinforces the applicability of ODET to esports while questioning the adequacy of its current operationalization. Practically, the results suggest that interventions to mitigate toxicity cannot rely on one-dimensional solutions. Rather, community governance and educational initiatives should be aligned with the complex ways in which disinhibition manifests in each specific community.

Keywords: Esports; Online Disinhibition; Consumption; Paradox; Need Satisfaction.

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Challenges of Co-Hosting: An Analysis of (Mis)Aligned Partners in the 2030 FIFA World Cup

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Aim and Research Questions: The co-hosting of major sporting events across multiple countries represents an increasing social and political challenge. In contexts where the influence of local partners may compromise both the complexity and the success of co-hosting, it becomes essential to understand their preferences, motivations, and alignment with the event's goals. This study has two main aims: (1) to identify the preferences and challenges guiding local partners in a co-hosting setting; and (2) to categorize (mis)aligned partners, exploring their influence on organizational dynamics.

Theoretical Background and Literature Review: The co-hosting of sport mega-events across multiple countries amplifies the complexity of relationships among diverse local partners, whose positions and interests are not always aligned (Ribeiro et al., 2024). Research on support for sporting events has primarily focused on the hosts' perspective: how residents may support an event based on a cost-benefit evaluation for their region (Gursoy & Kendall, 2006). This literature often draws on social exchange theory to show that support from these partners depends on the perceived costs and benefits of the event. This line of research has been extended to include non-host residents (Ritchie et al., 2022), but it continues to neglect the perspective of those actively opposing the event (Giulianotti et al., 2015). Furthermore, existing models have mainly focused on events held in a single city (Thompson et al., 2019) and tend to adopt an approach assuming collaboration and complementarity among involved parties (Walzel & Eickhoff, 2023). Therefore, a gap persists in the literature regarding the understanding of partners who do not wish to support event co-hosting. In other words: what can an organization do when one or more partners are not aligned with the event's goals?

Research Design, Methodology, and Data Analysis: This case study focuses on the co-hosting of the 2030 FIFA World Cup, hosted by Spain, Portugal, and Morocco (FIFA, 2024). A sequential qualitative design was adopted, combining focus groups and interviews. For the first aim, two focus groups were conducted with Portuguese partners (n = 14), selected based on professional diversity, event knowledge, and national residency. The sample was purposive, drawing on institutional databases from a Portuguese university. Participants included 10 men and 4 women, aged between 18 and over 50. Sessions, conducted online (45–60 minutes), were recorded, transcribed, and validated by participants. Thematic analysis followed a multi-

stage coding process (Saldaña, 2021) using MAXQDA software. Based on these results, a categorization of (mis)aligned partners was developed in two stages: (1) a scoping review to map the concept in event management literature (Arksey & O'Malley, 2005); and (2) exploratory interviews with representatives of identified groups to assess their level of influence in co-hosting. The latter phase (2) is ongoing and will consider the participants' profiles and categorization according to their stakeholder group. In-person interviews will be recorded with informed consent and analysed using the same thematic protocol and software.

Results and Discussion: Most respondents preferred co-hosting between Portugal and Spain (64%), followed by opposition to the event (21%), and finally, the inclusion of Morocco (14%). Six main risks were identified: 1) excessive costs, 2) lack of coordination, 3) institutional distrust, 4) cultural incompatibilities, 5) environmental impact, and 6) sports performance. The scoping review consolidated the concept of "misaligned partners," defined as "those whose intentions or objectives are partially or wholly divergent from the organizers." This review proposed a functional typology comprising four distinct categories of (mis)aligned partners: 'Opponents' (institutional or political resistance), 'Activists' (civic and social mobilization), 'Disruptors' (blocking or boycott actions), and 'Extremists' (security threats or symbolic/physical violence). Each partner typology was detailed based on literature using criteria of power, urgency, legitimacy, and risk (Mitchell et al., 1997). The study's second phase is ongoing and aims to deepen understanding of these partners' influence on the event's success or failure.

Conclusion, Contribution, and Implications: This study highlights how the co-hosting of mega sporting events generates ambivalent perceptions among local partners, oscillating between multicultural preference and concern over structural and symbolic risks. It contributes to the literature by introducing a new functional typology of 'misaligned' partners in large-scale event co-hosting, categorizing them into four groups. This approach broadens organizers' understanding of stakeholder profiles and provides a theoretical foundation for future research on resistance and conflict in transnational mega-event co-hosting. Future results will also demonstrate the influence of these partners on organizational dynamics.

Keywords: Opponents; Activists; Disruptors; Extremists; FIFA World Cup.

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**Fan identification and purchase intention in sports betting:
the mediating role of congruence and attitude**

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Aim and Research Questions: Investigate the mediating effect of perceived congruence and attitude toward the sponsoring brand on the relationship between fan identification and the intention to consume sports betting services. Does the mediating role of perceived congruence and attitude toward the sponsoring brand accentuate the intention to consume sports betting services?

Theoretical Background and Literature Review: The global impact of sports betting sponsorship in soccer has increased significantly in recent years. In the 24/25 season, 296 of the 442 clubs in the European Union and the United Kingdom had sponsorship agreements with sports betting brands (Investigate Europe, 2025). This trend is also evident in Portugal: in addition to the League, which holds naming rights associated with a betting brand, 13 of the 18 clubs in the Primeira Liga have companies from this sector as master sponsors. Sports sponsorship is an important strategy for strengthening the emotional connection between brands and audiences, promoting favorable attitudes and purchase intent (Almaman et al., 2024). The literature shows that fans with high levels of identification with their club tend to be more predisposed to support and consume sponsor brands (Sarpong & PraiseGod Zungu, 2025). Recent studies show that perceived congruence and attitude toward the brand play mediating roles in this process (Silva, 2024; Li et al., 2022). The present study is based on Social Identity Theory (Tajfel & Turner, 1979), according to which individual identity is partially defined by belonging to social groups. Dimmock et al. (2005) validated this perspective in the field of sports by developing the Team Identification Scale (TIS), demonstrating that fan identification is a multidimensional construct with affective, cognitive, and behavioral components. However, despite the growing commercial relevance of the sports betting industry, gaps remain in understanding the effects of fan identification on purchase intention.

Research Design, Methodology and Data Analysis: The research design adopted is characterized by a quantitative approach, aimed at measuring latent variables, namely fan identification with the team, congruence between the sponsoring brand and the club, attitude towards the sponsoring brand, and purchase intention. A total of 272 fans of the Portuguese Primeira Liga, specifically FC Porto and Rio Ave FC, participated in this study. Data collection took place between January 18 and March 7, 2025, combining online application (n = 168), through social networks and email, and face-to-face collection (n = 104) in the vicinity of the Estádio do Dragão and Estádio dos Arcos, during five games of the 24/25 season. Instruments previously validated in the Portuguese context were used, with responses recorded on a 7-point Likert scale. Data analysis began with the characterization of the sample in SPSS. Subsequently, Structural Equation Modeling (SEM) was used to evaluate the measurement model and the structural model, using Confirmatory Factor Analysis (CFA) in SmartPLS 4 software, in order to estimate the relationships between the variables and the intensity of the effects in the proposed model.

Results and Discussion: The results revealed that the congruence between the sponsor and the sponsored party did not have a statistically significant mediating effect, nor did the isolated mediating effect of attitude toward the sponsor. These results contrast with Silva (2020), who identified a positive mediating effect of congruence, and with Silva & Veríssimo (2020), who confirmed that of attitude. A possible explanation for this divergence may lie in the nature of the sponsoring brand segment (sports betting), which tends to induce more rational and less emotional decision-making regarding purchase intention. On the other hand, the mediating effect of congruence and attitude toward the sponsoring brand was confirmed, in line with Pradhan et al. (2019). These results reinforce that fans who identify with their team are more likely to consume sports betting services, provided they perceive the sponsorship as a genuine investment and in synergy with the club's image. Under these conditions, perceived congruence contributes to the formation of a favorable attitude toward the brand, increasing fans' preference and consumption intention.

Conclusion, Contribution and Implications: The findings of this study shed light on an area that is still in its infancy in the field of sports sponsorship associated with betting, given that most previous research has focused on brands from other segments. This study shows that sports betting sponsors must go beyond the monetary value invested in sponsorship, investing in brand activation and building a genuine relationship with fans.

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Full papers

Transformational Leadership Style and its Impact on Employee Motivation in Fitness Centers

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Abstract

Objective: This study aimed to examine the effect of transformational leadership on employee motivation, considering the dimensions of work organization, performance, achievement/power, and engagement, in fitness centers.

Design/methodology: A study was designed to collect data from fitness center employees. A Likert-type questionnaire (1 to 7) was applied and analyzed using SPSS (version 1.9.3). Descriptive statistics characterized the sample, Cronbach's alpha assessed the reliability of the dimensions, and simple linear regression assessed the predicted effects of the hypotheses, with a significance level of $p < 0.05$.

Results: The results support the 4 hypotheses and confirm that transformational leadership positively influences employee motivation. In the GTL Scale assessment, the questionnaire shows excellent internal consistency of $\alpha = .96$. In the assessment of the Multi-Moti scale dimensions, work organization $\alpha = .87$, performance $\alpha = .74$, achievement/power $\alpha = .68$, and involvement $\alpha = .64$, accepted with weak reliability. Transformational leadership influences work organization by 32% (H1, $\beta = .56$; $R^2 = .32$), performance by 37% (H2, $\beta = .61$; $R^2 = .37$), achievement/power by 19% (H3, $\beta = .44$; $R^2 = .19$), and engagement by 13% (H4, $\beta = .36$; $R^2 = .13$).

Originality: This study delves into the role of leadership in employee motivation, extending a literature review in the fitness field and assisting managers in adopting best practices: creating a routine of evaluations, providing feedback, and communicating an organizational vision.

Keywords: Transformational Leadership; Motivation; Fitness Centers; Employees; Leader.

Introduction and Aim

Globalization is a growing process of interconnection between societies (Enebeli, 2024). It implies adaptation on the part of organizations and a constant need to remain competitive (Kleine et al., 2024). Leadership is directly linked to the success of organizations; good leadership increases productivity and efficiency. Transformational leaders inspire and empower employees through communication and implementation of an organizational vision, with the goal of individual development (Kleine et al., 2024). New challenges, new opportunities, and threats arise for organizations; the role of management and



managers in the motivation process is essential (Rego et al., 2017). Rechziegel and Vanalle (2000) highlight the importance of self-development, employability, and a focus on results, allowing for the measurement and recognition of the value of employees to organizations. The need arises to form management teams capable of responding to customer expectations, leading to the need to define and develop effective strategies (Pedragosa & Ferreira, 2024). Miragaia and Constantino (2019) point to the high competitiveness that exists in fitness organizations, which means that managers face additional challenges in addressing the need for innovation and entrepreneurship, which are essential for the development of this branch of activity. In March 2020, the Covid-19 pandemic forced the implementation of safety measures, the closure of fitness centers, and the cancellation of all sporting events, leading to significant revenue losses and a decrease in the number of clients and professionals in the sector. Data from the 2022 Eurobarometer indicate that 45.0% of individuals have never practiced exercise or sport, 38.0% practice at least once a week, and 6.0% five times a week or more. This represents an increase compared to 2009, from 39% to 45%. Analyzing the data in Portugal, 73.0% of respondents stated that they do not practice sports or exercise, one of the highest percentages in Europe (Eurobarometer, 2022). In 2023, in Portugal, there was a resumption of activity, according to data from the 2023 Fitness Barometer (Pedragosa & Ferreira, 2024). The 2024 Fitness Barometer (Pedragosa & Ferreira, 2025) shows the sector's recovery with an increase in the number of fitness centers (1,282), in revenue (345 million euros, excluding VAT), in the penetration rate (7.6%) and in the retention rate (58.4%). The leader plays an important role in implementing the strategy, inspiring and motivating employees. This approach enhances the achievement of a sustainable competitive advantage, the attainment of goals and objectives, adds value and promotes customer loyalty. Bucăta et al. (2022) consider and point out the importance of organizational involvement, recommending its implementation. Leadership competence plays an essential role in the success of measures implemented for change in organizations, reflecting and having a direct and significant impact on the stress and emotional well-being of employees (Kleine et al., 2024). Rechiegel and Vanalle (2000) highlight the importance of self-development, employability, and a focus on results, allowing for the measurement and recognition of the value of employees to organizations.

Employee loyalty and satisfaction are key parameters for evaluating the success of organizations, strengthening relationships with customers, suppliers, and the entire organization (Klopotan et al., 2016). Employee loyalty and commitment to the organization can be influenced by the benefits they receive (Bucăta et al., 2022). Quality employees should feel that they belong to the organization and possess a sense of loyalty; their motivation is a positive factor in their performance (Rukmana et al., 2022). Miragaia and Constantino (2019) point out the importance of developing research in the management of fitness centers, given the scarcity of studies on the subject, which can benefit the implementation of measures that value this type of organization. The topics most addressed in the 75 studies conducted between 1987 and 2015 include: consumer behavior, satisfaction and loyalty, service quality, sports management and policy, innovation, value co-creation, dimensions of fitness service, and organizational performance. We identified a gap in research on leadership and employee motivation in fitness centers. This study was developed with the purpose of providing leaders with tools for implementing their leadership. The overall objective of this study is to analyze the impact of transformational leadership on employee motivation in fitness centers. Following this, the following specific objectives were outlined: 1) To understand if transformational leadership has a positive impact on work organization; 2) To understand if transformational leadership has a positive impact on performance; 3) To understand if transformational leadership has a positive impact on empowerment achievement; 4) To understand if transformational leadership has a positive impact on engagement.

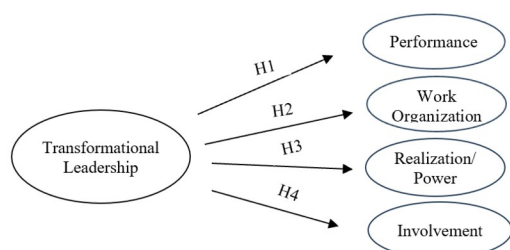
Methods

Two scales were selected: one for evaluating transformational leadership, considering the assessment of leader behaviors, the Global Transformational Leadership Scale (GTL) Beveren (2017), and a scale for analyzing variables for employee motivation, the Multifactorial Scale of Motivation

at Work (Multi-Moti) (Ferreira et al., 2006). The GTL Scale (Beveren, 2017) encompasses four dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, with 7 items; The Multi-Moti Scale (Ferreira et al., 2006) is based on the dimensions: work organization, performance, achievement/power, and engagement, with 28 items. The study included 163 employees from fitness centers. A questionnaire on a scale of 1 to 7 (Likert) was applied, and the data were analyzed using SPSS (version 1.9.3). Descriptive statistics characterized the sample, Cronbach's alpha assessed the reliability of the dimensions, and simple linear regression analyzed the effects predicted by the hypotheses, with a significance level of $p < 0.05$.

The proposed conceptual model is based on the integration of the two scales mentioned, as shown in Figure 1.

Figure 1. Conceptual Model



Source: Author's own elaboration

After developing the conceptual model, the following hypotheses were defined:

Hypothesis 1. There is a positive relationship between the adoption of Transformational Leadership behaviors by leaders and the work organization of employees in fitness centers.

Hypothesis 2. There is a positive relationship between the adoption of Transformational Leadership behaviors by leaders and the performance of employees in fitness centers.

Hypothesis 3. There is a positive relationship between the adoption of Transformational Leadership behaviors by leaders and the achievement/empowerment of employees in fitness centers.

Hypothesis 4. There is a positive relationship between the adoption of Transformational Leadership behaviors by leaders and the engagement of employees in fitness centers.

Population and Sample

The sample consists of 163 employees from fitness centers nationwide. The characterization of the sample in relation to specific characteristics, in terms of gender, indicates that the sample is representative of both genders, with 46.0% women and 54.0% men. The ages of the respondents range from 18 to >60 years. The age group with the largest number of respondents is 30-39 years, with 32.5% of the responses. With an equal number of responses and a percentage of 26.4%, are the age groups of 19-29 years and 40-49 years. The results for the two remaining age groups show that the older the age, the lower the representativeness of the sample. Regarding academic qualifications, we can see that a significant portion of the sample is



composed of 57.0% bachelor's degree holders. Next comes complete secondary education (12th grade) with 25.2%, Master's degree with 11.0%, and with the lowest percentages, complete primary education (9th grade) or less and Doctorate, both with 3.1%. Analyzing the respondents' answers regarding their time at the organization, we can see that a significant sample (30.7%) of respondents have worked at the organization for 2 to 5 years, followed by the 6 to 10 year range with 21.5%, and the up to 1 year range with 17.8%. Comparing this with the results presented for the respondents' age range, the longer the time spent at the organization, the lower the representativeness of the sample. In analyzing the employment situation of the respondents, we found that a significant portion of the sample (49.1%) are service providers and 39.7% have permanent contracts, while a small percentage of respondents, 13.3%, have fixed-term contracts. The results presented may indicate reduced job stability. In the question posed to respondents regarding their position within the organization, seven selection options were presented: Administrator, General Manager, Technical Director, Coordinator, Physical Exercise Technician, Receptionist, and Sales Representative. A free-text field was provided where respondents registered the following categories: Business Development; Administration; Sales Manager; PT Team Leader; Receptionist; Client Manager; Personal Trainer; Finance; Yoga Teacher; Tennis Teacher; Instructor, each category registering one response. We found that the majority of respondents, approximately 44.8%, hold the position of Physical Exercise Technician. Among the respondents, 33.1% earn income between €501 and €1000, followed by the income range between €1001 and €1500 with 30.7%. With very similar percentages, we find incomes between €1501 and €2000, with a percentage of 14.1%, and up to €500 with 13.5%. The highest incomes show a reduced percentage: 4.90% for more than €2500 and 3.7% between €2001 and €2500. The majority of respondents (54.0%) work in small companies, with structures between 11 and 49 employees. Next come micro-enterprises (less than 10 people), which employ 19.0% of participants, and medium-sized companies (between 50 and 249 employees), with 17.2%. Large companies, with more than 250 workers, represent only 9.8% of the sample. The analysis reveals that 46.6% of respondents remain in their current position for a period of 2 to 7 years. The representativeness of the sample progressively decreases with increasing seniority, indicating a lower presence of professionals with long periods of tenure in the same role.

It is observed that 46.0% of participants maintain a reporting relationship to their hierarchical superior for a period of 2 to 7 years, followed by 29.4% who have less than 1 year of seniority. As observed previously, the longer the service time, the smaller the sample, showing a downward trend in the distribution of respondents with greater seniority. The majority of respondents (72.49%) work professionally in Health Clubs. The remaining 27.6% are distributed across different business models, namely Fitness Boutiques, Crosstraining Boxes, and Personal Training Studios (including PT, yoga, dance, among others), with the latter accounting for 14.7% of responses. It is important to note that the Women's Academy business model was not selected by any of the participants.

Instrument

The questionnaire was designed based on a literature review, ensuring its theoretical and methodological foundation. Data collection was carried out using the Microsoft Forms platform, guaranteeing accessibility, uniformity, and efficiency in the distribution and response process.

The instrument consists of 46 questions, divided into three groups. Group one consists of 11 questions that assess sociodemographic data, length of service at the fitness center, job title and time to be reported to current management, employment status, and income bracket. This group also identifies organizational characteristics, such as size and model of the fitness center. Group two consists of 7 questions evaluating the leader: vision, individualized consideration, support and recognition, empowerment, innovative thinking, leading by example, charisma, and idealized influence. The evaluation is carried out using the GTL scale (Beveren, 2017). Group three consists of 28 questions evaluating employee motivation, addressing

work organization, performance, achievement/power, and engagement. The scale applied was the Multi-Moti (Ferreira et al., 2006).

The scale selected to evaluate the two groups was a 7-point Likert scale: (1) Strongly disagree; (2) Disagree; (3) Somewhat disagree; (4) Neither agree nor disagree; (5) Somewhat agree; (6) Agree; (7) Strongly agree. The Likert scale allows for psychological measurement, namely in terms of attitudes, values, and opinions.

Data Collection and Procedure

The partner chosen for questionnaire distribution was Portugal Activo – Associação de Clubes de Fitness e Saúde (Portugal Active – Association of Fitness and Health Clubs), a private non-profit entity whose objective is to increase the number of active people in Portugal, acting as an interlocutor and advocate for Portuguese fitness and health clubs with supervisory and inspection bodies. The questionnaire link was distributed from May 9th to September 27th, 2024. In the data collection process, actions were governed by ethical procedures, respondent participation was voluntary, and data confidentiality was guaranteed.

Data Processing

The questionnaire data was processed according to the defined objectives, using descriptive and analytical statistics for the closed-ended questions. The analysis was performed using PSP software, Version: 1.9.3 (Freeware Download). The study sample is within the recommended range and is reliable for data processing, with 163 responses. Since we have 35 items, the sample size should be between 140 and 350 people, according to Hinkin's (1995) recommendations. To obtain an acceptable sample size, we should obtain 4 responses for each item of the questionnaire or 10 responses for each item, in order to achieve an accurate solution in the exploratory factor analysis, measures considered for a minimum and maximum number of responses Hinkin's (1995). According to the author, the seven-item Likert scale is suitable for most measures (Marôco 2014). The internal consistency of the questionnaire was assessed using Cronbach's alpha to measure the degree of internal consistency of the group of variables in order to measure the intercorrelation between them. For the degree of reliability to be acceptable, it must be greater than 0.6 (Pestana & Gageiro, 2014). In evaluating the hypotheses, simple linear regression was performed using Pearson's correlation. The simple regression model is a statistical technique that focuses on two variables, and the mathematical model is an equation of a straight line (Martins, E.G.M., 2019). According to Marôco (2014), values are considered significant when they are below 0.05, ($p < .05$). The R^2 analysis was performed, a statistical measure that will indicate the proportion of the variance in the dependent variable explained by the independent variable in the regression model. The R^2 value ranges from 0 to 1, where 0 indicates a weaker proportion and 1 a stronger proportion.

Results and Discussion

The study results support the idea that transformational leadership has a positive influence on employee motivation, supporting all 4 hypotheses. In the GTL Scale assessment, the questionnaire shows excellent internal consistency of $\alpha=.96$, with high internal consistency for all 7 items. In the assessment of the Multi-Moti scale dimensions, the Work Organization dimension shows good reliability with a value of $\alpha= 0.89$. However, the Performance dimension shows a value of $\alpha= 0.66$, the Achievement/Power dimension a value of $\alpha= 0.58$, and the Involvement dimension an $\alpha= 0.57$, presenting unacceptable alphas, with values below 0.7.

**Table 1.** Cronbach's Alpha – GTL Scale and Multi-Moti Scale

Scale	Cronbach's alpha (α)	Nº itens
GTL	0.96	7
Work Organization	0.89	7
Performance	0.66	7
Realization/Power	0.58	7
Involvement	0.57	7

Source: Software PSPP, Versão: 1.9.3 Download Freeware

The internal consistency of the GTL scale was analyzed item by item, as shown in Table 2.

Table 2. Analysis of the Internal Consistency of the GTL Scale by Item

Itens GLT	Average	dp	r item/total	α item
1. It communicates a clear and positive vision of the future	5.71	1.34	0.85	0.96
2. It treats its employees individually, supporting and encouraging their development	5.74	1.38	0.92	0.95
3. It encourages and recognizes its employees	5.63	1.47	0.84	0.96
4. It promotes trust, engagement, and cooperation among team members	5.68	1.55	0.90	0.95
5. It encourages members to think about problems in different ways and questions preconceived ideas	5.54	1.48	0.81	0.96
6. He is clear about his values and practices what he preaches	5.80	1.37	0.85	0.96
7. He instills pride and respect in others and inspires employees through his high competence.	5.67	1.51	0.89	0.95
Total	5.68	1.44	-	-
Global total of Cronbach's alpha coefficient			0.96	

Source: Software PSPP, Versão: 1.9.3 Download Freeware

Considering that the Cronbach's alpha value in the Involvement subscale ($\alpha = 0.57$), it became necessary to perform an analysis of the psychometric properties, eliminating some items whose values showed a weak correlation with the other items. A Kaiser-Meyer-Olkin (KMO) test was performed to assess the homogeneity of the variables, and the value obtained was 0.74, the value being considerably acceptable.

Work Organization Dimension

Analyzing the Work Organization dimension, we can identify that item 9 (4.18), "I am satisfied with my remuneration," has the lowest average value. An analysis of the level of internal consistency was performed. The value obtained for the Cronbach's alpha coefficient $\alpha = 0.87$ shows good reliability for all items in the dimension under analysis. The lowest value was found in item 25 (0.84) "The organization allows for the development of professional goals", and the highest value is presented in item 9 (0.87), "I am

satisfied with my remuneration”. The correlation coefficients for the corrected total item show lower internal stability in item 9 ($r= 0.57$), “I am satisfied with my remuneration”, and greater stability in item 25 ($r= 0.78$), “The organization allows the development of professional goals”.The data are presented in Table 3.

Table 3. Analysis of the Internal Consistency of the Work Organization Dimension

Work Organization	Average	dp	r item/total	α item
1.This organization has satisfactory working conditions	5.65	1.25	0.71	0.85
5. I feel fulfilled by the roles I perform in the organization.	5.66	1.38	0.68	0.85
9. I am satisfied with my compensation.	4.18	1.69	0.57	0.87
13. The feedback I receive at work contributes as a motivational factor	5.98	1.38	0.61	0.86
17. All employees of the organization participate in the decision-making processes.	4.39	1.64	0.63	0.86
21.I believe I work in an environment of cooperation among colleagues.	5.70	1.43	0.62	0.86
25. The organization allows for the development of professional goals	5.88	1.37	0.78	0.84
Total	5.35	1.45	-	-
Cronbach's alpha coefficient value for the Work Organization subscale			0.87	

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Performance Dimension

Analyzing the Performance dimension, the item with the lowest average value is item 26, “There is competitiveness in my work group” (4.28). The highest average value is presented by item 14, “I like being evaluated on task performance” (5.86). The analysis of the level of internal consistency indicated a Cronbach's alpha coefficient ($\alpha = 0.66$). This value has questionable, but acceptable, reliability for all items in the Performance dimension. The lower value is displayed by item 2 (0.56), “I consider that periodic evaluations motivate me,” and the highest value is presented in item 26 (0.74), “There is competitiveness in my work group.” The correlation coefficients of the corrected total item of the dimension under analysis were then analyzed. Item 26, “There is competitiveness in my work group” ($r= 0.06$), shows the least stability, while the item with the greatest stability is item 2, “I believe that periodic evaluations motivate me” ($r= 0.56$). The data are presented in Table 4.

Table 4. Analysis of the Internal Consistency of the Performance Dimension



Performance	Average	dp	r item/total	α item
2. I believe that periodic evaluations motivate me.	5.28	1.58	0.56	0.56
6. I would like to be evaluated on my performance periodically.	5.52	1.50	0.49	0.59
10. When performing tasks, it is important to demonstrate some emotional expres	5.65	1.17	0.39	0.62
14. I like being evaluated on my task performance.	5.86	1.34	0.54	0.58
18.I typically develop strategies to achieve my goals.	5.85	1.29	0.36	0.63
22. Diverse tasks are important for good job performance.	5.59	1.43	0.34	0.63
26. There is competitiveness in my work group..	4.28	1.87	0.06	0.74
Total	5.43	1.45	-	-
Cronbach's alpha coefficient value for the Performance Subscale		0.66		

Source: Software PSPP, Versão: 1.9.3 Download Freeware

Achievement/Power Dimension

The Achievement/Power dimension shows a lower average value in item 23, "One of my goals is to reach the highest position within the organization" (4.21), and a high average value in item 3, "Having career prospects is important for my motivation at work" (6.25). The analysis of the level of internal consistency indicated a value for Cronbach's alpha coefficient of $\alpha = 0.58$, which presents weak reliability and should be rejected for all items in the Achievement/Power dimension. The lowest value was found in items 23 and 27 (0.48), "One of my goals is to reach the highest position within the organization" and "I feel motivated when my work is praised by my superior". The highest value is presented in item 11 (0.68), "I feel capable of managing a work group". The analysis of the correlation coefficients of the corrected total item was then carried out. Items 11 and 27 ($r = 0.36$) show lower internal stability. "I feel capable of managing a work group" and "I feel motivated when my work is praised by my superior" ($r = 0.36$) show lower internal stability. The item with the highest stability is item 7, "I would like to perform functions with greater responsibility" ($r = 0.54$). The data are presented in Table 5.

Table 5. Analysis of the Internal Consistency of the Achievement/Power Dimension

Realization/Power	Average	dp	r item/total	α item
3. Having career prospects is important for my motivation at work.	6.25	1.01	0.46	0.67
7. I would like to perform duties with greater responsibility.	5.02	1.80	0.54	0.63
11. I feel capable of managing a work group.	5.84	1.30	0.36	0.68
15.I feel the need to grow more and more in my role	6.09	1.15	0.40	0.67
19. If awards were given to top employees, I saw them as a motivating factor in their professional development..	5.92	1.31	0.40	0.67
23. One of my goals is to reach the highest position within the organization.	4.21	2.08	0.43	0.48
27. I feel motivated when my work is praised by my superior	5.97	1.33	0.36	0.48
Total	5.61	1.43	-	-
Value of Cronbach's alpha coefficient for the Achievement/Power subscale		0.58		

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Engagement Dimension

Finally, in the analysis of the Engagement dimension, considering that items 8, 20, and 28 are in the negative, it was necessary to invert the data. It was found that the lowest average value is presented in item 8, "I consider my work monotonous" (2.10), and the highest average value in item 16, "My knowledge is decisive in the way I work" (6.36). Regarding the analysis of the level of internal consistency, the analysis indicated a value for Cronbach's alpha coefficient of $\alpha = 0.57$. This value shows weak reliability for all items in the Engagement dimension and should be rejected. The lowest value was found in item 8 (0.43), "I consider my work monotonous," and the highest value is presented in item 20 (0.64), "I get bored when I don't understand the purpose of my duties."

Analysis of the corrected total item correlation coefficients indicated that item 20, "I get bored when I don't understand the purpose of my duties" ($r = 0.05$), shows less internal stability, while item 8, "I consider my work monotonous" ($r = 0.50$), shows greater stability. In the analysis of the four dimensions, it is possible to verify that the lowest average value is presented in the Involvement dimension (5.32). Item 8, "I consider my work monotonous" (2.67), has the lowest average value in this dimension. The values are described in Table 6.

Table 6. Analysis of the Internal Consistency of the Involvement Dimension

Involvement	Average	dp	r item/total	α item
4. I generally consider myself a highly motivated person.	6.06	1.01	0.43	0.50
8. I find my job monotonous	2.10	1.72	0.50	0.43
12. I feel emotionally involved with the organization.	5.83	1.39	0.45	0.47
16. My knowledge is crucial in how I work.	6.36	0.95	0.27	0.54
20. I get bored when I don't understand the purpose of my job.	2.28	1.85	0.05	0.64
24. I identify with the role I perform.	6.07	1.12	0.48	0.48
28. I would work harder if there were alternative forms of compensation	5.40	1.68	0.11	0.61
Total	4.87	1.39	-	-
Value of Cronbach's alpha coefficient of the Involvement subscale			0.57	

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The dimensions Performance ($\alpha = 0.66$), Achievement/Power ($\alpha = 0.58$), and Engagement ($\alpha = 0.57$) present values that are not acceptable. These results can possibly be explained by the specificity of the study sample, composed mostly of service providers with precarious contracts, low stability and career progression, and organizational culture. Pestana and Gageiro (2014) argue that an internal consistency below 0.60 is not admissible. In this sense, the procedure to follow, regarding the dimensions Performance ($\alpha = 0.66$), Achievement/Power ($\alpha = 0.58$), and Involvement ($\alpha = 0.57$), consists of increasing this value by analyzing the items in each dimension and selecting the item that can be excluded from the 7-item dimension. In the Performance dimension, item 26, "There is competitiveness in my work group," was removed. The Cronbach's alpha value is $\alpha = 0.74$, indicating acceptable reliability and being considered for the 6-item model. From the Achievement/Power dimension, we removed item 23, "One of my goals is to reach the highest position within the organization," increasing the alpha value to $\alpha = 0.68$. This value has acceptable reliability and is considered for the 6-item model. Regarding the Engagement dimension, after several analyses of the various items, item 20, "I get bored when I don't understand the purpose of my



functions," was removed, increasing the alpha value to $\alpha = 0.64$. This value has weak but acceptable reliability (0.6 to 0.7) and is considered for the 6-item model. Of the initial 28 items, we will consider 25 items, reducing one item in the Performance, Achievement/Power, and Engagement dimensions. Table 7 shows the new Cronbach's alphas and the number of items per dimension.

Table 7. Cronbach's Alpha – GTL Scale and Multi-Moti Scale

Scale	Cronbach's alpha (α)	Nº itens
GTL	0.96	7
Work Organization	0.89	7
Performance	0.74	6
Realization/Power	0.68	6
Involvement	0.64	6

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Simple Linear Regression

Data analysis was conducted using a simple linear regression model, complemented by the calculation of Pearson's correlation. The results obtained between transformational leadership and the variables work organization, performance, achievement/power, and engagement showed values of 0.563, 0.609, 0.437, and 0.360, respectively. The results relating to work organization and performance show a moderate positive correlation (range between 0.5 and 0.7), tending to increase together, although the observed relationship is not particularly strong. The data presented in Table 8 demonstrate that the Pearson correlation coefficients between transformational leadership, achievement/power, and engagement are between 0.3 and 0.5, indicating a low-intensity positive correlation. Despite the variability recorded between the variables, a trend of joint growth is observed.

Table 8. Pearson Correlation

Scales	Transformational Leadership	
	R	Correlation
Work Organization	0.56	Moderate positive correlation (values between 0.5 and 0.7)
Performance	0.61	Moderate positive correlation (values between 0.5 and 0.7)
Realization/Power	0.44	Weak positive correlation (values between 0.3 and 0.5)
Involvement	0.36	Weak positive correlation (values between 0.3 and 0.5)

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Summary of the Model

To assess the proportion of the variance of the dependent variable transformational leadership explained by the independent variables considered in the regression model: work organization, performance, achievement/power, and involvement, the adjusted coefficients of determination (adjusted R^2) were calculated. The results obtained are shown in Table 9.

Table 9. Summary of the Model

Scales	Transformational Leadership			
	R	R ²	Adjusted R ²	Standard error of the estimate
Work Organization	0.56	0.32	0.31	1.11
Performance	0.61	0.37	0.37	1.06
Realization/Power	0.44	0.19	0.19	1.21
Involvement	0.36	0.13	0.12	1.25

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The analysis of the coefficients of determination (R^2) showed values of 0.32 for work organization, 0.37 for performance, 0.19 for achievement/power, and 0.13 for engagement. The variables achievement/power ($R^2=0.19$) and engagement ($R^2=0.13$) show a reduced impact on the model; only a limited proportion of the variance of the dependent variable is explained by these independent variables. The variables work organization ($R^2=0.32$) and performance ($R^2=0.37$) show results of moderate impact. Although the independent variables reveal some explanatory capacity on the dependent variable, the observed effect is not particularly high, indicating a limited influence on the model.

ANOVA

We observed a p-value < .000 in all variables, confirming a p-value < .05, concluding that the presented model is statistically significant, with less than a 5% probability that the observed results occurred by chance.

Table 10. ANOVA

Scales	Transformational Leadership				t	Sig.
	Non-standardized coefficients		Standardized coefficients			
	B	Standard Error	Beta			
Constante	2.31	0.40	0.00		5.75	.000
Work Organization	0.60	0.07	0.56		8.65	.000
Constant	2.99	0.29	0.00		10.24	.000
Performance	0.51	0.05	0.61		9.73	.000
Constant	2.10	0.59	0.00		3.55	.000
Realization/Power	0.58	0.09	0.44		6.17	.000
Constant	2.81	0.60	0.00		4.69	.000
Involvement	0.48	0.10	0.36		4.90	.000

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Coefficients

Table 11. Coefficients



Scales	Transformational Leadership					
	Sum of squares	df	Medium Square	F	Sig.	
Work Organization	Regressão	92.03	1	92.03	74.9	.000
	Resíduo	197.83	161	1.23		
	Total	289.87	162			
Performance	Regressão	107.38	1	107.38	94.74	.000
	Resíduo	182.48	161	1.13		
	Total	289.87	162			
Realization/Power	Regressão	55.37	1	55.37	38.02	.000
	Resíduo	234.49	161	1.46		
	Total	289.87	162			
Involvement	Regressão	37.6	1	37.6	24	.000
	Resíduo	252.26	161	1.57		
	Total	289.87	162			

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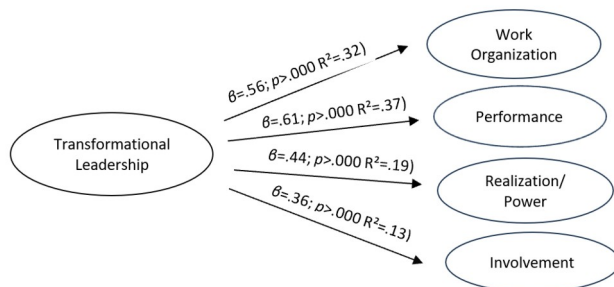
Considering the results presented and the hypotheses proposed for study, the hypotheses were analyzed. Analyzing hypothesis 1, "There is a positive relationship between the adoption of Transformational Leadership behaviors by Leaders and the Work Organization of employees in fitness centers (H1)", a Pearson correlation of 0.563 was found, indicating a moderate positive correlation between the two variables under analysis. The R^2 value (0.32) indicates that transformational leadership has a positive impact and explains 32.0% of the work organization. This value is not very strong, being considered a moderate predictive power. Analyzing the significance ($p < .000$), which is less than 0.05, the observed effect is highly significant, with less than a 5% chance that the results occurred by chance. This reinforces that the relationship between the variables is statistically significant, reinforcing that the results are credible. The Beta value is 0.56, indicating that the dependent variable increases by 0.56 units for each unit increase in the independent variable. The analysis shows a high F-value (74.90), indicating that the model has strong predictive power, reinforced by a high regression value (92.03) and a low residual value (1.28). These data support H1. Analyzing hypothesis 2, "There is a positive relationship between the adoption of Transformational Leadership behaviors by Leaders and the Performance of employees in fitness centers", a Pearson correlation of 0.609 was found, indicating a moderate-strong positive correlation between the two variables under analysis. The R^2 value (0.37) indicates that transformational leadership has a positive impact and explains 37.0% of performance. This suggests that the model has some predictive power, although with room for improvement. Analyzing the significance ($p < .000$), we can conclude that the presented model is statistically significant, ($p < .05$). The relationship is statistically significant, which reinforces the credibility of the results obtained. The Beta value is 0.61, which indicates that the dependent variable increases by 0.61 units for each one-unit increase in the independent variable. This adjusted performance suggests a moderate to strong influence of the independent variable on the dependent variable. The F-value (94.74) indicates that the regression model is very significant, demonstrating that the model has strong predictive power. This power is reinforced by a high regression value (107.38) and a low residual value (1.13), which reinforces the significance of the model and supports H2. Analyzing hypothesis 3, "There is a positive relationship between the adoption of Transformational Leadership behaviors by Leaders and the Achievement/Power of employees in fitness centers", the Pearson's correlation of 0.437 indicates a moderate positive correlation between the two variables under analysis, meaning there is a connection, but we cannot consider that there is a perfect link. The R^2 value (0.19) indicates that transformational leadership has a positive impact and explains 19.0% of achievement/power. This suggests that the model has a relatively low predictive power, indicating that there is room for improvement. Analyzing the significance ($p < .000$), we can conclude that the presented model is statistically significant, with $p < .05$. The relationship between the variables is statistically significant, with very strong evidence of the reality of the results and the reliability of the results. The Beta value is 0.44, which indicates that the dependent variable increases by 0.44 units for each one-unit increase in the independent variable. This suggests a moderate influence of the independent variable on the dependent variable, showing a positive relationship between the two variables despite not being very strong. The F-value (38.02) indicates that the regression model is acceptable. With a reasonable regression value (55.37) and a low residual value (1.46),

we can conclude that the data presented support H3. However, there is room for improvement. Analyzing hypothesis 4, “There is a positive relationship between the adoption of Transformational Leadership behaviors by Leaders and employee engagement in fitness centers”, the Pearson correlation, 0.36, indicates a moderate positive correlation between the two variables under analysis. Although there is a connection, we cannot consider that there is a perfect link. The R^2 value (0.13) indicates that transformational leadership has a positive impact and explains 13.0% of engagement. This suggests that the model has a relatively low predictive power, indicating that there is room for improvement. Analyzing the significance ($p < .000$), we can conclude that the presented model is statistically significant, with $p < .05$. The relationship between the variables is statistically significant, with very strong evidence of the reality of the results. The Beta value is 0.36, indicating that the dependent variable increases by 0.36 units for each unit increase in the independent variable. This suggests a moderate influence of the independent variable relative to the dependent variable. The F-value (24) indicates that the regression model is acceptable. With a reasonable regression value (37.60) and a low residual value (1.57), we can conclude that the data presented support H4, but with room for improvement.

Structural Model

The following structural model was developed and is presented in Figure 2. It is concluded that transformational leadership has a positive impact and explains 32.0% of the organization at work ($\beta = .56$; $p > .000$; $R^2 = .32$); 37.0% of performance ($\beta = .61$; $p > .000$; $R^2 = .37$); 19.0% of the relationship/power ($\beta = .44$; $p > .000$; $R^2 = .19$) and 13.0% of the involvement ($\beta = .36$; $p > .000$; $R^2 = .13$).

Figure 2. Structural Model



Source: Author's own elaboration

Discussion of Results

The purpose of this study was to analyze the impact of transformational leadership on employee motivation in fitness centers. All hypotheses (H1, H2, H3, and H4) were confirmed with statistically significant results, showing practical implications for strategic and operational management. Transformational leadership reveals a positive impact on work organization and motivation (H1), through the communication of a clear vision, the promotion of innovation, and the building of relationships based on trust (Beveren et al., 2017; Sobral & Furtado, 2019). This leadership style is associated with motivational factors such as working conditions, recognition, participation in decisions, and organizational culture (Ferreira et al., 2006; Bucata et al., 2022). Regarding performance (H2), the transformational leader enhances motivation by recognizing individual needs and promoting personal and professional



development (Gomes & Cruz, 2007). Motivation, in turn, is linked to the definition of goals, diversity of tasks, and the creation of healthy competitive environments (Ferreira et al., 2006; Rukmana et al., 2022). In the relationship/power dimension (H3), the leader who empowers and empowers the employee contributes to their functional and motivational growth, reinforcing the sense of responsibility, recognition, and career prospects (Beveren et al., 2017; Ferreira et al., 2006). Employee engagement (H4) is also enhanced by leaders who lead by example, promote organizational values, and support individual development (Sobral & Furtado, 2019). This engagement translates into greater commitment, innovation, and retention, with sustainable benefits for the organization (Schaufeli, 2021; Bucata et al., 2022).

Transformational leadership shows a positive correlation with all dimensions analyzed, being most expressive in the organization of work. Additionally, the practice of physical activity contributes to reducing absenteeism and increasing motivation. Organizations should therefore foster spaces that promote physical exercise, mitigating barriers such as lack of time and motivation (Eurobarometer, 2022).

Implications for the Manager

The results of this study offer relevant contributions for fitness center managers, providing strategic guidance for the motivation and retention of qualified professionals in a highly competitive sector. Transformational leadership emerges as an effective tool to enhance employee engagement, performance, and development. The study suggests that motivation should be assumed as a strategic priority, requiring the implementation of effective measures. At the work organization level, the study shows that remuneration and participation in decisions are critical points, requiring the creation of reward systems and the strengthening of employee inclusion in decision-making processes, impacting organizational efficiency.

In the performance dimension, the data presented suggest that motivation is associated with the existence of periodic evaluations and continuous feedback. Clear goal definition and semi-annual evaluation meetings are recommended, promoting alignment between expectations and results.

The analysis of the achievement/power dimension shows that career prospects are a central motivational factor. The manager should encourage autonomy, task diversity, and skill development, promoting continuous learning and a sense of professional accomplishment. The involvement dimension shows the lowest levels of satisfaction, which may be associated with their work situation; a significant proportion of the sample (49.1%) corresponds to service providers, a condition that may contribute to the low involvement identified. This result suggests the need for organizational strategies aimed at strengthening the professional bond and functional integration of these employees. Additionally, the adoption of alternative forms of remuneration and the alignment between individual and organizational values are recommended strategies. The application of these measures may reduce turnover, burnout, increase employee commitment, improve service quality, and contribute to customer loyalty. The active involvement of professionals in the organization's culture and objectives is, therefore, a sustainable investment in the medium and long term.

Conclusion, Contribution, and Implications

This study confirmed that the transformational leadership style has a positive impact on employee motivation in fitness centers, especially in the dimensions of work organization and performance. Leaders who adopt this style promote more motivating and productive environments, and greater emotional engagement in teams. Despite the relevance of the results, the research has limitations; the sample results are only at the national level, limiting the analysis in other cultural and legal contexts. It is suggested that the study be applied in other European countries. The scale, although validated, has not been validated in Portugal in the fitness context. It is suggested that a multifactorial motivation scale specific to the fitness



area be constructed and validated. There is a reduced number of studies in the fitness area, making comparison of results unfeasible. More studies in the indicated area are suggested, and more specifically, on leadership and employee motivation. This work contributes to filling a gap in the literature by proposing a model that relates leadership styles to motivational factors in a specific organizational context. Managers are advised to invest in transformational leadership skills, particularly in communicating the vision, valuing individual talent, and stimulating intellectual growth, as a strategy to boost motivation, reduce turnover, and promote customer loyalty.

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Instrument Validation: Challenges and Difficulties in the Dual Career in Women's Football Refereeing (DDCDAF)

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Abstract

In Portugal, women's refereeing has made remarkable progress; however, gender inequalities, precarious working conditions, and structural obstacles persist, hindering career progression and women's retention in the sector (e.g., Silva-Santos et al., 2025). This study analyzes the dual career of female football referees, focusing on the challenges and difficulties of reconciling refereeing, another professional career, and personal life, including motherhood. The study aimed to understand the social, professional, and personal implications of the activity condition retention and career progression. Specifically, this article aimed to

validate the measurement instrument (DDCDAF) to meet the general objective. Thus, a quantitative study was conducted through the construction and validation of a questionnaire composed of sociodemographic questions and items grouped into two dimensions (Financial Sustainability and Motherhood/Professionalization), applied to a convenience sample of 40 Portuguese female referees. Factor analysis revealed that, when analyzed as a whole of 39 items, it was not adequate, but it proved acceptable when evaluated by sub-dimensions and, partially, at the theme level. The pilot questionnaire proves to be a valid instrument for understanding the challenges and difficulties of reconciling arbitration, professional and personal life. The results allow us to identify structural barriers faced by female arbitrators, generate applied knowledge about factors that influence retention and career progression, and inform support policies that promote the appreciation and development of female arbitrators. However, the overall analysis highlights the need for reformulation and elimination of some items in order to improve the clarity and consistency of the instrument.

Keywords: Motherhood; Female Referee; Gender Equality; Financial Sustainability. DDCDAF Instrument.

Introduction and aim

Women's refereeing in football in Portugal has seen significant progress in recent years. However, female referees continue to face structural challenges related to gender inequality, job insecurity, and the need to reconcile multiple social roles (Monteiro et al., 2020; Silva-Santos et al., 2025). In this context, most female referees resort to a dual career, combining refereeing with other professional activities or studies, in order to ensure their financial sustainability and continuity in their sporting career. The relevance of this study allows us to understand the factors that condition the permanence, progression, and visibility of women in refereeing, thus contributing to the discussion on equal opportunities, professionalization, and inclusive support policies. The existing literature, although scarce, identifies several structural challenges that can affect the careers of female referees, namely the lack of institutional recognition, salary disparities, difficulties in reconciling work and family life, and the absence of effective policies (Monteiro et al., 2020; Segado et al., 2021; Silva-Santos et al., 2025). The underrepresentation of women in refereeing is not due to a lack of skills, but rather to the need to balance the different spheres of personal and professional life, the demands associated with motherhood, and the organizational culture rooted in sport (Carvalho et al., 2013; Reid & Dallaire, 2020). The authors De Brandt et al. (2018) and Stambulova & Wylleman (2015) add that the practice of a dual career can lead to the development of skills, in terms of resilience and balance and well-being.

The originality of the study is based on the need to deepen the understanding of the reasons that lead female referees to maintain a dual career in football refereeing, exploring the specificities and implications of this choice in a context still marked by gender inequality and lack of professionalization. The main objective of this study is to analyze the choice of a dual career and understand the social, professional, and personal implications faced by female referees. Specifically, this article aimed to validate the measurement instrument (DDCDAF) to meet the general objective.

Methods

Step 1: Instrument Construction

The study adopted a quantitative methodology, through the construction and validation of a questionnaire for the perception of the Dual Career of female football referees, initially composed of 39 items formulated to analyze the social, professional, and personal implications of the activity of female referees in Portugal.



These items were grouped into two main dimensions: a) Financial Sustainability and b) Motherhood versus Professionalization.

The Financial Sustainability dimension was divided into four sub-dimensions: Remuneration and Financial Stability, Family Perception, Social Perception, and Professional Perception. Each sub-dimension is composed of a set of items that allows its measurement. The Remuneration and Financial Stability, Social Perception, and Professional Perception sub-dimensions included five items each, while the Family Perception sub-dimension was composed of six items.

The construction of the items was based on the study by Silva-Santos et al. (2025b), applied in Portugal and Spain and Segado et al. (2021) for the construction of the items of the Social Perception subdimension.

The questionnaire applied was structured in two parts. Part A included questions regarding the sociodemographic characteristics of the participants, allowing the sample to be characterized in terms of age, academic background, experience in refereeing, sporting background and number of weekly training sessions, while Part B included questions aimed at identifying the challenges and difficulties faced in the dual career of female football referees.

All items were evaluated using a 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5).

Subsequently, a panel composed of three experts, university professors, evaluated the validity of the items' content based on the criteria of relevance, clarity of writing, and contextual appropriateness. Each expert received, via email, a detailed explanation of the study's objective, accompanied by a table containing the themes, dimensions, and respective items.

Stage 2: Exploratory Study

The objective of this stage was to perform a preliminary validation and an exploratory analysis of the data, in order to detect any necessary changes and ensure the adequacy and validity of the developed instrument.

Sample

The sample was obtained by convenience, with the voluntary participation of 40 female soccer referees, under a guarantee of anonymity of their responses. The participants come from seven different district associations. The average age of the participants was approximately 25 years, with the most representative age group being 21 to 25 years (30%). Regarding the level of education, most participants had a bachelor's degree (52.5%), followed by high school (27.5%) and a master's degree (20%). In relation to the competitive framework, 21 referees (52.5%) are part of the national framework, 17 referees (42.5%) belong to the district frameworks, and 2 referees (5%) are part of the international framework.

Instrument

The developed questionnaire was structured in two distinct parts. Part A included questions related to sociodemographic characteristics, allowing the sample to be described in terms of age, education level, refereeing experience, sports history, and time dedicated. Part B included items aimed at identifying the main challenges and difficulties faced in the dual career of female football referees. The instrument was composed of seven sub-dimensions, with items developed based on the studies of Segado et al. (2021) and Silva-Santos et al. (2025), as presented.

Procedures

Data collection was carried out using an online questionnaire, developed on the Google Forms platform, with the access link subsequently sent via WhatsApp. All responses obtained were considered valid for analysis. The sample consisted exclusively of 40 female referees registered for the 2025/2026 sports season, with the intention of performing a preliminary validation and an exploratory analysis of the data. This phase allowed for the identification of any inconsistencies and the making of necessary adjustments, ensuring the adequacy and clarity of the final instrument.

Data Analysis

The data were analyzed using Exploratory Factor Analysis (EFA), using SPSS software (version 30) and Microsoft Excel (version 2508). The extraction method applied was Maximum Likelihood with Varimax rotation, as recommended by Marôco (2010). The adequacy of the sample was assessed using the Kaiser-Meyer-Olkin (KMO) index and Bartlett's test of sphericity (Zubillaga Olague & Cañadas, 2021). These tests were applied separately for each set of items, dimensions, and themes, ensuring the robustness of the factor structure. During the process, items with factor loadings lower than 0.40 were eliminated or reformulated to ensure that each item has adequate saturation in the corresponding factor (Calabuig Moreno et al., 2010; Marôco, 2010). The internal reliability of the factors was assessed using Cronbach's alpha (α), with values greater than 0.60 considered indicative of acceptable internal consistency.

Results and Discussion

Step 1: Instrument Construction

The construction of the instrument was based on literature on women's arbitration, motherhood, and the balance between arbitration and other professional activities. For the development of the items, the questionnaire was based on the study by Silva-Santos et al. (2025), which addresses financial sustainability and the balance between motherhood and arbitration, and by Segado et al. (2021), which explores social and family perceptions and institutional support in the context of women's arbitration. The results obtained in this study reinforce the theoretical foundation, indicating that the instrument consistently captures the critical dimensions identified in the literature on the topics of financial sustainability, professional and personal life, and motherhood, highlighting the difficulties and challenges that impact the dual career of female referees. This articulation confirms the conceptual validity of the questionnaire and demonstrates its practical relevance for federations, sports associations, and training entities, and can be used as a basis for organizational diagnoses of the conditions in women's arbitration.

Furthermore, with adjustments made and a subsequent increase in the sample size, the questionnaire could support sports management decisions by assisting FPF (São Paulo Football Federation) and District Associations in identifying the real needs of female referees and implementing support measures regarding remuneration, maternity support policies, work-reconciliation strategies, retention programs, and career progression. Its future application, should the instrument be improved, could be applied in different sports seasons, measuring the evolution of working conditions and the policies implemented on gender equality in refereeing. Finally, the questionnaire has the potential to be adapted to other contexts, sports, or countries, contributing to the deepening of international research on dual careers in women's sports. The items are grouped into seven sub-dimensions: Remuneration and Financial Stability, Social Perception, Family Perception, Professional Perception, Reconciliation between Family, Professional and Sports Life, Institutional Perception and Support, and Long-Term Perspectives. After the preliminary version of the



questionnaire was developed, the instrument was submitted to an expert panel of three university professors for content review. Following the analysis, the items were refined to be clearer and to assess a single item. The final questionnaire consisted of 39 items (Table 1) designed to assess the social (e.g., "Women's refereeing is underestimated by society in general"), professional (e.g., "Is the management between refereeing and professional career balanced"), and personal (e.g., "Can I reconcile refereeing commitments with my family life") implications of the activity of female football referees in Portugal, in addition to including 11 sociodemographic questions. This questionnaire allowed for the assessment of the comprehension, relevance, and suitability of the items before the final application of the study.

Table 5. Dimensions and Items of the Instrument.

Dimension	Items
Remuneration and Financial Stability	1. My refereeing income is sufficient to cover monthly expenses. 2. Refereeing is a good source of supplementary income. 3. The payment per refereed match is fair considering the demands of the role. 4. Travel-related costs are adequately compensated. 5. The remuneration impacts my motivation to continue refereeing. 6. Female refereeing is underestimated by society in general.
Social	7. More is expected from female refereeing than from male refereeing. 8. Female refereeing is constantly judged. 9. The matches assigned to me are below my capabilities as a referee. 10. Refereeing is socially valued as a professional career.
Family	11. Refereeing requires personal sacrifices. 12. I cannot complete household tasks due to the time I dedicate to refereeing. 13. I have to postpone refereeing tasks because of family obligations. 14. I can balance refereeing commitments with my family life. 15. I have refused match appointments due to family responsibilities. 16. My family is understanding of the demands of refereeing. 17. My profession interferes with my performance as a referee. 18. Refereeing requires professional sacrifices.
Professional	19. The balance between my refereeing career and my professional career is well managed. 20. My weekly workload, between refereeing and another profession, is excessive. 21. I have sufficient flexibility in my profession to meet the demands of refereeing.
Work–Family–Refereeing Balance	22. I intend to become a mother. 23. I have children. 24. This decision is due to the demands of the refereeing career.

Dimension	Items
	25. The demands of refereeing are compatible with motherhood.
	26. Refereeing affects the quality of time spent with my children.
	27. I have felt distress for not participating in moments with my children due to refereeing.
	28. There are clear maternity support policies in refereeing.
	29. Refereeing provides adequate conditions during and after pregnancy.
	30. There are logistical barriers that hinder returning to refereeing after motherhood.
	31. The institution values my contribution to refereeing.
Institutional Perception and Support	32. The institution is understanding of my justified absences.
	33. The institution is concerned about my well-being.
	34. The institution I am associated with has maternity support policies.
	35. I intend to dedicate myself exclusively to refereeing in the future.
	36. I consider it feasible to maintain a dual career (refereeing + profession) in the long term.
Long-Term Perspectives	37. There are sufficient incentives to remain in refereeing for many years.
	38. I intend to progress in my refereeing career.
	39. I have considered abandoning refereeing.

Stage 2: Exploratory Study

With the aim of verifying the adequacy of the questionnaire and the underlying factor structure, an Exploratory Factor Analysis (EFA) was performed. In a first analysis, a total of 39 items were considered, with Bartlett's test of sphericity showing a significant value ($p < 0.001$), indicating the existence of correlations between the items. However, the Kaiser-Meyer-Olkin (KMO) index proved to be extremely low (0.15), well below the minimum acceptable value of 0.60 (Marôco, 2010), which does not advise proceeding with factor analysis for the entire set of items. This inadequacy was reflected in the behavior of the items, as they proved to be poorly discriminative, ambiguous, or with a weak relationship to the proposed theoretical dimensions. When analyzed separately by dimensions, the KMO values proved to be statistically adequate and significant in Bartlett's test, supporting the feasibility of exploratory factor analysis. Table 2 shows that the Compensation and Financial Stability dimension recorded KMO = 0.63 and Bartlett = 0.0118; the Social dimension, KMO = 0.62 and Bartlett = 0.0001; the Family dimension, KMO = 0.63 and Bartlett = 0.0026; the Professional dimension, KMO = 0.75 and Bartlett = 0.0000; the Reconciliation between Family Life, Professional Life and Arbitration dimension, KMO = 0.51 and Bartlett = 0.0000; the Perception and Institutional Support dimension, KMO = 0.71 and Bartlett = 0.0000; and the Long-Term Perspectives dimension, KMO = 0.74 and Bartlett = 0.0000. With the exception of the Reconciliation dimension, for which the value is at the threshold of acceptability (KMO = 0.51), the results obtained showed satisfactory indicators of sample adequacy, allowing the continuation of the exploratory factor analysis.

Table 6. Exploratory Factor Analysis by Subdimension



Subdimension	KMO	Bartlett
Remuneration and Financial Stability	0.63	0.0118
Social	0.62	0.0001
Family	0.63	0.0001
Professional	0.75	0.000
Work–Family–Sport Balance	0.51	0.000
Institutional Perception and Support	0.71	0.000
Long-Term Perspectives	0.74	0.000

Finally, the analysis by variables was carried out, in which it was found that the Financial Sustainability theme presented a KMO value (0.45) below the acceptability threshold, and factorization was not recommended, with the Bartlett test showing a significant value ($p = 0.0000$). In Maternity/Professionalization, the results were considered adequate to proceed with the exploratory factor analysis, with the KMO index registering a value of 0.60 and a Bartlett value of 0.0000. The analysis of factor loadings allowed us to identify items with low saturation or semantic inconsistencies, requiring adjustments to the instrument. Therefore, some items were removed and others reformulated to improve their clarity and contribution to the proposed dimensions.

Tabela 7. Eliminated Items

Subdimension	Items
Remuneration and Financial Stability	5. The remuneration impacts my motivation to continue refereeing.
Social	9. The matches assigned to me are below my capabilities as a referee. 10. Refereeing is socially valued as a professional career.
Family	11. Refereeing requires personal sacrifices. 15. I have refused match appointments due to family responsibilities.
Professional	18. Refereeing requires professional sacrifices. 24. This decision is due to the demands of the refereeing career.
Work–Family–Refereeing Balance	26. Refereeing affects the quality of time spent with my children. 27. I have felt distress for not participating in moments with my children due to refereeing.
Long-Term Perspectives	35. I intend to dedicate myself exclusively to refereeing in the future.

The decisions made during this process are detailed in the tables below. Table 3 contains the items eliminated due to insufficient factor loadings (less than 0.40) or reduced conceptual adequacy, while Table 4 identifies the reformulated items, whose wording was adjusted to ensure greater precision and theoretical alignment with the instrument's sub-dimensions.

Tabela 8. Reformulated Items

Subdimension	Items
Work–Family–Arbitration Balance	28. There are clear policies supporting motherhood in arbitration.
	29. Arbitration offers adequate conditions during and after pregnancy.
	30. There are logistical barriers that hinder returning to arbitration after maternity.
	39. I have considered leaving arbitration

In summary, the results, when analyzed across the entire set of 39 items, indicated that the questionnaire's factor structure was not adequate. However, acceptable conditions were found when analyzed at the dimensional level and, partially, at the variable level. The results also pointed to the need, in a subsequent phase of the study, to use a larger sample in order to confirm the stability of the factor structure and allow for final validation of the questionnaire with greater statistical robustness.

Conclusion, Contribution and Implications

The questionnaire presents acceptable conditions in terms of sub-dimensions and partially in terms of dimensions to constitute a valid instrument for understanding the challenges and difficulties of reconciling refereeing, professional and personal life, including motherhood. The results obtained have practical implications that need to be highlighted, such as generating applied knowledge about the factors that condition the permanence and progression of women in the refereeing career and also informing support policies that promote the retention, appreciation and development of female referees, cooperating for a more effective institutional intervention in the field of reconciling sports activity with professional career and family life. However, the factorial structure in the overall analysis did not prove to be entirely adequate, suggesting that the 39 items, when analyzed together, may not measure a single or coherent structure, which demonstrates the need to review or eliminate items that are not very discriminating or ambiguous and to reformulate others in order to improve clarity and semantic consistency. The use of a convenience sample composed of 40 judges, although appropriate for a pilot test, does not allow the generalization of the results to the total population, reinforcing the importance of increasing the number and diversity of participants in future phases of the study and requiring rigor in the extrapolation of results for political or institutional decisions.

Finally, for future investigations, it is proposed to adjust and refine the instrument by improving the items, reassessing the factorial structure with larger and more heterogeneous samples, and applying the instrument in different contexts, levels, competitive frameworks, modalities, or countries, in order to verify its stability and cross-sectional applicability.

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