EXPLORATORY STRUCTURAL EXAMINATION OF THE SATISFACTION SCALE FOR ATHLETES IN INTERNATIONAL FOOTBALL

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Abstract. *This study aims to provide a preliminary examination of the reliability and factorial structure of the Satisfaction Scale for Athletes (SSA) in international football contexts. The SSA, originally validated within the Turkish football league, measures athletes' satisfaction with key dimensions of the sporting environment, including satisfaction with the coach, team performance, and teammates. The present research focuses on two main objectives: (1) evaluating the internal consistency of the SSA subscales, and (2) exploring its structural organization using Principal Component Analysis (PCA) as an exploratory procedure. The sample consisted of 63 professional and semi-professional male athletes from various international football leagues. Sampling adequacy was supported by a satisfactory Kaiser–Meyer–Olkin index and a significant Bartlett's test of sphericity. Results indicate satisfactory internal consistency across subscales and provide preliminary support for a three-component structure explaining a substantial proportion of total variance, broadly consistent with the original model. However, given the exploratory design, modest sample size, and absence of confirmatory factor analysis, findings should be interpreted cautiously and considered as an initial step in the international examination of the instrument rather than definitive evidence of cross-cultural equivalence. Overall, the study suggests the potential applicability of the SSA in international football contexts and highlights the need for further research employing larger, more balanced samples and confirmatory factor analysis to strengthen its structural validation and test measurement invariance across cultural groups.*

Keywords: *Satisfaction Scale for Athletes (SSA); cross-cultural validation; football coaching; athlete perception; international context.*

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Introduction

In today's sports world, athlete satisfaction is recognized as a central variable for the well-being, motivation, and performance of athletes, both individually and collectively. It represents a crucial indicator for understanding the quality of the athletic experience, as well as for assessing the effectiveness of the training environment and technical leadership. A high level of satisfaction is frequently associated with greater commitment to sport participation, a lower risk of burnout, better group cohesion (Jin et al., 2022), and enhanced athletic performance (Jiahao & Jing, 2024). Conversely, low satisfaction may lead to motivational decline, increased turnover, interpersonal conflict, and, more broadly, a deterioration of the sporting climate.

For these reasons, the systematic assessment of athlete satisfaction has become an increasingly relevant area of interest for coaches, sports managers, sport psychologists, and researchers. Through the measurement of satisfaction, it is possible to collect meaningful data on how athletes perceive their relationship with the coach, their integration into the team, and the effectiveness of training and competition experiences (Willson et al., 2025). Such information can guide intervention strategies and support the continuous improvement of the sporting environment, fostering a culture of both personal and professional growth (Yu et al., 2024).

However, for these evaluations to be effective and useful, it is essential to rely on psychometrically reliable and scientifically validated tools. The quality of a measurement tool lies in its ability to accurately, consistently, and repeatedly capture the dimensions it is designed to assess while taking into account the specificities of the sporting and cultural context. A well-constructed psychometric tool allows not only for the description of the current state of athlete satisfaction but also for tracking changes over time, comparing different groups, and identifying critical areas that require attention.

The *Satisfaction Scale for Athletes* (SSA) (Caliskan & Ozge Baydar, 2016) is one such tool. The scale was originally created and validated in the context of the Turkish football league and consists of three core dimensions: satisfaction with the coach, satisfaction with team performance, and satisfaction with teammates. This multidimensional approach enables a more nuanced and realistic understanding of the athlete's experience within the sport system.

However, in order for the SSA to be effectively used in other sporting and cultural contexts, it is necessary to verify its reliability and validity beyond the Turkish league. Only through a rigorous process of adaptation and verification can it be ensured that the tool maintains its measurement capacity in environments that differ in organizational structure, sporting culture, coaching style, and relational dynamics. Extending the validation of the SSA to other contexts not only strengthens its scientific utility but also provides sports professionals with a concrete and adaptable instrument for systematically improving the quality of athletes' experiences based on objective data.

It is important to note that the Satisfaction Scale for Athletes (SSA) has not been used solely in its original Turkish context. Previous studies have verified its applicability in different cultural and sporting contexts. For example, the SSA has been used to assess athlete satisfaction in team sports (Wałach-Biśta, 2015). This research confirms the instrument's versatility in monitoring sport satisfaction in different organizational environments. Such evidence highlights an opportunity to further extend the cross-cultural validation of the SSA.

The SSA has also been used in contexts other than team sports in general and professional football in particular. For example, the scale has been used to assess satisfaction among physical education teachers (Hassan & Nazarudin, 2023). This study highlights how the dimensions measured by the SSA are relevant not only in the context of team sports but also in other educational situations, confirming the scale's conceptual robustness.

In the field of sport psychology, literature has long recognized the crucial importance of athletes' subjective perceptions as determining factors in shaping motivation, commitment, and personal satisfaction within the sporting experience. The perceptions an athlete develops regarding their environment, including those related to the coach, teammates, and team performance, are not mere reflections of objective reality, but rather active and meaningful

constructions that substantially influence the quality of sports participation, psychological well-being, and the willingness to remain engaged in the athletic journey (Deci & Ryan, 2000; Jowett & Cockerill, 2003).

Among the various factors influencing athletes' satisfaction, the coach's role stands out as particularly significant. Numerous studies have highlighted how the quality of the coach-athlete relationship is a key element in promoting self-determination, perceived competence, and social integration within the sports group. In particular, the importance of an autonomy-supportive coaching style has been emphasized, highlighting three fundamental components: acknowledging the athlete's perspective, providing meaningful rationales for requests, and using non-controlling language (Mageau & Vallerand, 2003). This leadership style has been shown to foster greater intrinsic motivation, higher sports satisfaction, and a stronger sense of belonging among athletes. Similarly, the relational model proposed by Jowett and Cockerill (2003) focuses on the interpersonal dynamics between coach and athlete, introducing concepts such as closeness, commitment, complementarity, and co-orientation as significant predictors of well-being and perceived satisfaction.

In light of this, measuring athletes' satisfaction is not only of scientific interest but also a practical necessity for those operating in the sports world. Coaches, trainers, psychologists, and managers can derive valuable insights from such data to better understand relational and motivational dynamics within the team, identify potential issues, and plan targeted interventions to optimize the training and competition environment.

To achieve this goal rigorously and effectively, however, it is essential to use psychometric instruments that are valid, reliable, and sensitive to context. The use of inadequate or unvalidated tools risks compromising the quality of the collected information and leading to misleading interpretations, with potentially negative consequences both scientifically and practically. In particular, using tools developed within a specific cultural context requires special attention when applying them to different settings. Mere linguistic translation does not guarantee conceptual or metric equivalence. Cross-cultural validation is a complex process involving the verification of several forms of equivalence: lexical, semantic, conceptual, contextual, and statistical (Vijver & Leung, 1996; Vijver & Leung, 1997).

Within this context, the *Satisfaction Scale for Athletes* (SSA) was developed as an innovative tool for measuring athlete satisfaction in football settings (Caliskan & Ozge Baydar, 2016). Originally constructed and validated with a sample of athletes from the Turkish league, the SSA stands out for its multidimensional approach to sports satisfaction. Specifically, the scale assesses three key areas of the athletic experience:

1. Coaching Satisfaction: refers to the athlete's satisfaction with the coach, in terms of technical competence, communication, emotional support, perceived fairness, and ability to foster personal growth. This factor reflects the significant influence that a coach's behaviour and leadership style have on the athlete's sports experience.
2. Team Performance Satisfaction: measures the athlete's subjective perception of the team's collective performance, regardless of the actual outcomes achieved. It considers satisfaction with effort, progressive improvement, and the team's ability to express its potential.
3. Teammate Satisfaction: relates to the quality of relationships with teammates, the social and operational cohesion of the group, mutual support, and the perception of being an integral

part of the team. This aspect is particularly relevant in team sports like football, where interdependence among members is high.

The combination of these three factors allows for a comprehensive and in-depth view of sports satisfaction, not limited to a single aspect of the athletic experience. However, using the SSA in contexts different from the original one requires a methodologically sound validation process, aimed at confirming the psychometric robustness of the tool even in the presence of cultural, linguistic, and organizational differences (Beaton et al., 2000).

The validation of the SSA in other cultural and sporting contexts is therefore a fundamental step not only to ensure the generalizability of research findings but also to provide sport professionals with a truly applicable and cross-functional tool (Riemer & Chelladurai, 1998). In particular, verifying construct validity, internal consistency, and factorial stability in new samples (Boateng et al., 2018) is an essential prerequisite for a scientifically grounded and responsible application of the scale.

Furthermore, comparing data obtained in different cultural contexts makes it possible to explore the influence of sociocultural variables on satisfaction perception, contributing to a broader and more comparative understanding of the phenomenon (Vijver & Leung, 1997). For example, this may reveal whether certain aspects of the coach-athlete relationship are more highly valued in one culture than another, or whether group dynamics take on different meanings depending on the league structure or the club's philosophy.

From an applied perspective, extending the validation of the SSA offers significant advantages for coaching practice. Coaches, for instance, can use the scale to monitor athletes' satisfaction levels over time, detect early signs of distress or dissatisfaction, and adjust their relational style and communication strategies accordingly. Sports managers, on the other hand, can use the data to develop targeted training programs and promote a culture of quality within sports organizations. Finally, sport psychologists may use the SSA as a foundation for individual or group interventions aimed at enhancing cohesion, motivation, and overall athlete well-being.

The *Satisfaction Scale for Athletes* appears to be a promising tool for evaluating sports satisfaction, but its potential can only be fully realized through careful cross-cultural validation. While demanding, this process is essential for evidence-based psychological and sporting practice, capable of meeting the real needs of athletes across different contexts. Validating the SSA in environments beyond the Turkish setting means not only strengthening the theoretical foundation of research but also contributing concretely to the creation of more aware, inclusive, and development-oriented sports environments.

Methodology

Aim

The present research focuses on two main objectives: (1) evaluating the internal consistency of the SSA subscales, and (2) exploring its structural organization using Principal Component Analysis (PCA) as an exploratory procedure.

Participants

The sample under investigation consisted of 63 male athletes (N = 63), divided into two groups based on their level of professionalism: 53 professional athletes and 10 semi-professional athletes. All participants were actively involved in official football competitions and were part of organized teams enrolled in nationally or internationally recognized leagues. Although the sample size may be considered modest for psychometric validation purposes, particularly in relation to the 16-item structure of the instrument (a participant-to-item ratio of approximately 4:1), methodological literature indicates that exploratory factor analysis can yield interpretable and meaningful solutions even in smaller samples when factor loadings are sufficiently strong and communalities are adequate (MacCallum et al., 1999; de Winter et al., 2009). Furthermore, recommendations regarding participant-to-item ratios vary substantially, ranging from 3:1 to 10:1 depending on model complexity and data quality (Boateng et al., 2018; Costello & Osborne, 2005). In this context, the present study was conceived as an exploratory cross-cultural investigation rather than a definitive validation study, and the factorial findings should therefore be interpreted as preliminary.

The sample was selected through purposive sampling, with the aim of including athletes operating in different cultural and geographical contexts to allow broader reflection on the transnational applicability of the measurement scale. The inclusion criteria were defined to ensure data relevance and experiential validity. Athletes had to be at least 18 years old to provide informed consent. Additionally, participants were required to have completed at least one full competitive season under the guidance of their current coach, ensuring that responses were grounded in stable, established relational and performance-related experiences rather than limited or episodic interactions.

Participants were recruited from clubs located in Europe, the Middle East, and Africa. The geographical distribution was as follows: Benin (n = 1), Brazil (n = 2), Croatia (n = 4), Egypt (n = 2), Greece (n = 1), Iran (n = 2), Italy (n = 34), Ivory Coast (n = 1), Qatar (n = 3), Romania (n = 12), and Sudan (n = 1). While the numerical representation of some countries was limited, the inclusion of athletes from diverse cultural backgrounds allowed for a preliminary exploration of the SSA's applicability beyond its original Turkish validation context. However, given the uneven distribution across countries and the limited overall sample size, cross-cultural comparisons should be interpreted cautiously and require replication in larger and more balanced samples.

Instrument

To measure perceived satisfaction among athletes, the *Satisfaction Scale for Athletes* (SSA) was used (Caliskan & Ozge Baydar, 2016), a psychometric instrument developed to assess various aspects of sport satisfaction. The scale consists of 16 items divided into three distinct but interconnected subscales (Coach = 5; Team Performance = 6; Teammates = 5). These subscales reflect the main dimensions that, according to the literature, influence athletes' psychological well-being and satisfaction in the sports context:

- Coach Satisfaction: This subscale measures the athlete's perception of the quality of the relationship with the coach, the coach's demonstrated competence, the support received, and overall behavior.
- Team Performance Satisfaction: Assesses the athlete's level of satisfaction with the team's results and collective performance.
- Teammate Satisfaction: Evaluates perceived team cohesion, peer support, quality of interactions, and harmony within the group.

Examples of items include: for the Coach Satisfaction subscale, "How the coach reads the game and makes adjustments during competitions"; for the Team Performance Satisfaction subscale, "The extent to which the team is meeting its goals for the season"; and for the Teammate Satisfaction subscale, "The level of all athletes to hide teammates' weakness or mistakes". The complete list of items and their corresponding component loadings are reported in Table 3.

Responses were recorded on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree), in line with the original structure of the instrument.

Procedure

Data collection was carried out through the administration of an online questionnaire, structured to ensure participants' anonymity and the protection of their privacy. The questionnaire included, in addition to the SSA, a brief initial section to collect demographic information (age, level of competition, nationality) and to verify the inclusion criteria. Participants received an invitation to complete the questionnaire via direct contacts or intermediaries (coaches, managers), along with a short introduction explaining the purpose of the study, the participation procedures, and athletes' rights.

Before starting the questionnaire, each participant was asked to provide informed consent, in accordance with the ethical standards of research. It was made clear that participation was voluntary, that data would be processed in aggregate form, and that athletes could discontinue the questionnaire at any time without any consequences.

It is important to emphasize that the use of SSA was formally authorized by the original authors of the instrument, thereby ensuring respect for intellectual property rights and the scientific appropriateness of its application. The scale was presented in its original English version, as all participants were able to understand it, or a verified translation was provided when necessary.

Statistical analysis

Data analysis was carried out using IBM SPSS Statistics software (version 27). In the first phase, descriptive analyses were performed for each subscale in order to provide an overview of the responses. Subsequently, internal consistency was assessed by calculating Cronbach's alpha for each subscale and for the entire scale, with the aim of verifying its reliability. Finally, to explore the latent structure of the scale in the new cultural context, an exploratory factor analysis (EFA) was conducted using orthogonal Varimax rotation, to facilitate the interpretation of the emerging factors. The analysis aimed to evaluate the construct validity of the instrument and its

adaptability to a heterogeneous sample consisting of professional and semi-professional athletes from various international contexts.

Results

Reliability

The internal reliability analysis of *the Satisfaction Scale for Athletes* (SSA) was conducted to assess the internal consistency of the three subscales that comprise the instrument. For each dimension, Cronbach's alpha coefficient was calculated, one of the most commonly used indices to evaluate the internal consistency of a psychometric scale. The results obtained were as follows (Table 1):

- Coach Satisfaction: $\alpha = 0.853$
- Team Performance Satisfaction: $\alpha = 0.793$
- Teammates Satisfaction: $\alpha = 0.748$

Table 1. *Cronbach's Alpha Test*

	Cronbach's Alpha	N. items
Coach	0,853	8
Team performance	0,793	5
Teammates	0,748	3
Total	0,908	16

All three coefficients exceed the generally accepted threshold of 0.70, as proposed by Nunnally (1978) which is considered the minimum value for a scale to be deemed reliable in the exploratory research phase. The $\alpha = 0.853$ value for the *Coach Satisfaction* subscale indicates excellent internal consistency among the items composing this dimension, suggesting that athletes tend to respond consistently when evaluating their satisfaction with the coach. Similarly, the *Team Performance Satisfaction* subscale showed satisfactory reliability ($\alpha = 0.793$), indicating that the items related to satisfaction with team performance are well correlated. Finally, the *Teammates Satisfaction* subscale ($\alpha = 0.748$) also demonstrates good reliability, showing that items related to relationships with teammates are perceived in a consistently coherent manner.

Overall, the exploratory component analysis provides preliminary support for the three-factor structure of the SSA within this culturally and geographically diverse football sample. However, given the exploratory nature of the study and the limited sample size, the stability of the factorial solution should not be assumed and requires replication in larger samples.

Exploratory Factor Analysis (EFA)

An exploratory dimensionality analysis was conducted using Principal Component Analysis (PCA) with Varimax orthogonal rotation to examine the underlying component structure of the Satisfaction Scale for Athletes (SSA) in the analyzed sample. Although PCA is technically a data-reduction technique rather than a common factor analysis, it is frequently employed in preliminary validation research as an exploratory procedure to investigate the internal organization of scale items. In the present study, PCA was used to explore whether the

component structure of the SSA was broadly consistent with the original three-dimension model proposed by the authors and to provide an initial examination of its structural coherence in an international context. Given the exploratory nature of the analysis and the modest sample size, the results should be interpreted as preliminary indications of structural organization rather than definitive evidence of factorial validity.

The adequacy of the correlation matrix for dimensionality analysis was preliminarily evaluated using the Kaiser-Meyer-Olkin (KMO) index and Bartlett's test of sphericity (Table 2). The KMO index returned a value of 0.798, indicating good sampling adequacy for factor analysis (values above 0.70 are considered acceptable). Bartlett's test was significant ($p < 0.001$), confirming that the correlations among variables were sufficiently high to proceed with the analysis.

Table 2. *KMO and Bartlett's Test*

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0,798
Bartlett's Test of Sphericity	Approx. Chi-Square	529,10
	df	120,00
	Sig.	< 0,001

The results revealed a three-factor structure consistent with that proposed in the original study, with three main components explaining approximately 61% of the total variance (Table 3 – Table 4). This suggests that the three identified dimensions, satisfaction with the coach, satisfaction with team performance, and satisfaction with teammates, adequately represent the variability of the data within the present multicultural context.

Table 3. *Rotated Component Matrix*

Rotated Component Matrix			
	Component		
Items	1	2	3
1) The manner in which my talents are (were) employed	0,724		
2) The coach's choice of plays during competitions	0,447		
3) The level of considering athlete's idea about the game strategies	0,708		
4) The tactics used during games	0,687		
5) How the coach reads the game and makes (made) adjustments during the competitions	0,612		
6) The level to which my talents are (were) employed	0,826		
7) The degree to which my role on the team matches (matched) my preferred role	0,487		
8) Relationship between the coach and the star athlete	0,421		
9) The team's win/lose record in the season			0,786
10) The extent to which the team is meeting (has met) its goals for the season			0,871
11) Eliminating the failures that can affect the team performance			0,425
12) The level of taking precautions to reach the team to the highest performance			0,426
13) The level of giving opportunity to the athlete to show multidimensional performances in games			0,424
14) The level of the athlete's cooperation with each other and commitment to each other		0,713	
15) The helping level of the athlete to ease the adaptation of the new joining athlete		0,788	
16) The level of all athletes to hide teammates' weakness or mistakes		0,427	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

Table 4. *Total Variance*

Total Variance Explained						
Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6,89	43,03	43,03	4,16	26,02	26,02
2	1,52	9,47	52,50	2,78	17,40	43,41
3	1,31	8,18	60,68	2,76	17,26	60,68
4	1,18	7,36	68,04			
5	0,98	6,15	74,19			
6	0,83	5,21	79,40			
7	0,60	3,78	83,18			
8	0,53	3,31	86,49			
9	0,49	3,08	89,57			
10	0,39	2,45	92,02			
11	0,37	2,31	94,33			
12	0,27	1,66	95,99			
13	0,21	1,33	97,33			
14	0,19	1,18	98,51			
15	0,14	0,88	99,39			
16	0,10	0,61	100,00			

Extraction Method: Principal Component Analysis.

A noteworthy finding from the analysis was the emergence of a fourth component with an eigenvalue greater than 1, which, however, proved difficult to interpret from both a theoretical and practical standpoint. Its appearance may be attributable to specific characteristics of the sample or to cultural variations in response patterns, but it did not have a substantial impact on the overall structure of the scale. It is possible that the presence of this fourth component slightly influenced the factor loadings of some items, which appeared lower compared to those reported in the original study. Nevertheless, these differences do not compromise the conceptual integrity of the three core dimensions of the scale.

Another observation concerns the order in which components were extracted, which showed a slight variation compared to the Turkish validation: in the present sample, the component related to satisfaction with teammates preceded that related to team performance based on eigenvalue magnitude. While interesting, this change does not alter the meaning of the underlying dimensions, nor does it affect the usability of the instrument.

Overall, the exploratory component analysis confirms the robustness of the SSA's three-factor structure even within a culturally and geographically diverse football sample. The scale demonstrates solid conceptual consistency while presenting minor variations that warrant further investigation in future studies.

Discussions

The present study aimed to examine the factorial validity and reliability of the Satisfaction Scale for Athletes (SSA) in a culturally diverse football population. The results suggest the presence of three main factors broadly consistent with the structure originally proposed by Caliskan and Baydar (2016). However, given the exploratory nature of the study and the modest

sample size, these findings should be interpreted cautiously. Cronbach's alpha values for these dimensions exceeded .75, demonstrating satisfactory internal consistency. However, a fourth factor emerged, characterized by lower loadings and less conceptual clarity, suggesting potential cross-cultural differences in how satisfaction components are perceived by athletes from different regions. Overall, the findings provide initial evidence of the potential applicability of the SSA beyond its original Turkish context. Accordingly, the study should be viewed as a preliminary cross-cultural validation effort aimed at exploring the structural coherence of the instrument in an international football sample, rather than as definitive confirmation of its factorial validity.

The factorial structure identified in this study largely aligns with the original validation by Caliskan and Baydar (2016), who reported factor loadings ranging from .55 to .82 for the Coach dimension, .55 to .89 for Team Performance, and .75 to .72 for Teammates. In the present sample, loadings on these three factors were comparably strong, indicating a robust and consistent measurement structure across cultural contexts. This similarity reinforces the conceptual stability of athlete satisfaction as a multidimensional construct centered on interpersonal relationships, perceived team effectiveness, and the athlete's subjective experience within the group.

The main differences concern the emergence of a fourth factor and a slightly different explained variance compared to the original data. This discrepancy may be due to the greater cultural heterogeneity of the sample and contextual differences in how athletes interpret relational and team experiences.

From a theoretical perspective, the confirmation of the three main dimensions seems to indicate that sports satisfaction represents a transcultural construct, based on shared psychosocial dynamics: the quality of the relationship with the coach, the experience of collective efficacy, and the sense of belonging to the group. The Coach dimension reflects the relational and communicative climate and fully corresponds to the original approach of Caliskan and Baydar (2016). The Team Performance dimension highlights the connection between satisfaction, cohesion, and the perception of shared progress. Finally, Teammates confirms the importance of identity and socio-relational factors in team dynamics.

The fourth factor that emerged, weak and less consistent, could be the result of linguistic, cultural, or situational differences. It is possible that some items take on different meanings when administered in multicultural contexts or in professional environments where the athlete places different priorities on recognition, status, or collective results. This finding does not undermine the validity of the scale, but suggests the need for a deeper cultural adaptation in international contexts.

The validation of the Satisfaction Scale for Athletes (SSA) in a multicultural context provides important practical implications for coaches, team managers, and sport psychologists working in diverse environments. The scale serves as a useful tool to monitor and evaluate the quality of interpersonal relationships within the team, as well as the overall motivational climate created by the coaching staff. By collecting direct feedback from athletes, coaches can identify strengths and areas for improvement, which can inform targeted training programs and corrective coaching interventions. Additionally, the SSA can be used to support both individual and group development initiatives by analyzing athletes' perceived satisfaction levels. Ultimately, this evidence-based instrument helps promote effective locker room management and fosters

stronger team cohesion, contributing to enhanced athletic performance and psychological well-being.

This study presents several important limitations that warrant careful consideration. First and foremost, the relatively small sample size (N = 63) in relation to the 16-item structure of the instrument represents a methodological constraint. Although exploratory factor analysis (EFA) was conducted to examine the latent structure of the SSA, the participant-to-item ratio is lower than commonly recommended thresholds in psychometric research. Small samples may threaten the stability and replicability of factor loadings, increase sampling error, and limit the general robustness of the extracted factorial solution. Therefore, the factorial findings should be interpreted as preliminary and exploratory rather than definitive.

Secondly, the absence of a confirmatory factor analysis (CFA) represents a significant limitation. While exploratory component analysis is appropriate for exploring latent structures in new contexts, CFA would be necessary to rigorously test the stability and goodness-of-fit of the proposed three-factor model (see Brown, 2015). Future studies with larger samples should implement CFA to provide stronger evidence for the structural validity of the scale.

Furthermore, the sample consisted exclusively of male football players, which restricts the generalizability of the findings to female athletes and to other sports disciplines. Gender-related differences and sport-specific dynamics may influence how satisfaction dimensions are perceived and structured. Lastly, the exclusive focus on soccer limits the broader applicability of the results across different sporting environments. Replication in diverse sports and cultural contexts is therefore essential to strengthen the cross-cultural validation process of the SSA.

The results obtained open several important avenues for future research in the field of sport psychology and athlete satisfaction assessment. First, it will be essential to expand the sample by including a larger number of participants from diverse sporting contexts, with balanced gender representation and broader geographical distribution. Larger and more heterogeneous samples would allow for a more rigorous evaluation of the structural stability of the scale and facilitate multi-group analyses aimed at examining potential cultural, gender-related, and competitive-level differences in satisfaction perception.

A crucial next step in the cross-cultural validation process of the SSA involves the implementation of Confirmatory Factor Analysis (CFA). While the present study employed an exploratory component-based approach to examine the dimensional organization of the instrument, CFA would allow for the explicit testing of the theoretically grounded three-factor model (Harrington, 2008). Specifically, a future confirmatory model should specify three correlated latent constructs, Coach Satisfaction (5 items), Team Performance Satisfaction (6 items), and Teammates Satisfaction (5 items), with items loading exclusively on their respective factors and covariances freely estimated among latent variables. The evaluation of model fit indices (e.g., CFI, TLI, RMSEA, SRMR) would provide stronger empirical evidence regarding the factorial validity and cross-cultural stability of the instrument.

Moreover, longitudinal designs should be employed to assess the temporal stability of the scale and to examine how athlete satisfaction evolves across competitive seasons or in response to contextual changes such as coaching transitions. Future research may also consider testing measurement invariance across cultural groups to strengthen the evidence for cross-cultural applicability.

Finally, integrating the SSA with other psychological assessment tools would contribute to a more comprehensive understanding of athletes' experiences within team environments. In particular, examining the relationships between satisfaction, motivation, psychological well-being, cohesion, and performance indicators may offer valuable insights for both theoretical advancement and evidence-based practice in sport psychology.

Conclusion

This study provides preliminary evidence supporting the reliability and factorial validity of the Satisfaction Scale for Athletes (SSA) in an international football context. While the findings suggest that the three-factor structure, relating to satisfaction with the coach, team performance, and teammates, can be meaningfully confirmed in a culturally diverse sample, the results should be interpreted cautiously given the exploratory design and the relatively small sample size.

Rather than constituting a definitive validation, the present study represents an initial step in the broader cross-cultural examination of the SSA. The findings indicate the potential applicability of the instrument beyond its original Turkish context, while also underscoring the need for replication through larger samples and confirmatory factor analyses.

From a practical perspective, the SSA appears to offer a useful exploratory tool for assessing athletes' perceptions of their sporting environment. When applied cautiously and together with other evaluative strategies, it may support coaches and sport professionals in monitoring relational dynamics, motivational climate, and perceived team functioning.

Future research should aim to strengthen the empirical foundation of the scale through larger, gender-balanced, and sport-diverse samples, in order to consolidate its structural stability and generalizability across contexts.

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