

Association Between Passion and Basic Psychological Needs in Sport: A Systematic Literature Review

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Abstract

Passion and basic psychological needs are considered determining factors for successful experiences in sports, both in the initiation of sports and in high performance. This study aimed to systematically review the literature on the associations between passion and basic psychological needs in sports among athletes. Searches were conducted in the electronic databases PubMed, SportDiscus, Scopus, ScienceDirect, Web of Science, Scielo, PsycINFO, LILACS, and *Periódicos* CAPES. The descriptors used were: Passion, Dualistic Model Passion, Basic Psychological Needs, Self-determination Theory, Basic Psychological Needs Satisfaction, Basic Psychological Needs Frustration, Sport, Athlete, and Athletic, for constructing search strategies across the different databases. The review included 12 studies published between 2013 and 2022, using quantitative analysis (100%). The research focused on Europe (50%) and North America (50%). The results showed that passion and basic psychological needs were associated with positive emotional aspects (satisfaction with life, motivational regulations, goal achievement, reflection, athletic and academic identity, intrinsic motivation), negative emotional aspects (burnout, disruption of concentration, conflicts between sport and other domains of life), and physical aspects (performance, deliberate practice, and quality in preparation). In conclusion, harmonious passion and the satisfaction of basic psychological needs seem to contribute to life satisfaction, deliberate practice, and athletic performance. Conversely, obsessive passion was associated with reduced life satisfaction, controlled motivation, and burnout.

Keywords: systematic review, motivation, sport psychology, athletes, passion

ASSOCIAÇÃO ENTRE PAIXÃO E NECESSIDADES PSICOLÓGICAS BÁSICAS NO ESPORTE: UMA REVISÃO SISTEMÁTICA DA LITERATURA

Associação entre Paixão e Necessidades Psicológicas Básicas

Resumo

A paixão e as necessidades psicológicas básicas são apontadas como fatores determinantes para as experiências bem-sucedidas nos esportes, tanto na iniciação esportiva como também no alto rendimento. O objetivo do estudo foi revisar sistematicamente a literatura dos estudos que investigaram as associações entre paixão e necessidades psicológicas básicas no contexto esportivo em atletas. As buscas foram conduzidas nas bases eletrônicas: *PubMed*, *SportDiscus*, *Scopus*, *ScienceDirect*, *Web of Science*, *Scielo*, *PsycInfo*, *Lilacs* e *Periódicos* Capes. Os descritores utilizados foram: *Passion*, *Dualistic Model Passion*, *Basic Psychological Needs*, *Self-determination Theory*, *Basic Psychological Needs Satisfaction*, *Basic Psychological Needs Frustration*, *Sport*, *Athlete*, *Athletic*, para a construção das estratégias de buscas nas diferentes bases de dados. A revisão incluiu 12 estudos publicados no período de 2013 a 2022, utilizando-se de análise quantitativa (100%). Observou-se que as pesquisas se concentraram na Europa (50%) e América do Norte (50%). Os resultados apontaram que a paixão e as necessidades psicológicas básicas estiveram associadas a aspectos emocionais positivos (satisfação com a vida, regulações motivacionais, realização de metas, reflexão, identidade atlética e acadêmica, motivação intrínseca), aspectos emocionais negativos (*burnout*, interrupção da concentração, conflitos entre esporte e outros domínios da vida) e aspectos físicos (desempenho, prática deliberada e qualidade na preparação). Conclui-se que a paixão harmoniosa e a satisfação das necessidades psicológicas básicas parecem contribuir para a satisfação com a vida, prática deliberada e o desempenho em atletas. Por outro lado, constatou-se que a paixão obsessiva esteve associada com a redução dos sentimentos de satisfação com a vida, motivação controlada e o *burnout*.

Palavras-chave: revisão sistemática, motivação, psicologia do esporte, atletas, paixão

ASOCIACIÓN ENTRE PASIÓN Y NECESIDADES PSICOLÓGICAS BÁSICAS EN EL DEPORTE: UNA REVISIÓN SISTEMÁTICA DE LA LITERATURA

Asociación entre Pasión y Necesidades Psicológicas Básicas

Resumen

La pasión y las necesidades psicológicas básicas se identifican como factores determinantes para las experiencias exitosas en el deporte, tanto en la iniciación deportiva como en el nivel de élite. El objetivo de

este estudio fue revisar sistemáticamente la literatura sobre estudios que investigan las asociaciones entre la pasión y las necesidades psicológicas básicas en el contexto deportivo entre atletas. Se realizaron búsquedas en las siguientes bases de datos electrónicas: PubMed, SportDiscus, Scopus, ScienceDirect, Web of Science, Scielo, PsycInfo, Lilacs y Periódicos Capes. Los descriptores utilizados fueron: Passion, Dualistic Model Passion, Basic Psychological Needs, Self-determination Theory, Basic Psychological Needs Satisfaction, Basic Psychological Needs Frustration, Sport, Athlete, Athletic, para desarrollar estrategias de búsqueda en las diferentes bases de datos. La revisión incluyó 12 estudios publicados entre 2013 y 2022, utilizando análisis cuantitativo (100%). Se observó que la investigación se concentró en Europa (50%) y América del Norte (50%). Los resultados mostraron que la pasión y las necesidades psicológicas básicas se asociaron con aspectos emocionales positivos (satisfacción vital, regulación motivacional, logro de metas, reflexión, identidad atlética y académica, motivación intrínseca), negativos (agotamiento profesional, problemas de concentración, conflictos entre el deporte y otras áreas de la vida) y físicos (rendimiento, práctica deliberada y calidad de la preparación). Se concluyó que la pasión armoniosa y la satisfacción de las necesidades psicológicas básicas parecen contribuir a la satisfacción vital, la práctica deliberada y el rendimiento en los atletas. Por el contrario, la pasión obsesiva se asoció con una menor satisfacción vital, motivación controlada y agotamiento profesional.

Palabras clave: revisión sistemática, motivación, psicología deporte, atletas, pasión

The psychological aspects of sports have been studied through sports psychology. This area of knowledge has the main objectives of promoting the psychological well-being of athletes and others involved in physical activities, educating and training athletes to develop specific behaviors, and improving their performance in training and competition (Weinberg & Gould, 2016).

The literature considers sports performance an important area of research in sports sciences (Dobre et al., 2019; Lochbaum et al., 2022). However, it becomes necessary to consider all the elements involved, such as physical, technical, tactical, and psychosocial skills, which can be developed or learned through training (Farley et al., 2020). Motivational characteristics have been highlighted in the literature as elements of this area of knowledge (Ryan & Deci, 2017; Nascimento Junior et al., 2019; Dos Santos Oliveira et al., 2021; Peixoto et al., 2022; Freire et al., 2025). From this perspective, passion and basic psychological needs (BPN) are considered determinants of successful experiences in sports, both in sports initiation and high performance (Curran et al., 2013; Vallerand et al., 2008; Rigby & Ryan, 2018; Yukhymenko-Lescroart, 2021).

Many studies support the association between passion and basic psychological needs in sports (Lopes & Vallerand, 2020; Chamorro et al., 2021; Rodrigues et al., 2022; Bento et al., 2024). This demonstrates that the type of internalization of passion in the subject's identity (harmonious or obsessive) can influence feelings of satisfaction of basic psychological needs. According to the Dualistic Model of Passion (DMP) (Vallerand et al., 2003), passion is defined as the motivational force toward activities that an individual likes and considers important, and involves investing time and energy in them (Vallerand et al., 2008). The DMP indicates that the internalization of passion can occur in two ways: autonomous (harmonious passion) or controlled (obsessive passion) (Vallerand et al., 2016).

Harmonious passion is defined by the autonomous internalization of the activity within the individual's identity, and by freely accepting it as important to them. In this type of passion, individuals do not feel an uncontrollable desire to engage in the activity, as they are free to make choices. Thus, this activity occupies a significant place in their identity without generating conflicts with other domains of life or interfering with their authenticity (Vallerand, 2012a, 2015; Vallerand & Houlfort, 2019).

In turn, obsessive passion stems from a process of controlled internalization of activity within the individual's identity. This type of internalization can occur under the influence of external or internal pressures, such as the search for social approval or the need to maintain self-esteem. In these cases, engagement with the activity is marked by a compulsive impulse, leading the individual to feel an uncontrollable desire to participate in a practice that they consider important, even though this may generate conflicts with other areas of life (Vallerand, 2015; Vallerand & Houlfort, 2019; Vallerand & Verner-Filion, 2020).

Also, according to the DMP, the satisfaction of basic psychological needs is closely related to the development of passion. This means that activities that arouse passion in individuals are not only enjoyable, but also satisfy basic psychological needs (autonomy, competence, and relationship). Consequently, passion for an activity leads individuals to engage

more frequently, fostering feelings of competence over time. In addition, when practiced freely, it fosters a sense of autonomy. Finally, feelings of relationship are present when the individual feels connected to and develops a sense of belonging in this activity (Vallerand, 2015).

According to the Self-Determination Theory (SDT), proposed by Deci and Ryan (1985, 2012), the microtheory of BPN is considered a key factor for the health and well-being of individuals because it encompasses essential elements, psychological integrity, and human development (Rigby & Ryan, 2018; Ryan & Deci, 2012). Autonomy is an individual's ability to act freely and make their own choices. The need for competence, on the other hand, is linked to the individual's sense of capability to develop their skills and to the relationship, which concerns the individual establishing connections with people and feeling a sense of belonging to a group (Ryan & Deci, 2017; Bhavsar et al., 2020).

Given the relevance of these aspects, research has reviewed the literature on how passion in sports can influence across individual modalities (Caruzzo et al., 2020), indicating that passion related to individual sports is associated with both positive and negative factors. Therefore, the predominance of these factors depends on the type of passion internalization within the subject's identity. Li et al. (2013) investigated burnout and its relationships with psychological needs in athletes, finding that athlete burnout was negatively associated with all three dimensions of basic psychological needs. In addition, competence and autonomy needs were stronger predictors of global burnout than relationship.

Bento et al. (2024) systematically reviewed the literature on the relationship between passion, motivation, and subjective well-being in sport. The authors found that harmonious passion and autonomous motivation are associated with higher levels of well-being and life satisfaction. In contrast, obsessive passion and controlled motivation are linked to negative effects. The satisfaction of basic psychological needs also emerged as a relevant mediating factor, particularly in the relationship between harmonious passion and well-being.

The narrative review conducted by Mariuzzo, Godoi, and Fernandes (2023) aimed to define concepts, analyze, and relate articles on passion and Self-Determination Theory (SDT) as components of Positive Psychology in sports. The authors point out that, according to SDT, passion for sports is a form of intrinsic motivation that reflects an individual's dedication to a sport they identify with. This passion can take on a harmonious or obsessive character, depending on how the practice is internalized, and can positively or negatively influence the practitioner's well-being. Based on an analysis of studies linking psychology and sports, the authors concluded that the concepts of Positive Psychology are fundamental to understanding practitioners' emotional and mental aspects, as the sports environment strongly stimulates these dimensions.

Although there has been an increasing number of investigations into these variables in recent years, especially in the international context, to our knowledge, no study has sought to systematize the literature on the associations between passion and basic psychological needs in sports among athletes. In this sense, the conceptual hypothesis of this study is that harmoniously passionate athletes will have positive relationships, whereas athletes who are obsessive about

sports practice will have negative relationships with BPN satisfaction. Thus, this study aims to systematically review the literature on the associations between passion and basic psychological needs among athletes in sports.

Method

The protocol applied to this study was the Preferred Reporting Items for Systematic Review and Meta-Analyses – PRISMA model, whose guidelines are characterized by the following steps: 1) Identify articles through searches in the selected databases; 2) Add articles from other search sources; 3) Remove duplicate articles and analyze abstracts; 4) Specify the number of selected articles and the number of excluded articles; 5) Evaluate the full text of the articles for eligibility; 6) Specify the number of excluded articles and the reasons; 7) Specify the number of studies included in the qualitative synthesis; and 8) Specify the number of studies included in the quantitative synthesis/meta-analysis (Moher et al., 2009).

As inclusion criteria of studies in the systematic review, the following aspects were adopted: a) studies that investigated the variables Passion and associated Basic Psychological Needs; b) studies conducted with athletes; c) studies that investigated individual and collective modalities; d) articles published in Portuguese, English, or Spanish; and e) studies between the years 2003 (creation of the DMP) and 2022. The exclusion criteria of articles were: a) literature reviews, opinion articles, or letters from editors; b) articles published in languages other than Portuguese, English, or Spanish; and c) studies with an impossibility of access in full.

The searches were conducted between May and June 2022 in the following electronic databases: PubMed, SportDiscus, Scopus, ScienceDirect, Web of Science, Scielo, PsycINFO, LILACS, and *Periódicos* CAPES. The following descriptors were used: Passion, Dualistic Model Passion, Basic Psychological Needs, Self-determination Theory, Basic Psychological Needs Satisfaction, Basic Psychological Needs Frustration, Sport, Athlete, Athletic, as well as the corresponding plural terms and the Boolean operators “AND”, “OR”, and “AND NOT” for building search strategies in the different databases.

The review was done independently by two pairs of evaluators. Disagreements were resolved by consensus. At first, duplicate studies were excluded. Then, the four reviewers evaluated the titles and abstracts from the previous phase and sent the remainder for full article analysis, totaling twenty articles for eligibility assessment. Eight articles that did not meet the criteria were excluded after the full articles were analyzed, leaving twelve for the final analysis. To characterize the articles selected for the review, the following information was extracted: year, design (quantitative or qualitative), instruments, sample, location, modality, and competitive level.

For the analysis of the twelve selected articles, the studies were initially characterized by the frequency (absolute and relative) of the total number of studies identified. The principles of the categorical content analysis technique were used for data analysis and interpretation (Bardin, 2011). The process followed three stages: pre-analysis, by reading the texts included; exploration

of the material, by identifying and aggregating into analysis units; and treatment of the results, so that the data were organized into categories to present the themes that prevailed in the research associated with passion and basic psychological needs in sports for athletes. Three categories were found: positive emotional aspects, negative emotional aspects, and physical aspects.

Results

A total of 338 articles were found across the 8 databases searched (Figure 1). After screening, 12 articles were selected for the final analysis of the systematic review, considering the inclusion and exclusion criteria.

Figure 1
Flowchart of the articles selected for final analysis of the systematic review

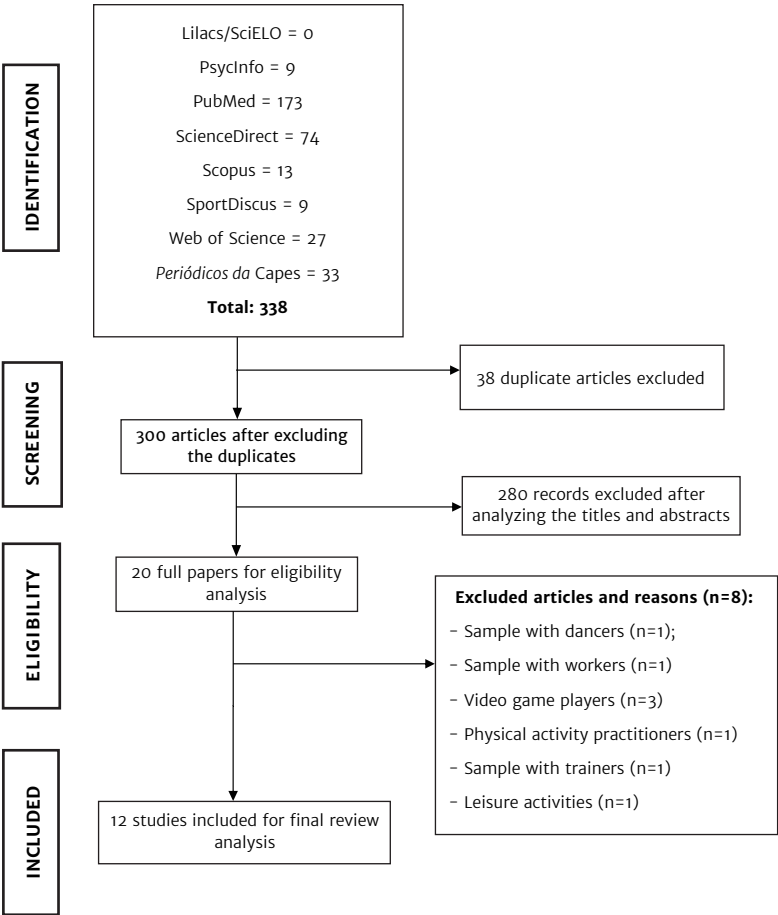


Table 1 presents the characteristics, methods, instruments, and samples of the 12 articles included in the systematic review. It should be noted that the articles were distributed in the table based on their date of publication (oldest to most recent). The 12 studies (100%) were published in the last ten years. The authors used a quantitative method in 100% of the studies: 10 (83.3%) cross-sectional and 2 (16.7%) longitudinal.

Regarding data collection, the instruments used were scales validated in 100% of the studies. The Passion Scale (n=12, 100%) was the primary instrument used to evaluate passion. Regarding the assessment of basic psychological needs, six studies (n=50%) used separate subscales to analyze the three dimensions of BPN (autonomy, competence, and relationship). The subscales used to assess autonomy were Basic Psychological Needs Satisfaction^{1,3,8,10} and the Perceived Autonomy in Life Domains Scale^{5,9}. To identify competence, the instruments used were the Perceived Competence Subscale of the Intrinsic Motivation^{1,3,8,10} and the *Perceived Competence in Life Domains Scale*^{5,9}. Finally, the relationship dimension was assessed using the Perceived Relatedness Scale^{1,3,4,8,10} and the adapted Basic Psychological Needs Scale in Sport⁹.

Six other studies used a single instrument to assess the three dimensions of basic psychological needs. Thus, the instruments used were the Basic Psychological Needs Scale^{2,6} (n=2, 16.66%), the questionnaire adapted from the Basic Psychological Needs Scale⁴ (n=1, 8.33%), the Basic Psychological Needs Satisfaction in Sport Scale (BPNSS)^{7,12}, and the Intrinsic Motivation Inventory¹¹.

The total number of participants in the research was 3,400, and the samples included 91¹² to 598⁵ subjects. It was verified that 10 (83.33%) studies were conducted only with athletes, 1 (8.33%) investigated student-athletes, and 1 (8.33%) was conducted with paralympic athletes. Regarding subject characterization, 6 (50%) studies included both male and female athletes, and another 6 (50%) included only male athletes. The subjects' ages ranged from 12 to 59 years.

It was observed that 6 (50%) surveys were conducted in Europe and another 6 (50%) in North America. As for the modalities practiced, 8 (66.7%) studies were conducted with collective modalities and 4 (33.3%) in both modalities (individual and collective). Regarding the levels of the athletes, it was found that 8 (66.7%) studies were with athletes of a national level, 2 (16.7%) studies with athletes of various levels (club, beginners, municipal, county, regional, national, and international), 1 (8.3%) with athletes of international level, and 1 (8.3%) did not specify the level of the athletes.

Table 1

Research designs and characteristics of study samples associated with Passion and Basic Psychological Needs in athletes

Studies	Design	Instruments	Sample	Age	Location	Modality	Level
Curran et al. (2013) ¹	Quantitative (Cross-sectional)	Passion Scale; Basic psychological needs satisfaction; Perceived Competence subscale of the Intrinsic Motivation; Perceived Relatedness Scale; Athlete burnout;	173 athletes Male	13 – 18 M=15.46±1.47 years	United Kingdom	Soccer	National
Lalande et al. (2015) ²	Study 3 Quantitative (Cross-sectional)	Need Satisfaction inside the Activity, Basic psychological needs satisfaction outside the Activity; Passion Scale; Satisfaction With Life; Burnout	193 athletes Male and female	M=16.78±2.77 years	USA	Basketball	–
Chamorro et al. (2016) ³	Quantitative (Cross-sectional)	Importance of future achievements in different life domains; Passion Scale; Behavioral Regulation in Sport Questionnaire; Basic psychological needs satisfaction; Perceived Competence subscale of the Intrinsic Motivation; Perceived Relatedness;	478 athletes Male	15 – 19 M=17.42±0.70 years	Spain	Soccer	National
Verner-Filion et al. (2017a) ⁴	Quantitative Study 1 (Cross-sectional)	Passion Scale; Questionnaire adapted from Basic psychological needs satisfaction; Deliberate practice from asking; Satisfaction With Life; Performance Scale;	172 athletes Male and female	M=14.61±1.63 years	Canada	Soccer	National
Verner-Filion et al. (2017b) ⁵	Study 2 Quantitative (Longitudinal)	Passion Scale; Achievement Goals Scale; Questionnaire adapted from Basic psychological needs satisfaction; Deliberate practice from asking; Satisfaction With Life; Performance;	598 athletes Male	M=16.56±1.41 years	Canada	Hockey	National
Verner-Filion and Vallerand (2018) ⁶	Quantitative (Longitudinal)	Passion Scale; Basic Psychological Needs Scale; Positive and Negative Affect Scale; Satisfaction With Life Scale; Quality of Preparation Scale; Performance Questionnaire;	116 athletes Male	12 – 24 M=16.02±2.59 years	USA	Soccer	National
Kent, Kingston and Paradis (2018) ⁷	Quantitative (Cross-sectional)	Passion Scale; Basic Psychological Needs Satisfaction in Sport Scale; Athlete Burnout Questionnaire;	120 athletes Male and female	M=22.04±5.83 years	United Kingdom	Athletics, Soccer, Rugby, Netball, and Hockey	Club, County, Regional, National, and International

(continue)

Table 1
Research designs and characteristics of study samples associated with Passion and Basic Psychological Needs in athletes (continued)

Studies	Design	Instruments	Sample	Age	Location	Modality	Level
Chamorro et al. (2020) ⁸	Quantitative (Cross-sectional)	Basic psychological needs satisfaction; Perceived Competence Subscale of the Intrinsic Motivation; Perceived Relatedness; Behavioral Regulation in Sport Questionnaire; Passion Scale;	478 athletes Male	15 – 19 M=17.43±0.71 years	Spain	Soccer	National
Lopes and Vallerand (2020) ⁹	Study 2 Quantitative (Cross-sectional)	Passion Scale; Perceived Autonomy in Life Domains Scale; Perceived Competence in Life Domains Scale; Basic Psychological Needs Scale in Sport; Need satisfaction in the second activity; Conflict Questionnaire adapted; Athlete Burnout Questionnaire;	316 athletes Male and female	M=39.00±12.37 years	Canada	Cycling, Triathlon, Swimming, and other sports	Beginner, Municipal, Regional, National, and International
Chamorro et al. (2021) ¹⁰	Quantitative (Cross-sectional)	Basic Psychological Needs Satisfaction; Perceived Competence subscale of the Intrinsic Motivation; Perceived Relatedness Scale; Reflective Learning Continuum; Passion Scale (adapted for soccer); Sport Anxiety Scale-2;	478 athletes Male	16 – 19 M=17.42±0.70 years	Spain	Soccer	National
Yukhymenko-Lescroart (2021) ¹¹	Quantitative (Cross-sectional)	Intrinsic Motivation; Passion Scale; Academic and Athletic Identity Scale; Psychological Needs;	187 student-athletes Male and female	–	USA	Collective and Individual	National
Rodrigues et al. (2022) ¹²	Quantitative (Cross-Sectional)	Basic Psychological Need in Exercise Scale; Passion Scale; Life Satisfaction Scale;	91 paralympic athletes Male and female	15 – 59	Portugal	Individual and Collective	International

Note. Developed by the authors.

After extracting the data from the selected studies, the main variables associated with passion and basic psychological needs in sports were identified (Table 2). The most frequent themes were recorded and categorized through content analysis, resulting in three categories: Positive Emotional Aspects (n=7; 53.84%), Negative Emotional Aspects (n=3; 23.07%), and Physical Aspects (n=3; 23.07%), totaling 13 variables. The frequency of the variables identified in the groups was also analyzed. It was found that life satisfaction (n=4; 17.3%), burnout (n=4; 17.3%), and performance (n=3; 13%) were the variables that appeared most frequently in studies that met the eligibility criteria.

Table 2

Indicators associated with passion and basic psychological needs in sports for athletes

INDICATORS ASSOCIATED WITH PASSION AND BASIC PSYCHOLOGICAL NEEDS		Variable frequency f (%)	Study reference number
Positive Emotional Aspects	Life satisfaction	4 (17.3)	2, 4, 5, 12
	Motivational regulations	2 (8.69)	3, 8
	Achievement of goals	1 (4.34)	5
	Affection	1 (4.34)	6
	Reflection	1 (4.34)	10
	Athletic and academic identity	1 (4.34)	11
	Intrinsic Motivation	1 (4.34)	11
Negative Emotional Aspects	Burnout	4 (17.3)	1, 2, 7, 9
	Disruption of Concentration	1 (4.34)	10
	Conflicts between sport and other domains of life	1 (4.34)	9
Physical Aspects	Performance	3 (13)	4, 5, 6
	Deliberate practice	2 (8.69)	4, 5
	Quality in preparation	1 (4.34)	6
	TOTAL	23 (100)	

Discussion

This study provides a systematic review of the literature on the associations between passion and basic psychological needs in the sports context for athletes. To the best of our knowledge, this is the first study to systematically review the literature on these variables in athletes. To date, only one study has investigated the relationships among passion, motivation, and subjective well-being in sports. Bento et al. (2024) analyzed 12 studies and found that harmonious passion and autonomous motivation are positively associated with subjective well-being, including greater life satisfaction and positive affections. On the other hand, obsessive passion and controlled motivation are negatively associated with well-being, and may contribute to negative affects and lower life satisfaction.

However, 12 studies met the eligibility criteria for the present study. Three categories emerged from the content analysis: positive emotional aspects, negative emotional aspects, and physical aspects (Table 2).

Positive Emotional Aspects

According to the analysis of the studies that met the eligibility criteria, harmonious passion and satisfaction of basic psychological needs (autonomy, competence, and relationship) seem to be positively associated with the variables that contribute to sports performance in athletes (life satisfaction, motivational regulations, goal achievement, affection, athletic identity, academic identity, and intrinsic motivation) (Table 2).

It was found that the variable life satisfaction was reported more frequently in the studies analyzed under the category of positive emotional aspects (Table 2). In research by Lalande et al. (2015) involving North American basketball athletes, harmonious passion, mediated by satisfaction of basic psychological needs, predicts life satisfaction. Thus, the results suggest that being harmoniously passionate about your sports practice can contribute to athletes' psychological well-being and elicit positive emotions.

Verner-Filion et al. (2017) investigated the mediating role of basic psychological needs satisfaction in the relationship between passion, life satisfaction, deliberate practice, and performance in soccer athletes. The results showed that satisfaction of basic psychological needs mediates the relationship between harmonious passion and life satisfaction. In addition, the findings revealed that satisfaction of basic psychological needs does not mediate the relationship between obsessive passion, life satisfaction, and performance.

Another study by Verner-Filion et al. (2017) with male hockey athletes sought to examine whether satisfaction of basic psychological needs, mediated by the relationships among passion, life satisfaction, goal achievement, and deliberate practice, could predict performance over several years of an athlete's career. The authors found that harmonious passion was related to goal-achievement types, which in turn influenced athletes' satisfaction with their basic psychological needs. Moreover, BPN satisfaction was associated with high levels of life satisfaction.

Rodrigues et al. (2022) examined the role of basic psychological needs and passion in life satisfaction in Portuguese paralympic athletes. The results revealed that harmonious passion had a positive impact on life satisfaction. On the other hand, only the need for competence had an indirect effect on life satisfaction, through harmonious passion. In summary, studies indicate that harmonious passion, related to the satisfaction of basic psychological needs, contributes to life satisfaction among athletes and, consequently, to healthy psychological well-being. On the other hand, obsessive passion was not associated with life satisfaction, indicating that being obsessively passionate can impair life satisfaction levels in sports.

Motivational regulation was another variable observed in studies related to positive emotions (Table 2). The evidence points out that autonomous motivation had positive relationships with both types of passions (harmonious and obsessive) and BPN (autonomy, competence, and relationship), indicating that the feelings of satisfaction and pleasure derived from the individual's own behavior in practicing their modality can lead to an increase in the levels of harmonious and obsessive passion, as well as satisfaction of BPN. Moreover, the findings indicate that controlled motivation contributes to obsessive passion in sports (Chamorro et al., 2016; Chamorro et al., 2020).

Negative Emotional Aspects

According to the present study's findings, the primary negative emotional aspect among athletes in sports was burnout (Table 2). Curran et al. (2013) examined the mediating role of satisfaction with basic psychological needs in the relationship between types of sports passion

and burnout among American soccer athletes. The results indicated that harmonious passion and basic psychological needs were negatively associated with all dimensions of burnout, whereas obsessive passion was negatively associated only with the reduced dimension of feelings of accomplishment. The authors also found that satisfaction of basic psychological needs (autonomy, competence, and relationship) mediated the relationship between harmonious passion and athlete burnout. On the other hand, there was no evidence that obsessive passion mediated athlete burnout.

Lalande et al. (2015) analyzed the associations between passion, basic psychological needs, life satisfaction, and burnout in basketball athletes. The results showed that obsessive passion appears to contribute positively to athletes' burnout and negatively to the satisfaction of basic psychological needs.

Lopes & Vallerand (2020) studied Canadian athletes across various modalities and found that harmonious passion was negatively associated with athletes' perceptions of burnout, whereas obsessive passion was positively associated with these perceptions. In addition, the results indicated that harmonious passion was positively associated with satisfaction of basic psychological needs and negatively associated with conflicts between sport and other aspects of life. Finally, BPN satisfaction was negatively associated with burnout, whereas conflict was positively associated with athletes' perceptions of burnout.

In summary, the findings indicated that harmonious passion and satisfaction of basic psychological needs were negatively associated with athletes' perceptions of burnout. On the other hand, obsessive passion seems to contribute to burnout. Therefore, the type of involvement (harmonious or obsessive) of individuals with sport plays an important role in athlete burnout. This occurs due to the training load, which can lead to decreased self-esteem, reduced feelings of accomplishment, and both emotional and physical exhaustion (Curran et al., 2013; Lalande et al., 2015; Kent et al., 2018; Lopes & Vallerand, 2020).

Physical Aspects

In the physical aspects category, the variables with the strongest evidence for passion and basic psychological needs were performance and deliberate practice (Table 2). Studies indicate that deliberate practice is characterized by highly structured training, focused especially on improving specific skills. It should also be noted that it can be an essential factor in sports performance. The studies found positive associations between passion (harmonious and obsessive) and basic psychological needs, and between these and deliberate practice. In addition, it was found that satisfaction of basic psychological needs mediates the relationship between harmonious passion, deliberate practice, and sports performance (Verner-Fillion et al., 2017).

Verner-Fillion & Vallerand (2018) conducted a study with youth soccer athletes to examine individual variations in the optimal functioning of athletes (positive and negative affect, athletic satisfaction, quality in preparation, and performance) as a function of the types of passion and basic psychological needs over three competitive seasons. The results revealed that

variations in harmonious passion and satisfaction from competence were positively related to the quality of individual athletes' preparation, which, in turn, was associated with increases in performance over time.

In contrast, variations in obsessive passion and changes in autonomy and relationship satisfaction were not associated with the quality of preparation. Thus, the findings suggest that the harmonious passion and satisfaction of BPN, especially the need for competence, play a crucial role not only in distinguishing athletes from their optimal functioning but also in their continued development of psychological well-being and performance over time.

Although this systematic review aimed to systematize studies on passion and basic psychological needs, it presents some limitations that must be considered. This review was intended to cover only studies involving athletes. Thus, the literature on coaches and practitioners of physical activity was not included; this area warrants investigation in future research. Another limitation concerns the language restriction, which addresses only studies in Portuguese, English, or Spanish. Research in other languages was excluded due to the difficulty of translation and coherent data extraction, which may be another aspect to consider in future research.

In addition, the systematic review was not registered on platforms such as PROSPERO due to the thematic limitations of this database, which does not accept reviews outside the clinical scope, as well as the interdisciplinary nature of the theme, located between Physical Education, Sports, and Sports Psychology. In addition, the methodological quality assessment and risk-of-bias analysis of the included studies were not performed, which limits the ability to judge the evidence's robustness and consistency. Despite these limitations, all stages of search, selection, and synthesis were conducted systematically and transparently, following widely used guidelines in the field.

The evidence obtained in the present study provides directions for future research to improve knowledge about the contributions of passion and basic psychological needs to the development of athletes in individual and collective modalities, as well as to understand the importance of psychological factors in the promotion and psychosocial development of athletes. First, regarding the design of the studies, most were cross-sectional, with little temporal (longitudinal) component in the variables. A second point concerns the geographical distribution of the studies, as the research focused only on North America and Europe.

Another aspect concerns the assessment of basic psychological needs, for which the studies focused only on satisfaction rather than on frustration. Thus, it is suggested that research be conducted in this context to identify possible relationships among passion, satisfaction, and frustration regarding basic psychological needs in both individual and collective modalities. This considers temporal and cultural aspects, analyzes the relationship between passion and basic psychological needs, as well as other constructs such as well-being, and investigates these variables across other continents.

Final Considerations

To summarize the studies on the associations between passion and basic psychological needs in sports among athletes, this research found that these variables are related to positive and negative emotional aspects and physical aspects, indicating that positive emotional aspects related to life satisfaction and motivational regulation are of great interest to researchers. Specifically in sports, athletes who are harmoniously passionate and satisfied with their basic psychological needs tend to be more satisfied with life and more intrinsically motivated. On the other hand, individuals who are obsessive tend to experience reduced life satisfaction and exhibit controlled motivation toward sports practice, which in turn reinforces the conceptual hypotheses of the present study.

Burnout was the variable most strongly associated with negative emotional outcomes in studies of athletes, indicating that harmonious passion and satisfaction of basic psychological needs are negatively related to feelings of exhaustion. On the other hand, obsessive passion seems to contribute positively to the emergence of burnout.

This study aimed to systematically review the literature on the association between passion and basic psychological needs in sports among athletes; therefore, it concludes that harmonious passion and satisfaction of basic psychological needs are associated with athletes' performance. Both harmonious and obsessive passion, as well as basic psychological needs, are related to deliberate practice. What's more, variations in harmonious passion and feelings of competence appear to contribute to performance over time.

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