

# Female football leadership styles: how leaders influence players' perception of meaningful work

Ana Junça Silva

*Business Research Unit – BRU (UNIDE-IUL), ISCTE-Instituto Universitario de Lisboa,  
Lisbon, Portugal, and*

Sofia Alcobia

*ISCTE-Instituto Universitário de Lisboa, Lisbon, Portugal*

## Abstract

**Purpose** – Applying the Self-Determination Theory (SDT), this research aimed to investigate whether female football players' satisfaction of basic psychological needs explains the impact of transformational and transactional leadership on their sense of meaningful work. Based on self-determination theory, a conceptual model was developed hypothesizing that transformational and transactional leadership styles would be positively associated with meaningful work through the satisfaction of the three basic psychological needs: autonomy, competence and relatedness.

**Design/methodology/approach** – To test these hypotheses, a three-wave quantitative study was conducted using online questionnaires ( $n = 299$ ) administered to female football players. Structural equation modeling was used to test the model.

**Findings** – The findings indicated that transformational and transactional leadership styles influenced meaningful work through the satisfaction of autonomy and competence needs but not relatedness.

**Originality/value** – These results have implications for the development of managerial strategies aimed to guide team leaders and coaches on how to better fulfill their players psychological needs. Theoretical and practical implications are discussed.

**Keywords** Leadership, Self-determination theory, Autonomy, Competence, Relatedness, Meaningful work

**Paper type** Research paper

## Introduction

Effective leadership is widely acknowledged as a pivotal factor in shaping team performance and player motivation in professional sports (Hanlon and Taylor, 2024). One of the most influential frameworks for conceptualizing leadership within this domain is the Full Range Leadership Model (FRLM; Bass, 1985; Bass and Avolio, 2000), which distinguishes between two core leadership styles: transactional and

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transformational. Transactional leadership is rooted in the principles of social exchange, wherein leaders manage performance through contingent reinforcement – administering rewards or sanctions based on goal attainment (Lee *et al.*, 2023). In contrast, transformational leadership seeks to cultivate followers' intrinsic motivation and commitment by encouraging them to transcend self-interest in favor of collective goals (Xie *et al.*, 2025). This approach is operationalized through four key dimensions: individualized consideration, inspirational motivation, intellectual stimulation, and idealized influence (Bass and Riggio, 2006).

Empirical research has demonstrated that both transformational and transactional leadership styles can elicit favorable behavioral and attitudinal outcomes among followers, including an enhanced sense of meaningful work (Bakker *et al.*, 2023; Chen *et al.*, 2024). However, while a substantial body of literature has explored the influence of leadership on perceptions of meaningful work, the psychological mechanisms that mediate this relationship remain insufficiently understood (Gökkaya *et al.*, 2023). This gap is particularly pronounced within the context of sports management (Butalia *et al.*, 2024) and among female athletes (Okholm Kryger *et al.*, 2022).

To address this gap, the present study examined how transformational and transactional leadership styles contribute to female athletes' perceptions of meaningful work, with a specific focus on the mediating role of basic psychological need satisfaction. Drawing on Self-Determination Theory (SDT; Ryan and Deci, 2000), we hypothesized that the fulfillment of three fundamental psychological needs – competence, autonomy and relatedness – would mediate the relationship between leadership style and perceptions of meaningful work. The latter is conceptualized as an individual's experience of purpose and significance at work, encompassing three dimensions: positive meaning, meaning making through work, and greater good motivations (Steger *et al.*, 2012).

Specifically, we proposed that transformational and transactional leaders influence athletes by fostering fair exchanges (e.g. contingent rewards) and by inspiring them to pursue collective objectives through charisma, motivational communication, intellectual stimulation and individualized support (Bass, 1985). These leadership behaviors are expected to promote the satisfaction of basic psychological needs: relatedness, the need to feel connected and valued within a social group (Ryan and Deci, 2017); competence, the desire to effectively interact with one's environment and demonstrate mastery (Deci *et al.*, 2017); and autonomy, the experience of volition and psychological freedom in one's actions (Deci and Ryan, 2008).

This study offers some key contributions to both theory and practice. Specifically, it offers important implications for gender research, particularly within the domain of leadership in male-dominated environments such as professional sports (Read *et al.*, 2024). Despite the growing visibility of women in elite football, the leadership experiences and psychological outcomes of female athletes remain significantly underrepresented in empirical research (Wilhelmsen, 2024). By examining how leadership styles influence female players' perceptions of meaningful work through the satisfaction of basic psychological needs, this study contributes to a more gender-inclusive understanding of sport dynamics. It highlights how leadership approaches may either reinforce or mitigate gendered experiences of motivation, and purpose in high-performance settings. In doing so, it extends gender scholarship by exploring how contextual and relational factors intersect with gender to shape women's experiences of work, voice, and value within traditionally masculinized spaces (Xie *et al.*, 2025). This intersectional perspective enriches theoretical frameworks around leadership, motivation,

and meaningful work by foregrounding the unique challenges and opportunities faced by women navigating professional sport.

## Theoretical framework

### *Leadership styles*

Leadership is widely recognized as a central determinant of success in professional sports, exerting a profound influence on both team-level outcomes and individual player development (Hanlon and Taylor, 2024). Although football has traditionally been a male-dominated domain, women's football has witnessed substantial growth in recent years, gaining increased global legitimacy through heightened professionalization, media coverage, and competitive achievements (Wilhelmsen, 2024). As the women's game continues to evolve and mature, investigating the role of leadership within this unique context has become increasingly salient. The FRLM (Bass and Avolio, 2000) provides a robust theoretical framework for examining leadership dynamics in sport, identifying two primary styles – transformational and transactional – as integral to fostering both individual motivation and collective success.

Transformational leadership is grounded in the ability of leaders to inspire followers by modeling exemplary behaviors and articulating a compelling vision, thereby encouraging them to transcend self-interest in pursuit of broader organizational goals (Bass, 1985). This approach is operationalized through four key dimensions:

- (1) individualized consideration, which entails attending to the specific needs of followers and offering tailored support;
- (2) intellectual stimulation, which promotes innovation and autonomy by encouraging critical thinking and new perspectives;
- (3) inspirational motivation, which reflects the leader's ability to convey optimism, purpose, and high expectations; and
- (4) idealized influence, demonstrated through the leader's charisma, moral conduct, and commitment to shared values (Bass and Avolio, 2000).

In contrast, transactional leadership is predicated on principles of social exchange and performance management, emphasizing the clarification of roles, expectations, and contingent reinforcement (Burns, 1979; Northouse, 2004). It comprises two core components:

- (1) contingent reward, where clear goals and associated rewards are communicated and aligned with performance expectations; and
- (2) active management by exception, which involves vigilant monitoring of behavior and prompt corrective actions in response to deviations from standards.

Transactional leadership thus incorporates both constructive elements – through the negotiation of goals and outcomes – and corrective strategies aimed at maintaining performance and minimizing error (Naseem *et al.*, 2018).

Bass and Avolio (2000) emphasized that transformational and transactional leadership styles are not dichotomous but rather complementary, with each contributing uniquely to effective leadership. Within the context of female football, where gender dynamics and role expectations may intersect with leadership processes, the integration of both styles may be particularly impactful. Prior research suggests that the fulfillment of basic psychological needs – competence, autonomy, and relatedness – is essential for female athletes' motivation and well-being (Hinkin and Schriesheim, 2008; Valenti *et al.*, 2020). Consequently, leadership that combines transactional stability with transformational inspiration may be especially well-suited to enhance player motivation in women's football (De-la-Cruz-Torres *et al.*, 2025).

### **The relationship between transformational leadership and self-determination theory**

The satisfaction of psychological needs plays a central role in shaping how individuals experience their work environment and is critical for fostering the motivation necessary for optimal performance (Matta *et al.*, 2017). Within the context of professional female football, understanding these motivational processes is especially relevant, given the growing pressures of professionalization and the often-gendered dynamics within male-dominated sport structures (Read *et al.*, 2024). SDT (Deci and Ryan, 1985) offers a robust theoretical framework for explaining how the satisfaction of basic psychological needs underpins motivation. According to SDT, three innate psychological needs – autonomy, competence and relatedness – must be fulfilled to support autonomous motivation (Ryan and Deci, 2017).

Autonomy refers to the need to experience volition and psychological freedom in one's actions. When this need is fulfilled, individuals perceive their behaviors as self-endorsed and aligned with their values and goals (Deci and Ryan, 2012). In the context of female athletes, this may translate into having a sense of control over training routines, performance strategies, or decisions related to personal development within the team. Competence reflects the desire to interact effectively with the environment and to feel capable of achieving success. For female footballers, the fulfillment of this need may involve opportunities to demonstrate and refine skills, receive constructive feedback, and experience progression within a supportive environment (Ryan and Vandenkenste, 2023). Relatedness, the third need, pertains to feeling cared for, connected, and valued by others. It is particularly valued by women as it involves a sense of belonging, mutual respect, and emotional security in relationships with teammates, coaches and support staff (Ryan and Deci, 2017).

The social environment – including the leadership style enacted by coaches and managers – plays a pivotal role in either supporting or thwarting these basic needs (Gagné *et al.*, 2022; Martela *et al.*, 2023). Transformational leadership, in particular, has been associated with a greater capacity to satisfy psychological needs through its emphasis on vision, individualized support and inspirational communication (Yukl *et al.*, 2010). In female football, where athletes may face additional challenges related to visibility, resource allocation, or identity recognition, transformational leadership may serve as a protective and empowering mechanism (Okholm Kryger *et al.*, 2022). By fostering meaningful relationships, encouraging self-directed growth, and emphasizing shared purpose, transformational leaders can enhance intrinsic motivation and engagement among female athletes (Bono and Judge, 2004).

Empirical evidence supports the notion that the satisfaction of basic psychological needs mediates the relationship between transformational leadership and key outcomes meaningful work (Kovjanic *et al.*, 2012). Transformational leaders promote personal development by empowering followers to act with autonomy, develop their competencies, and experience a sense of connection within the group (Gagné *et al.*, 2022). Within the female football context, this leadership style may be particularly effective in fostering a motivating and supportive team climate. Thus, it was hypothesized that:

- H1.* Transformational leadership is positively related to the satisfaction of female football players' (a) autonomy, (b) relatedness, and (c) competence needs.

### **The relationship between transactional leadership and self-determination theory**

In the context of female football, transactional leadership can also influence the satisfaction of players' basic psychological needs. Epitropaki and Martin (2005) suggested that transactional leaders use rewards and sanctions to regulate behaviors, which may foster a structured and predictable environment for athletes. This structure can help female players

clarify their roles, commit to team objectives, and find external sources of motivation, such as playing time, praise, or tangible rewards (Rabiul, 2024).

In a sport where opportunities for visibility and advancement are still developing – particularly for women – such rewards may carry substantial weight (Read *et al.*, 2024). Moreover, this leadership style may be particularly beneficial for women, as research suggests that female athletes often value environments with clear rules, expectations, and performance guidelines (Xie *et al.*, 2025). Having well-defined structures not only reduces ambiguity but also enhances their sense of competence and control, as it outlines what they are expected to do and how they can achieve it (Chen *et al.*, 2024). This clarity may foster a greater sense of security and motivation among female players, especially in high-stakes or competitive settings (Wilhelmsen, 2024).

In the context of female football teams, where access to resources, visibility, and playing opportunities may be more limited than in the male game (Valenti *et al.*, 2020), players may engage in reward-based exchanges to strengthen their standing within the team. Aryee and Chen (2006) argue that such exchanges can be strategic, with players seeking to build positive relationships with coaches who control access to key resources, like game time or training exposure. In this way, transactional leadership may indirectly fulfill players' relatedness and competence needs, contributing positively to motivation when applied fairly and consistently (Gagné *et al.*, 2022; McCord *et al.*, 2021).

Moreover, research suggests that women tend to value more than men objective, structured exchanges between leaders and followers, a core characteristic of transactional leadership (Read *et al.*, 2024). Even when these exchanges involve sanctions, they may be interpreted as clear signals for behavioral or role adjustment, which can be perceived positively (Begum, 2025). This feedback contributes to a stable, predictable environment where players know what to expect and how to succeed (Cruz *et al.*, 2025). As such, transactional leadership may be particularly effective in fulfilling the psychological needs of female players, especially by promoting clarity, fairness, and structure in leadership interactions. Thus, the following hypothesis was proposed:

- H2. Transactional leadership is positively related to the satisfaction of female football players' (a) autonomy, (b) relatedness, and (c) competence needs.

### **The relationship between leadership and meaningful work**

Both transformational and transactional leadership styles, along with the satisfaction of basic psychological needs, have been recognized as key predictors of the meaning individuals attribute to their work (Lee and Ding, 2020; Young *et al.*, 2021). In the context of female football, where athletes continue to seek greater recognition, legitimacy, and professional stability, the experience of meaning in their athletic roles becomes particularly vital for maintaining motivation. This may be especially relevant for women, who often place a strong emphasis on finding purpose and significance in their professional activities (Amosh, 2025).

Meaning in work refers to the perception that one's tasks contribute to a greater good while simultaneously offering opportunities for personal growth (Steger *et al.*, 2012). For female athletes, this could mean recognizing how their performance not only supports team success but also advances broader goals, such as increasing visibility and equality in women's sports. Steger and colleagues outlined three dimensions of meaning in work:

- (1) personal meaning in work, or the psychological significance athletes attribute to playing football;

- (2) meaning making through work, referring to how football contributes to a meaningful life; and
- (3) motivations for the greater good, or the desire to make a positive impact – such as being a role model for younger girls or advancing gender equality in sports (see also [Grant et al., 2007](#)).

In female football, where social and structural barriers still exist ([Valenti et al., 2020](#)), transformational leadership may play a key role in helping players see how their roles connect to a larger social mission, which enhances meaning in work ([Demirtas et al., 2017](#)). At the same time, transactional leadership – when implemented fairly and consistently – can also contribute to meaning in work by establishing clear expectations, providing contingent rewards, and reinforcing athletes' performance and role clarity ([Siwiyanti et al., 2022](#)). This is particularly relevant for female players, who may benefit from well-defined structures and transparent performance criteria in an evolving sport context ([Bailey et al., 2019](#)).

Drawing on the empirical evidence discussed above, we propose the following:

- H3.* Both (a) transformational and (b) transactional leadership are positively related to female football players' meaningful work.

### **The mediating role of basic psychological needs**

In the context of women's football, where athletes frequently contend with structural inequalities, limited visibility, and resource constraints ([Cruz et al., 2025](#)), leadership that actively supports the satisfaction of basic psychological needs may play a particularly critical role in reinforcing players' sense of purpose and sustained engagement with the sport ([Wilhelmsen, 2024](#)). Leaders can contribute to this process through specific behaviors aligned with both transactional and transformational leadership styles – such as active management by exception and individualized consideration – by clarifying the relevance of players' roles to the team's overarching mission and vision ([Allen, 2017](#)). Such alignment may be especially important in female sporting contexts, where systemic challenges often hinder the development of professional identity and long-term commitment ([Valenti et al., 2020](#)).

By fostering a sense of autonomy and competence, effective leadership can counterbalance these external constraints ([Junça-Silva and Caetano, 2024](#)). Furthermore, given that women are often more motivated by interpersonal connection and social belonging in the workplace ([Xie et al., 2025](#)), leadership behaviors – whether through the inspirational qualities of transformational leaders or the structured feedback inherent in transactional approaches – can also fulfill athletes' relatedness needs, thereby enhancing their experience of meaningful work ([Bakker et al., 2023](#)).

Although empirical studies directly linking leadership, basic psychological needs, and meaning in work are still developing, existing evidence points to a positive relationship. For example, when leaders empower players with autonomy – allowing them to make decisions and align tasks with their interests – their role feels more personally meaningful ([Both-Nwabue et al., 2020](#)). Conversely, if athletes are consistently assigned positions or tasks where they feel less competent, this can undermine their sense of meaning. Feeling effective and mastering one's position on the field contributes to a stronger belief in one's impact and value within the team ([Zhan et al., 2018](#)).

Leadership also shapes interpersonal dynamics, with a profound influence on how players relate to one another and build meaningful connections. Positive team relationships, often

fostered by effective leadership, are a strong predictor of meaning in work (Martela and Riecki, 2018; Colbert *et al.*, 2016). For instance, feeling part of a cohesive and supportive team – often facilitated by transformational leadership – has been shown to enhance the experience of meaning (Allan *et al.*, 2020), in particular for women who tend to place great importance in interpersonal connections at work (Xie *et al.*, 2025).

Therefore, grounded in the SDT, the following hypotheses are proposed:

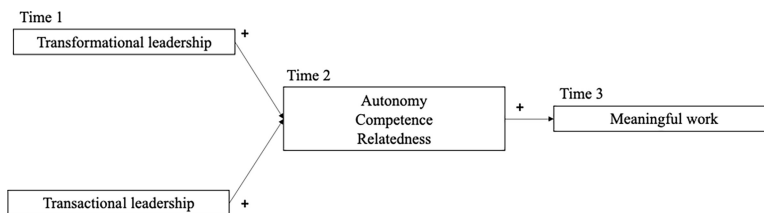
- H4. The satisfaction of (a) autonomy, (b) relatedness and (c) competence mediates the relationship between transformational leadership and female football players' meaningful work.
- H5. The satisfaction of (a) autonomy, (b) relatedness and (c) competence mediates the relationship between transactional leadership and female football players' meaningful work (Figure 1).

## Method

### *Participants and procedure*

The study received ethical approval from the Ethics Committee of the first author's institution prior to data collection. In line with the study's objectives, data were collected from professional female football players competing in the top division of Portuguese women's football. Data were collected online using purposive sampling, a method selected to ensure alignment between the sample characteristics and the study's research objectives. Purposive sampling, also referred to as judgment sampling, is particularly effective for identifying participants who can provide relevant and meaningful insights. This approach enhances the study's rigor by increasing the trustworthiness of the data and reinforcing the credibility of the findings (Campbell *et al.*, 2020). By establishing clear eligibility criteria, the recruitment process was optimized, ensuring that participants' professional backgrounds closely aligned with the study's objectives.

In this study, purposive sampling was employed to recruit female football players, ensuring that all participants possessed relevant expertise to provide informed perspectives on the effects of leadership (Lavrakas, 2008). To enhance sample validity, inclusion criteria required participants to have a minimum of one year of experience as professional football players. Individuals who had not participated in professional football or had less than one year of experience were excluded from the study. This method strengthened the reliability of the data by ensuring that responses were derived from individuals with substantial professional experience in the field.



**Figure 1.** The proposed mediation model  
Source: Authors' own work

Data were collected over three waves between March and June 2024, with a one-week interval between each wave (T1, T2, and T3). Implementing a time-lagged design was essential to mitigate the potential impact of common method bias (CMB). Podsakoff *et al.* (2024) suggested that introducing a time delay between the measurement of predictor and criterion variables can effectively control CMB. Additionally, MacKenzie and Podsakoff (2012) emphasized that beyond addressing CMB, collecting data at multiple time points reduces respondent fatigue and monotony while improving response rates.

The recruitment process began with an initial outreach to potential participants via social networks, providing them with information about the study's objectives and assurances of confidentiality and anonymity. A total of 338 professional football players agreed to participate. At Time 1 (T1), all 338 participants completed an online questionnaire assessing their leaders' style and providing sociodemographic information. One week later, at Time 2 (T2), 317 respondents (dropout rate: 6.21%) completed a survey measuring the satisfaction of their basic psychological needs. In the final wave (T3), 305 respondents (dropout rate: 9.7%) completed a survey assessing meaningful work.

To enhance data quality and further minimize the risk of CMB (Podsakoff *et al.*, 2024), data cleaning procedures were implemented. Responses that were completed in under two minutes, contained perfunctory answers and who have individuals identified as male were excluded, resulting in a final data set of 299 valid responses (overall dropout rate: 12.6%). The final sample comprised 299 professional football players from 12 clubs competing in the first division of the female Portuguese football. When asked about their gender [1], all participants described themselves as female with a mean age of 32 years ( $SD = 12.63$ ), and a mean football tenure of 8.86 years ( $SD = 10.92$ ). Most of them (68.9%) were single, 26.8% were married, and 4.2% were divorced. Additionally, the majority (74%) reported not having children.

### Measures

Following Brislin's (1986) cross-cultural translation procedure, two bilingual academic researchers conducted the back-translation process to translate the English items into Portuguese. Moreover, we invited two experts in football to review the initial draft of the Portuguese surveys and to make some revisions to the item wording and instructions for respondents to increase the content validity (Wang *et al.*, 2023). A pilot study with 22 football players (not part of the final sample) was initially conducted to assure content validity (Mean age: 23.45;  $SD = 4.71$ ).

#### *Transformational leadership (T1)*

Transformational leadership was measured using the 7-item Global Transformational Leadership scale (Carless *et al.*, 2000). An item example is: "Inspires pride and respect in others and motivates me to be highly competent". Participants rated each item on a five-point Likert scale (1 – *Strongly Disagree* to 5 – *Strongly Agree*) ( $\alpha = 0.94$ ).

#### *Transactional leadership (T1)*

Transactional leadership was measured using eight items from the MLQ 5X scale (Avolio, 2010). An item example is "Recognizes achievements." Participants responded on a five-point Likert scale (1 – *Never* to 5 – *Always*) ( $\alpha = 0.85$ ).

#### *Basic psychological needs (T2)*

Basic psychological need satisfaction was measured using the Work-related Basic Need Satisfaction scale (Van Den Broeck *et al.*, 2010; Ilardi *et al.*, 1993). Six items were used,

divided into three dimensions aligned with SDT (Ryan and Deci, 2017): autonomy (“I feel that I can be myself in my football team”), competence (“I feel competent and capable”), and relatedness (“I feel that my teammates care about me”). Participants responded on a five-point Likert scale (1 – *Strongly Disagree* to 5 – *Strongly Agree*) ( $\alpha = 0.81$ ).

#### *Meaningful work (T3)*

Meaningful work was assessed using two items from the COPSOQ II scale (Pejtersen *et al.*, 2010; e.g. “Do you feel that your work as a female football player is important?”). Participants responded on a five-point Likert scale (1 – *Never* to 5 – *Always*) ( $\alpha = 0.80$ ).

#### *Control variables*

Age was included as a control variable. Individual motivations fluctuate and evolve with age (dos Santos *et al.*, 2019), potentially influencing both the criterion and mediating variables.

#### **Data analysis**

Data were analyzed using SPSS 29 and JASP. First, confirmatory factor analyses (CFA) were conducted to test whether the variables were empirically distinct. Model fit was subsequently assessed, with results indicating good fit based on the following criteria: Root mean square error of Approximation (RMSEA) < 0.08, Standardized Root Mean Square Residual (SRMR) < 0.08, Comparative Fit Index (CFI) > 0.90, and Tucker-Lewis Index (TLI) > 0.90 (Kline, 2016).

#### **Results**

##### *Common method bias*

To assess CMB presence in this study, we followed some of the recommendations outlined by Podsakoff *et al.* (2024). CFAs were performed to confirm the independence of the variables under study, as well as to assess the model fit. Model 1 included six, corresponding to autonomy, competence, and relatedness needs, transformational leadership, transactional leadership, and meaning in work. Model 2 was a three-factor model where transformational and transactional leadership were combined into one factor, the three psychological needs into another, and a third factor for meaning in work. Model 3 included two factors that combined the two leadership styles into one factor and the three psychological needs and meaning in work into another latent factor. Finally, Model 4 combined all variables into a single latent factor. Model 1 provided the best fit to the data ( $\chi^2/df = 2.23$ ,  $p < 0.01$ , CFI = 0.95, TLI = 0.94, SRMR = 0.04, and RMSEA = 0.07 CI 95% [0.05, 0.08]), while the other models showed poorer fit (see Table 1). These results, along with the reliability indices (Cronbach’s alpha) associated with the scales, confirmed the study’s discriminant and convergent validity. Therefore, hypothesis testing was conducted.

#### **Descriptive statistics**

Table 2 shows the mean and standard deviation of the variables.

#### **Hypothesis testing**

The structural equation model fitted the data well:  $\chi^2(296) = 2.34$ ,  $p < 0.001$ , CFI = 0.96, TLI = 0.95, RMSEA = 0.07, 90% CI [0.06; 0.08], SRMR = 0.05. The standardized coefficients for the relationships between the variables are presented in Figure 2.

Transformational leadership was positively associated with the satisfaction of female football players’ basic psychological needs for autonomy ( $\beta = 0.18$ ,  $p < 0.05$ ), relatedness

**Table 1.** Confirmatory factor analyses results

Models	$\chi^2/df$	CFI	TLI	RMSEA	SRMR
Model 1	2.23	0.95	0.94	0.07	0.04
Model 2	3.81	0.86	0.84	0.11	0.07
Model 3	4.35	0.83	0.81	0.12	0.07
Model 4	6.76	0.71	0.67	0.15	0.12

**Source(s):** Authors' own work

( $\beta = 0.29, p < 0.001$ ), and competence ( $\beta = 0.14, p < 0.05$ ), thereby supporting *H1a*, *H1b*, and *H1c*. Similarly, transactional leadership also demonstrated significant positive associations with the satisfaction of autonomy ( $\beta = 0.20, p < 0.05$ ), relatedness ( $\beta = 0.30, p < 0.001$ ), and competence needs ( $\beta = 0.34, p < 0.001$ ) among female athletes, supporting *H2a*, *H2b*, and *H2c*. Furthermore, both transformational and transactional leadership styles were significantly and positively associated with players' perceptions of meaningful work ( $\beta = 0.17, p < 0.05$ ;  $\beta = 0.18, p < 0.05$ , respectively), providing support for *H3a* and *H3b*. The need for relatedness did not mediate the relationship between transformational leadership and meaningful work among female athletes ( $\beta = -0.02, p > 0.05, 95\% \text{ CI } [-0.10, 0.07]$ ), indicating that *H5b* was not supported. However, transformational leadership was positively associated with meaningful work through the satisfaction of autonomy ( $\beta = 0.07, p < 0.05, 95\% \text{ CI } [0.01, 0.13]$ ) and competence needs ( $\beta = 0.14, p < 0.001, 95\% \text{ CI } [0.05, 0.23]$ ), offering support for *H4*. These results underscore how leadership styles that promote psychological empowerment can foster a stronger sense of purpose and contribution among women in professional sport – a context where such experiences are often underacknowledged or constrained by structural inequalities.

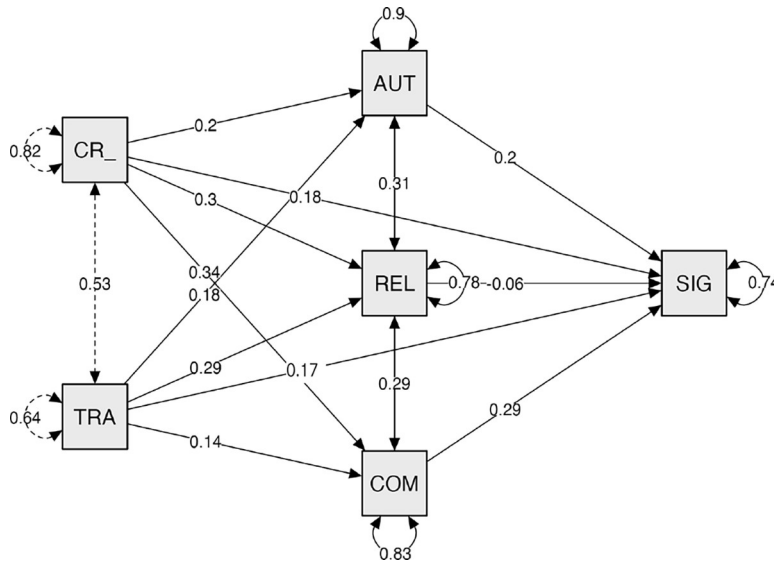
Similarly, the need for relatedness did not mediate the relationship between transactional leadership and meaningful work in female players ( $\beta = -0.01, p > 0.05, 95\% \text{ CI } [-0.07, 0.05]$ ), providing no support for *H6b*. Nonetheless, transactional leadership was indirectly associated with meaningful work through the satisfaction of autonomy ( $\beta = 0.04, p < 0.05, 95\% \text{ CI } [0.01, 0.09]$ ) and competence ( $\beta = 0.13, p < 0.001, 95\% \text{ CI } [0.06, 0.21]$ ), confirming *H5*. These findings highlight that both leadership approaches can meet critical psychological

**Table 2.** Descriptive statistics

Variables	M	SD	CR	AVE	MSV	1	2	3	4	5	6	7
1. Transformational	3.6	0.8	0.95	0.74	0.50	(0.86)	[0.94]					
2. Transactional	3.2	0.7	0.93	0.76	0.50	0.70**	(0.87)	[0.85]				
3. Autonomy	3.9	0.8	0.89	0.72	0.38	0.27**	0.25**	(0.84)	[0.81]			
4. Rel.	3.6	0.9	0.91	0.77	0.26	0.39**	0.37**	0.47**	(0.87)	[0.81]		
5. Comp.	3.8	0.7	0.88	0.71	0.38	0.35**	0.36**	0.62**	0.51**	(0.84)	[0.82]	
6. Meaning	4.1	0.8	0.92	0.79	0.23	0.28**	0.30**	0.39**	0.29**	0.48**	(0.88)	[0.80]
7. Gender <sup>1</sup>	–	–	–	–	–	0.18*	0.07	0.06	0.04	-0.04	-0.15	–
8. Age	32	12.63	–	–	–	-0.11	-0.07	0.19**	-0.04	0.12	0.29**	-0.06

**Note(s):** \*\*  $p < 0.01$   $n = 299$ . <sup>1</sup>Gender: 1- female; 2- male. The square roots of the average variance extracted (AVE) are in parentheses. M = average; SD = standard deviation; AVE = average variance extracted; MSV = maximum shared variance; CR = composite reliability. Cronbach's alphas are between []

**Source(s):** Authors' own work



**Figure 2.** Coefficients of the proposed mediation model

**Note(s):** CR = transactional leadership; TRA = transformational leadership; COM = competence needs; REL = relatedness needs; AUT = autonomy needs; SIG = meaningful work

**Source:** Authors' own work

needs that contribute to meaningful work for women in sport settings. The overall model explained 26% of the variance in meaningful work ( $R^2 = 0.26$ ; see Table 3).

## Discussion

This study draws on the FRLM and SDT to investigate how transformational and transactional leadership styles shape perceptions of meaningful work among professional female football players in Portugal. Within this traditionally male-dominated sport (Cruz *et al.*, 2025), where female athletes frequently contend with structural inequalities, underrepresentation, and limited career recognition (Wilhelmsen, 2024), understanding the psychological mechanisms that foster meaningful work is particularly important. Moreover, given the recent growth and increasing visibility of women's football (Valenti *et al.*, 2020) – where female players are beginning to establish a more prominent professional presence – exploring how leadership can enhance their experience of meaningfulness in the sport is both timely and critical for supporting their ongoing development and motivation.

Guided by SDT, we propose that the satisfaction of basic psychological needs – autonomy, relatedness, and competence – mediates the relationship between leadership styles and meaningful work among women. Our findings reveal that both transformational and transactional leadership are positively associated with the satisfaction of these needs, which, in turn, are positively linked to meaningful work. Additionally, both leadership styles demonstrate a direct positive relationship with women's meaningful work.

However, mediation analyses show that the effects of both leadership styles on meaningful work operate specifically through the satisfaction of autonomy and competence needs – but not through relatedness. This is particularly noteworthy in the context of women's professional football, where team belonging and interpersonal dynamics might be

**Table 3.** Hypotheses results

Variables			Direct effect				95% CI	
			$\beta$	SE	z-value	<i>p</i>	LLCI	ULCI
Transactional	→	Mea	0.18	0.10	1.76	0.05	0.01	0.38
Transformational	→	Mea	0.17	0.09	1.89	0.05	0.01	0.34
			Indirect effect				95% CI	
			Estim.	SE	S	z-value	<i>p</i>	LLCI
Transactional	Aut.	Mea	0.04	0.03	1.48	0.05	0.01	0.09
Transactional	Rel.	Mea	-0.01	0.03	-0.71	0.47	-0.06	0.05
Transactional	Com	Mea	0.14	0.04	2.34	0.01	0.06	0.21
Transformational	Aut.	Mea	0.07	0.03	1.23	0.04	0.01	0.13
Transformational	Rel.	Mea	-0.02	0.04	-0.71	0.67	-0.10	0.07
Transformational	Com	Mea	0.14	0.04	1.05	0.01	0.05	0.23
			Total effects				CI 95%	
			Estim.	SE	z-value	<i>p</i>	LLCI	ULCI
Transactional	→	Mea	0.34	0.04	3.95	0.001	0.08	0.25
Transformational	→	Mea	0.35	0.09	4.07	0.001	0.18	0.52

**Note(s):** Mea = meaning; Aut = autonomy; Com = competence; Rel = relatedness

**Source(s):** Authors' own work

influenced by broader gendered norms, limited visibility, and institutional support (Read *et al.*, 2024). These results suggest that to enhance meaningful work experiences for female athletes, leadership approaches must prioritize the development of self-directed motivation and perceived competence, while further exploration is needed to understand how relatedness operates in gendered sport environments (Xie *et al.*, 2025).

### Theoretical implications

This study makes substantive theoretical contributions to gender research, especially concerning leadership dynamics in male-dominated arenas such as professional sports (Read *et al.*, 2024; Eagly and Carli, 2007). Despite the growing prominence of women's football, the leadership experiences and psychological outcomes of female athletes remain insufficiently explored within the literature (Wilhelmsen, 2024; Fink, 2015). By examining how transformational and transactional leadership styles influence female football players' perceptions of meaningful work via the satisfaction of basic psychological needs, this research advances a gender-sensitive understanding of sport leadership and motivation (Acker, 1990; Anderson *et al.*, 2017).

Moreover, the findings underscore the capacity of leadership approaches to either reproduce or challenge gendered motivational patterns and meaning-making processes within high-performance, masculinized sport contexts (Xie *et al.*, 2025; Cunningham, 2019). This study thereby enriches gender scholarship by elucidating how structural and relational dimensions intersect with gender to shape women's experiences of agency, recognition, and value within traditionally male-dominated domains (Lorber, 1994; Ridgeway, 2011).

Consistent with FRLM propositions and prior empirical work (Bakker *et al.*, 2023; Bass and Riggio, 2006), transformational leadership was positively related to the satisfaction of

autonomy, relatedness, and competence needs among female football players. Leaders who exemplify desired behaviors, align team goals with individualized support, and attend to the unique needs of athletes cultivate an environment conducive to autonomy, foster a critical sense of security and belonging – especially salient for women in male-dominated sports (Eagly, 2020) – and bolster internal *locus* of control (Lee and Ding, 2020). Conversely, the absence of transformational leadership behaviors risks diminishing these psychological needs, thereby undermining female athletes' intrinsic motivation and well-being (Breevaart and Bakker, 2018; Valleraud, 1997).

Transactional leadership similarly showed positive associations with autonomy, relatedness, and competence satisfaction, corroborating extant findings (Young *et al.*, 2021). The structured and contingent nature of transactional leadership may hold particular relevance in female football, which continues to operate under male-centric organizational norms and performance expectations (Read *et al.*, 2024). Clear expectations and consistent reward systems provide female athletes with essential clarity and guidance, fostering autonomy and competence (Meyer *et al.*, 2010). Additionally, transactional leadership's predictability supports the development of trust and social integration within the team – facilitating relatedness – even in competitive environments (Okholm Kryger *et al.*, 2022; Bakker *et al.*, 2023).

Further, both transformational and transactional leadership were positively linked to meaningful work, aligning with the literature (Demirtas *et al.*, 2017; Grant *et al.*, 2007). Inspirational role modeling and external incentives create conditions under which female players derive personal significance from their sport participation, reinforcing their sense of purpose and contribution (Martela *et al.*, 2023; Wrzesniewski *et al.*, 2003). These leadership styles nurture a team climate that explicitly values and cultivates meaning in athletes' daily experiences (Rosso *et al.*, 2010; Xie *et al.*, 2025).

Notably, transformational leadership influences meaningful work through autonomy and competence need satisfaction, but not relatedness. This suggests that, in this context, the intrinsic valuation of autonomy and mastery may outweigh the role of social connectedness in fostering meaningfulness (Gagné *et al.*, 2022; Rabiul, 2024). Female players who perceive greater autonomy and competence in their roles are more likely to experience their work as personally significant and fulfilling (Bakker *et al.*, 2023). Transformational leaders enhance this by providing challenging, growth-oriented opportunities alongside supportive interpersonal engagement (Hadden and Smith, 2019; Lee and Ding, 2020). This fosters mastery, confidence, and a strong internal sense of efficacy, which together enhance perceived meaningfulness (Yasin Ghadi *et al.*, 2013; Schaufeli and Bakker, 2004). Therefore, transformational leadership shapes a high-performance climate in which meaningful work is driven primarily by autonomy and competence satisfaction among female footballers.

The findings similarly reveal that transactional leadership influences meaningful work through the satisfaction of autonomy and competence needs, but not through relatedness. Leaders who allocate incentives contingent upon players' goal attainment promote a greater sense of autonomy and mastery over their roles (competence; Bakker *et al.*, 2023), thereby enhancing players' perceptions of meaning and value in their on-field performance (Lee and Ding, 2020).

An intriguing finding of this study is that relatedness does not significantly mediate the relationship between either transformational or transactional leadership and meaningful work among professional female football players. This contrasts with prevailing assumptions in the literature, which typically emphasize social belonging as central to the experience of meaningful work, especially in team-based environments such as sport (Ryan and Deci,

2017). One possible explanation lies in the specific context of women's professional football, where structural inequalities, limited resources, and underrepresentation may affect how players experience social connections within their teams (Read *et al.*, 2024).

In particular, this study focuses exclusively on players from the top division, a high-performance setting where winning is crucial for the club's survival and success. In such competitive environments, where pressure to perform is intense, athletes may place greater emphasis on autonomy and competence – reflecting their sense of control and mastery – over relatedness (Bakker *et al.*, 2023). Furthermore, the persistence of historically male norms in football globally (Cruz *et al.*, 2025), exemplified by dominant male figures such as Cristiano Ronaldo, continues to shape the culture, rules, and expectations within the women's game. Female football, though composed of women, often operates within frameworks inspired by male models, attitudes, and behaviors, where connectedness may be less prioritized compared to competence and autonomy (Wilhelmsen, 2024). These gendered dynamics likely contribute to the non-significant mediating role of relatedness.

It is also plausible that leadership behaviors emphasizing autonomy and competence compensate for weaker experiences of relatedness, enabling athletes to maintain motivation and meaningful engagement despite social challenges (Ryan and Vansteenkiste, 2023). These findings underscore the importance of considering contextual, performance-related, and gender-specific factors when examining psychological need satisfaction in sport.

Another potential explanation for this pattern may lie in generational shifts, particularly among current cohorts such as Generations Y and Z (Rudolph *et al.*, 2018). These younger generations may place less emphasis on social bonds or a strong sense of belonging with teammates compared to prior generations (Harari *et al.*, 2023). Instead, their professional engagement and experiences of meaningful work may be more strongly driven by the fulfillment of autonomy and competence needs, reflecting evolving values and expectations within modern workforces (Rueff-Lopes *et al.*, 2024). This may reshape social dynamics within teams, especially considering gender dynamics, and influence how meaningfulness at work is experienced and constructed (Rueff-Lopes *et al.*, 2024). These findings underscore the nuanced and multifaceted nature of motivational processes among contemporary female athletes, particularly in high-performance sport environments.

In sum, this study demonstrates that perceptions of meaningful work among professional female football players are shaped by both contextual leadership factors – transformational and transactional styles – and psychological processes, specifically the satisfaction of the basic needs for autonomy and competence.

### Practical implications

These findings have important practical implications for leadership within women's football, particularly for coaches aiming to enhance their players' perception of meaningful work on the pitch. Since both transformational and transactional leadership contribute to meaningful work by satisfying female athletes' psychological needs for autonomy and competence, coaches can deliberately adopt leadership strategies that cultivate these dimensions. For example, transformational leadership behaviors – such as articulating a compelling team vision, providing individualized support, and encouraging creative problem-solving – can help female players appreciate the importance of their unique roles within the team dynamic. Likewise, transactional leadership, through clearly defined, performance-based rewards and feedback, can strengthen players' sense of mastery and self-directedness, fostering continuous development and goal achievement.

By recognizing how different leadership styles impact the experience of meaningful work, coaches in women's football can foster an environment that enhances player

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motivation, engagement, and a sense of purpose, which are essential for both individual growth and collective success. As the women's game continues to grow in professionalism and visibility, these leadership approaches may become increasingly vital in supporting athletes who often face structural challenges and gendered expectations.

In summary, these findings offer valuable guidance for advancing leadership effectiveness in women's football. Coaches and team leaders who implement transformational or transactional leadership styles should emphasize practices that promote autonomy and competence to deepen players' experience of meaningful work. As evidence accumulates and more clubs – both large and small – observe the benefits of such leadership, these approaches are likely to be progressively integrated into coaching frameworks across the women's game.

### Limitations and future directions

This study has several limitations that should be acknowledged. First, the relatively small sample size constrains the generalizability of the findings to the broader population of professional female football players. Additionally, the exclusive use of self-reported data may introduce CMB, as noted by [Podsakoff et al. \(2024\)](#), which could affect the validity of the results. To address these concerns, future research would benefit from employing larger, more diverse samples and incorporating multiple data sources, such as coach evaluations or observational metrics, to provide a more nuanced and comprehensive understanding of leadership styles in this context.

Furthermore, individual differences in player responses to leadership styles warrant further exploration, as not all athletes may react uniformly to transformational or transactional approaches. Investigating the role of team dynamics, as well as alternative leadership models, could yield valuable insights into optimizing leadership effectiveness in women's football.

Given that the construct of meaningful work remains relatively nascent within sports psychology, future studies should aim to deepen knowledge of how female football players experience and derive meaning from their athletic roles. Employing diverse methodologies – including longitudinal designs, multi-source data collection, and team-level analyses – would offer richer insights into the development and consequences of meaningful work. In particular, longitudinal research could elucidate how perceptions of meaningful work evolve over time and how they interact with team cohesion, motivation, and performance within the competitive environment of professional women's football.

### Conclusion

This study advances the understanding of how leadership styles shape professional female football players' perceptions of meaningful work. The findings demonstrate that both transformational and transactional leadership significantly contribute to fostering meaningful work through the satisfaction of autonomy and competence needs. Notably, the satisfaction of relatedness needs does not mediate this relationship, indicating that in the context of women's football, the experience of meaningful work is predominantly influenced by feelings of autonomy and mastery, rather than by social belonging. This underscores the importance of emphasizing leadership practices that enhance individual agency and skill development to support female athletes' motivation within a competitive sports environment.

### Data availability

The data is available only upon reasonable request to the authors.

**Ethics statement**

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

**Informed consent**

Informed consent was obtained from all individual participants involved in the study.

**Note**

[1.] Options ranged from 1 – female, 2 – male, 3 – I prefer not to say, 4 – binary.

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### Corresponding author

Ana Junça Silva can be contacted at: [analjsilva@gmail.com](mailto:analjsilva@gmail.com)