International Journal of Sports Science & Coaching

Original research article

How passion shapes motivation and promotes well-being in young football players

International Journal of Sports Science & Coaching
1–8

DOI: 10.1177/17479541251348441
journals.sagepub.com/home/spo


Diogo Salgado Braz[1], Élvio R Gouveia[2,3], Diogo S Teixeira[4,5], Luis Cid[6,7,4], Hugo Sarmento[1,8] and Diogo Monteiro[7,9]

Abstract

This study examines the influence of passion on motivational regulation and subjective well-being in young footballers, drawing on the Dualistic Model of Passion (DMP), Self-Determination Theory (SDT), and Organismic Integration Theory (OIT). A total of 390 male youth football players (aged 13–17) completed validated measures assessing harmonious and obsessive passion, motivation regulation, life satisfaction, and affect. Structural equation modeling revealed that harmonious passion positively predicted self-determined motivation and negatively predicted non-self-determined motivation. In turn, self-determined motivation was associated with higher life satisfaction and positive affect, and lower negative affect. Obsessive passion demonstrated the opposite pattern. Mediation analyses confirmed the indirect effects of passion on well-being through motivational regulation. These findings underscore the importance of promoting harmonious passion and autonomous motivation to foster well-being in youth sports. Practical implications for coaches and sports psychologists are discussed, emphasizing strategies for cultivating adaptive passion and motivational profiles.

Keywords

Life satisfaction, positive affect, psychological flourishing, self-determination, soccer

Introduction

Passion for sports is a crucial psychological construct that plays a central role in shaping young athletes' development, motivation, and well-being.[1] In youth football, the way passion is internalized has been shown to significantly influence athletes' engagement, vitality, and life satisfaction.[2] Empirical evidence indicates that passion is not merely a byproduct of sports participation but a dynamic factor that shapes athletes' motivational quality and emotional experiences.[3] Accordingly, the present study aims to explore the impact of passion on motivational regulation and life satisfaction among young footballers, drawing upon two theoretical frameworks: the Dualistic Model of Passion (DMP),[4] Self-Determination Theory (SDT),[5,6] namely Organismic Integration Theory (OIT).[6]

The DMP conceptualizes passion as comprising two forms: harmonious passion (HP) and obsessive passion (OP). HP emerges from autonomous internalization, leading to flexible engagement in sports and positive integration with other life domains.[4] In contrast, OP stems from controlled internalization, often resulting in rigid persistence and conflict between the activity and other life spheres.[7] Numerous empirical studies corroborate these

Reviewers: Nuno Couto (Santarém Polytechnic University, Portugal)
Rafael Enrique Reigal Garrido (University of Malaga, Spain)

[1]Faculty of Sport Sciences and Physical Education, University of Coimbra, Coimbra, Portugal
[2]Department of Physical Education and Sport, University of Madeira, Funchal, Portugal
[3]Laboratory of Robotics and Engineering Systems, Interactive Technologies Institute, Funchal, Portugal
[4]Faculty of Physical Education and Sport, Lusófona University, Lisbon, Portugal
[5]Research Center in Sport, Physical Education, and Exercise and Health, Lisbon, Portugal
[6]Sport Sciences School of Rio Maior, Santarém Polytechnic University, Rio Maior, Portugal
[7]Research Center in Sport Sciences, Health Sciences and Human Development (CIDESD), Vila Real, Portugal
[8]Interdisciplinary Center for the Study of Human Performance (CIPER-UC), University of Coimbra, Coimbra, Portugal
[9]ESECS, Polytechnic University of Leiria, Leiria, Portugal

Corresponding author:
Diogo Salgado Braz, Faculty of Sport Sciences and Physical Education, University of Coimbra, Coimbra 3040-248, Portugal.
Email: diogosalgadobraz@gmail.com

claims. For example, Vallerand et al.[8] found that among athletes ($n = 539$), HP predicted greater positive emotions during sports engagement and overall life satisfaction, while OP predicted negative emotions and conflict. Similarly, Phillippe et al.[9] demonstrated through longitudinal data that HP fostered increases in well-being over time, whereas OP predicted decreases in life satisfaction and increases in depressive symptoms. In the football context, research by Donahue et al.[10] with adolescent athletes ($n = 350$) showed that HP was associated with better school-sport balance and emotional adjustment, while OP was linked to higher burnout levels.

Self-Determination Theory (SDT) offers a complementary framework, focusing on the quality of motivation and its consequences for athletes' functioning.[5,11] Motivation is conceptualized along a continuum ranging from amotivation to intrinsic motivation, with autonomous forms (identified, integrated, and intrinsic) associated with greater psychological well-being. Research by Gagne[12] involving over 300 athletes demonstrated that autonomous motivation was positively associated with persistence, performance, and psychological well-being, whereas controlled motivation predicted dropout intentions. Similarly, a study by Sarrazin et al.[13] among young handball players found that a climate supporting autonomy significantly predicted athletes' intrinsic motivation, which in turn enhanced satisfaction and commitment. OIT, a sub-theory within SDT, elaborates on the different types of extrinsic motivation and the degree to which they are internalized.[6] Empirical studies reinforce these distinctions: for instance, Standage et al.[14] conducted a cross-sectional study with 380 youth athletes, revealing that identified and intrinsic regulations were associated with higher levels of vitality and enjoyment, whereas external and introjected regulations predicted pressure and emotional exhaustion. Furthermore, Deci and Ryan[15] showed in a meta-analysis that autonomous forms of motivation predicted higher levels of subjective well-being across different life domains, including sport.

Subjective well-being itself is typically examined through cognitive and affective components: life satisfaction (cognitive) and positive/negative affect (emotional).[16] Numerous studies support the link between motivation and well-being indicators. For example, Sheldon and Filak[17] found in a longitudinal design that increases in autonomous motivation predicted subsequent increases in life satisfaction and positive affect among student-athletes. In a meta-analysis by Ng et al.[18] covering 184 studies, autonomous motivation consistently showed positive associations with well-being outcomes across different cultural and age groups, while controlled motivation correlated negatively. Crucially, empirical studies have shown that passion predicts motivational regulation, forming a bridge to well-being outcomes. Stenseng et al.,[19] in a longitudinal study with 210 athletes, reported that HP predicted increases in autonomous motivation and decreases in controlled motivation, while OP showed the reverse pattern[2] further confirmed that HP was associated with vitality and positive affect among youth footballers, whereas OP was a predictor of stress and emotional exhaustion.

Given the theoretical interrelations and growing empirical support, this study aims to examine the pathways linking passion, motivational regulation, and subjective well-being in young footballers. By integrating the DMP, SDT, and OIT frameworks and emphasizing empirical findings, this research seeks to contribute to the promotion of healthier, more adaptive sport environments. The outcomes are expected to offer practical insights for coaches, sports psychologists, and sport program developers aiming to foster sustainable and fulfilling sport engagement among youth.

Despite the growing body of research exploring the association between passion, behavioral regulation, and subjective well-being (SWB) in sport, there is still a lack of integrative studies focusing on young football players – a population exposed to intense competitive demands and developmental challenges. While previous studies have demonstrated the effects of harmonious and obsessive passion on motivation and affect, few have examined the underlying motivational mechanisms using combined theoretical frameworks such as the DMP, SDT and OIT. Moreover, the specific vulnerabilities of youth athletes in competitive football – such as performance pressure, academic-sport conflicts, and emotional exhaustion – underscore the importance of further investigating factors that promote or hinder their psychological well-being. By addressing this gap, the present study aims to offer a comprehensive model that elucidates the pathways from passion to well-being, thereby contributing novel insights to both the academic literature and applied sport contexts.

Method

Participants

A total of 390 male youth football athletes, aged between 13 and 17 years ($M = 14.78$; $SD = 1.15$), participated in the study. Their sports experience ranged from 4 to 11 years ($M = 6.94$; $SD = 1.76$). They trained between 2 and 4 times per week ($M = 3.32$; $SD = 0.466$), with each session lasting between 75 and 100 min ($M = 93.63$; $SD = 12.46$).

Procedures

Data collection

The research was approved by the Scientific Council of the Faculty of Sports Science and Physical Education at the University of Coimbra in 2024, with data collection for this project currently underway. This project is part of work that was submitted and approved by the Ethics Committee of the University of Lisbon in 2020. Following approval, the

researchers contacted the youth football team's management to obtain permission to approach the athletes. With consent granted, the athletes were invited to participate in the study by completing questionnaires. Participation was entirely voluntary, and data collection took place before the athletes began their training sessions, with an average completion time of 18 min in club facilities (meeting room) all together, under supervision of the research team. Parental consent was not required as the authorization process was covered by the ethical protocol established between the University of Coimbra and the club. No financial compensation was provided for participation. In addition, the inclusion criteria were the following: Male youth athletes formally registered in a federated football club at the time of data collection; Participation in organized football training for a minimum of one full season prior to the study; Availability and willingness to complete all questionnaires before a training session, under supervision of the research team. Exclusion criteria: Athletes currently recovering from injury or illness that limited their full training or match participation during the data collection period; Involvement in dual sports specialization (i.e., practicing football and another competitive sport simultaneously), which could confound motivational dynamics; Incomplete, inconsistent, or missing responses on any of the core psychological instruments (passion, motivation, well-being).

Measures

To evaluate the levels of Harmonious Passion and Obsessive Passion in athletes, the Portuguese version of the 8-item Passion Scale[20] was administered. This scale comprises four items measuring Harmonious Passion (e.g., 'This sport is in harmony with other things that are part of me') and four items assessing Obsessive Passion (e.g., 'I have almost an obsessive feeling for this activity'). Participants responded to each statement on a 7-point Likert scale, ranging from 1 (Totally Disagree) to 7 (Totally Agree).

Athletes' motivation regulation in sports was assessed using the Portuguese version of the 24-item Behavioral Regulation in Sport Questionnaire.[21] Participants rated 24 statements (four per factor) on a 7-point Likert scale, ranging from 1 ('Not true of me') to 7 ('Completely true of me'), reflecting the six types of motivation within the self-determination continuum.[6] These include: Amotivation (e.g., 'But I question why I continue'); External Regulation (e.g., 'To satisfy people who want me to play'); Introjected Regulation (e.g., 'Because I would feel guilty if I quit'); Identified Regulation (e.g., 'Because I value the benefits of my sport'); Integrated Regulation (e.g., 'Because it's a part of who I am'); Intrinsic Motivation (e.g., 'Because I enjoy it'). Following recommendations from previous research[22,23] (i.e., two composite variables – self-determined motivation and non-self-determined motivation – were created by weighting each indicator's contribution to the latent factor.

Life Satisfaction. Athletes' overall life satisfaction was assessed using the Portuguese version of the Life Satisfaction Scale.[24] This scale consists of five items, including sample statements such as 'I am satisfied with my life.' Participants rated their agreement with each item on a 7-point Likert scale, ranging from 1 ('I do not agree at all') to 7 ('I completely agree').

Affects. The Portuguese version of the Positive and Negative Affect Schedule (PANAS)[25] was used to assess affective activation. Participants were asked to indicate the extent to which they had experienced specific feelings and emotions (e.g., 'interested', 'angry') over the past weeks. The scale consists of 10 items, rated on a five-point Likert scale from 1 ('none or very slightly') to 5 ('extremely'). The items are grouped into two factors: positive affect (e.g., 'interested', 'strong', 'enthusiastic') and negative affect (e.g., 'perturbed', 'scared', 'angry'), based on Diener's (1985) hedonic perspective. Considering subsequent amendments and clarifications to the original instrument[26,27] and further recommendations,[28,29] the PANAS items were labelled as positive and negative activations. This adjustment aimed to distinguish them from the pleasure/displeasure dimension and define the constructs solely by their arousal levels.

Data analysis

Descriptive statistics and bivariate correlations were calculated for the variables under analysis. The hypothesized model was tested using AMOS v.29, following a two-step maximum likelihood approach.[30] In the first step, a confirmatory factor analysis (CFA) was conducted to assess the psychometric properties of the model. Specifically, internal consistency was evaluated through composite reliability,[31] using 0.70 as the cutoff[32]; convergent validity was assessed via average variance extracted (AVE), considering values ≥ 0.50 as adequate[32]; and discriminant validity was tested through square correlations between factors, ensuring that correlation coefficients were lower than the AVE of each construct.[33] The second step involved structural equation modeling (SEM) to analyze the proposed associations. Standardized direct and indirect effects were examined, considering them significant if the 95% confidence intervals (CIs) did not include zero.[34] To assess these effects, bootstrap resampling (1000 samples) with a bias-corrected 95% CI was applied. Model fit was evaluated using traditional absolute and incremental fit indices: Comparative fit index (CFI) ≥ 0.90, Tucker–Lewis index (TLI) ≥ 0.90, Standardized root mean residual (SRMR) ≤ 0.08, and Root mean square error of approximation (RMSEA) ≤ 0.08 with a 90% CI.[32,35,36] For SEM analysis, the required sample size was estimated a priori using the Soper Calculator (2025) to ensure adequate statistical power. The calculation considered an anticipated effect size (0.25), desired statistical power (0.80), significance level

Table 1. Descriptive statistics, bivariate correlations, average variance extracted, and composite reliability coefficients.

Variables	HP	OP	SDM	NSDM	LS	PA	NA
HP	1	–	–	–	–	–	–
OP	.46**	1	–	–	–	–	–
SDM	.52**	−.18**	1	–	–	–	–
NSDM	−.26**	.46**	−.56**	1	–	–	–
LS	.35**	−.31**	.40**	−.25**	1	–	–
PA	.43**	−.42**	.51**	−.28**	.23**	1	–
NA	−.32**	.28**	−.12*	.43**	−.16*	−.11*	1
Mean	6.31	5.03	5.74	2.53	5.18	3.98	1.54
SD	.67	1.21	.76	1.21	.93	.72	.64
CR	.75	.91	.84	.88	.85	.74	.81
AVE	.58	.69	.61	.73	.56	.53	.58

Note. HP = harmonious passion; OP = obsessive passion; SDM = self-determined motivation; NSDM = non-self determined motivation; LS = life satisfaction; PA = positive affects; NA = negative affects; SD = standard deviation; CR = composite reliability; AVE = average variance extracted.
*($p < .05$): 95% confidence level.
**($p < .01$): 99% confidence level.

($p = .05$), number of latent variables (7), and number of observed variables (29). The minimum required sample size was 259 participants, which was respected in the present study.[37,38] This rigorous sample estimation approach enhances the accuracy and interpretability of the structural model.

Results

Previous analysis

Missing values (<0.1%) were imputed using the regression method in AMOS 29. Descriptive analysis confirmed that univariate distribution assumptions were met, as Skewness and Kurtosis values fell within the acceptable ranges of −2 to +2 and −7 to +7, respectively. No univariate or multivariate outliers were identified. Since Mardia's coefficient exceeded the threshold (>5) for multivariate kurtosis in all samples, we applied the Bollen-Stine Bootstrap (2000 samples) following the recommendations of Nevitt and Hacock[39] to correct for non-normality. Additionally, variance inflation factors (VIF) were analyzed to assess potential multicollinearity among the variables. The VIF values ranged from 2.27 to 3.96, indicating acceptable conditions for conducting the regression analysis.[30,32]

Table 1 displays the means, standard deviations, bivariate correlations, convergent validity values, and internal consistency of the variables under study. Participants showed high levels of both types of passion, self-determined motivation, life satisfaction, and positive affect, while reporting low levels of non-self-determined motivation and negative affect. The correlations among the study variables were significant ($p < .01$; $p < .05$). The measurement model included seven interrelated latent variables: harmonious and obsessive passion, self-determined and non-self-determined motivation, life satisfaction, and positive and negative affect. The results indicated adequate convergent validity (AVE > .50). Furthermore, there were no issues with discriminant validity, as the squared correlations between factors were lower than the extracted variance for each factor. Internal consistency values were also satisfactory (>.70). Additionally, the measurement model demonstrated a good fit to the data: [$\chi^2/df = 3.73$ (356), B-S $p < .001$, TLI = .911, CFI = .926, SRMR = .067, RMSEA = .072 (90% CI = .058, .082)]. These findings support the necessary preliminary conditions for conducting the structural model analysis and examining the direct effects among the variables under investigation.

The standardized direct effects of the structural model are shown in Figure 1. Overall, all direct effects were significant. Specifically, harmonious passion exhibited both a significant positive and negative effect on self-determined and non-self-determined, respectively. In turn, more self-determined motivation had a significant positive effect on life satisfaction and positive affect, as well as a significant negative effect on negative affect. Conversely, non-self-determined motivation showed a significant negative effect on positive affect and life satisfaction, while having a significant positive effect on negative affect. Regarding the indirect effects, the results are presented in Table 2. The standardized indirect effects revealed that harmonious passion positively predicted life satisfaction and positive affect and negatively predicted negative affect through self-determined and non-self-determined motivation. In turn, obsessive passion negatively predicted life satisfaction and positive affect and positively predicted negative affect.

Nevertheless, the results of the structural model indicated a good fit to the data: [$\chi^2/df = 4.32$ (366), B-S $p < .001$, TLI = .909, CFI = .916, SRMR = .077, RMSEA = .078 (90% CI = .069, .096)]. Overall, the model explained 23%, 48%, and 26% of the variance in life satisfaction, positive affect, and negative affect, respectively.

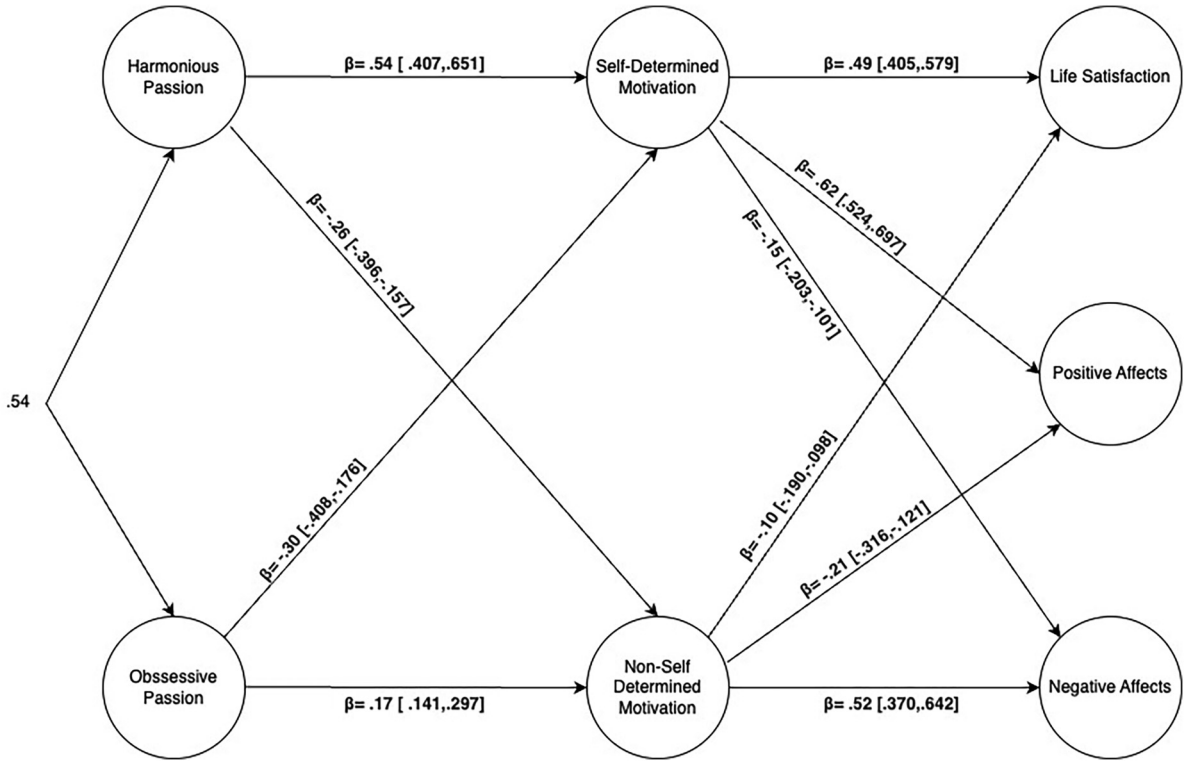

Figure 1. Structural model.

Table 2. Standardized indirect effects.

	Indirect	
Regression paths	β	CI95%
Harmonious Passion → Life Satisfaction	.29*	.171, .329
Harmonious Passion → Positive Affects	.40*	.309, .479
Harmonious Passion → Negative Affects	−.09*	−.140, −.086
Obsessive Passion → Life Satisfaction	−.13*	−.197, −.102
Obsessive Passion → Positive Affects	−.22*	−.299, −.108
Obsessive Passion → Negative Affects	.16*	.131, .272

Notes. β = standardized coefficients; CI95% = Confidence Interval at 95%. *p = level of significance at <.05.

Discussion

The aim of present study was to explore the impact of passion on motivational regulation and life satisfaction among young footballers, based on DMP and self-determination theory tenets. The findings of this study provide robust empirical support for the theoretical assumptions grounded in the DMP,[4] Self-Determination Theory (SDT)[5,6] and the OIT.[11] These frameworks continue to prove highly relevant in understanding the psychological experiences of young football players. The evidence reinforces the view that Harmonious Passion (HP) and Obsessive Passion (OP) have distinct impacts on motivational regulation and, consequently, on indicators of subjective well-being.

As hypothesized, HP emerged as a significant positive predictor of autonomous motivation and a negative predictor of controlled motivation. These findings are consistent with previous results,[1,40] who demonstrated that HP fosters adaptive emotional experiences and sustained engagement in sports contexts. Recent meta-analytic work by Lafrenière et al.[41] also confirmed that HP is systematically associated with higher levels of positive affect, vitality, and need satisfaction. Conversely, OP was negatively associated with autonomous motivation and positively linked with controlled motivation, aligning with the dysfunctional patterns highlighted in several studies.[42,43] This suggests that OP leads to greater emotional volatility, persistence under pressure, and possible maladaptive behavioral outcomes, corroborated by longitudinal studies.[44]

Importantly, autonomous motivation was a strong predictor of subjective well-being, being positively associated with life satisfaction and positive affect, and negatively associated with negative affect.[45–47] In contrast, controlled motivation displayed the opposite pattern, predicting lower life satisfaction and greater negative affect.[3,15] The mediating role of motivational regulation between passion types and well-being was particularly noteworthy. HP predicted higher well-being through enhanced autonomous motivation, whereas OP contributed to diminished well-being via its association with controlled motivation. These indirect pathways strengthen the theoretical model proposed by Vallerand[1] and empirically supported by Gillet et al.,[46] showing the

importance of fostering self-determined motivational profiles to protect athlete mental health.

Beyond the empirical confirmation of the hypothesized relationships, it is crucial to elucidate the underlying mechanisms that help explain why and how these associations occur. Specifically, the positive effects of Harmonious Passion on autonomous motivation—and subsequently on indicators of well-being—can be understood through its role in satisfying the basic psychological needs for autonomy, competence, and relatedness, as proposed by SDT.[11,15] HP is characterized by a volitional and identity-congruent engagement in sport,[4] which promotes a sense of ownership, mastery, and social connectedness.[3,41] This internalization process enhances motivational quality and facilitates psychological flourishing. Conversely, OP involves a pressured form of engagement driven by ego involvement, internal contingencies, or external validation,[1,43] often resulting in psychological need frustration,[48] emotional dysregulation, and lower well-being. These mechanisms – need satisfaction and frustration – thus represent the conceptual bridge explaining how passion influences the quality of motivation and, ultimately, athletes' well-being.[44,49]

Furthermore, contextual factors influencing young athletes' passion experiences warrant attention. For instance a study by Pulido et al.[50] have shown that the motivational climate created by coaches can significantly modulate whether passion develops harmoniously or obsessively. Autonomy-supportive coaching – characterized by active listening, encouragement of volitional choice, and minimizing controlling behaviors – is critical to promoting HP and mitigating the risks associated with OP.

Consistent with findings by Stenseng et al.,[19] harmonious passion was also linked to more adaptive emotion regulation, flow experiences, and greater satisfaction of psychological needs. Obsessive passion, on the other hand, was associated with emotional dysregulation and behavioral rigidity, factors linked to increased vulnerability to burnout and sport dropout. The structural model displayed satisfactory fit indices and explained significant variance in the well-being outcomes (23% for life satisfaction, 48% for positive affect, and 26% for negative affect), which is consistent with previous research.[3,42] This underscores the theoretical and applied relevance of the DMP and SDT frameworks in youth sport contexts. In practical terms, these findings highlight the urgent need to foster harmonious passion and self-determined motivation in young athletes. As Minichiello et al.[40] suggested, HP is associated with greater emotional stability, adaptability, and lower risk of burnout. Enhancing perceived social support, promoting autonomy, and nurturing competence and relatedness could serve as protective mechanisms for youth well-being.[50] This study adds significant empirical weight to the growing body of research on passion, motivation, and well-being in youth sport, emphasizing that passion is not a monolithic construct but a dynamic, internalized process that can either foster flourishing or lead to maladaptive outcomes depending on its nature.[1,41]

Practical implications

The present findings offer valuable insights for coaches, sports psychologists, and institutional decision-makers aiming to optimize youth sport environments. Promoting Harmonious Passion (HP) and fostering a motivational climate grounded in self-determination should be central goals of youth sports training programs. Athlete-centered strategies – such as providing positive reinforcement, offering meaningful choices, and encouraging autonomy – can significantly contribute to the development of adaptive passion and healthier sport engagement.[51,52] Specific interventions could include coach education programs on autonomy-supportive behaviors, structured peer support systems within teams, and the integration of psychological skills training to enhance emotional regulation and resilience. Cultivating an environment that satisfies the basic psychological needs of autonomy, competence, and relatedness is essential for sustaining motivation and promoting psychological well-being.[50]

Limitations and future research

Despite its contributions, the present study has certain limitations. The cross-sectional design precludes the establishment of causal relationships among the examined variables. Longitudinal studies are recommended to assess the stability and evolution of passion, motivation, and well-being across different stages of athlete development. Another limitation is the exclusive focus on young football players, which may limit the generalizability of the results to athletes in other sports or cultural contexts. Future research should aim to replicate these findings across a wider variety of sports (e.g., individual vs. team sports) and demographic profiles (e.g., gender, socioeconomic background). Moreover, incorporating potential moderating variables such as perceived coach autonomy support,[51] the type of motivational climate,[50] and the broader cultural values surrounding youth sport could offer a more nuanced understanding of the passion–motivation–well-being dynamic. Finally, experimental and intervention studies should test whether promoting autonomy-supportive environments indeed leads to increases in HP, autonomous motivation, and well-being over time.

Conclusion

In summary, this study reinforces the crucial role of passion and motivational regulation in shaping the psychological experiences of young footballers. The results highlight that Harmonious Passion supports healthier and more

adaptive forms of motivation, thereby promoting greater life satisfaction, positive affect, and emotional well-being. Conversely, Obsessive Passion fosters maladaptive motivational patterns associated with decreased well-being. These findings underscore the importance of designing youth sport programs that prioritize the cultivation of HP and autonomous motivation, moving beyond performance outcomes to foster holistic and sustainable athlete development. Integrating psychological models such as the Dualistic Model of Passion and Self-Determination Theory into everyday coaching practice represents a promising pathway to promoting psychological flourishing and long-term sport involvement among young athletes.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iDs

Diogo Monteiro https://orcid.org/0000-0002-7179-6814
Diogo Salgado Braz https://orcid.org/0009-0009-2900-4703

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