MOTIVATION AND THE STATE OF FLOW IN INDIVIDUAL AND TEAM SPORTS ATHLETES: a systematic review

MOTIVAÇÃO E O ESTADO DE FLOW EM ATLETAS DE MODALIDADES INDIVIDUAIS E COLETIVAS: uma revisão sistemática

Vanessa Guandalini Gasparin[1]
Hugo de Alencar Ipolito
Igor Fabricio dos Santos Oliveira
Alany Gabrielli Leite
Caroline Carneiro Xavier
Lenamar Fiorese
Luciane Cristina Arantes

Abstract
The aim of this study was to conduct a systematic literature review of studies that investigated the variables of motivation and flow state in individual and team sports. Searches were conducted in the electronic databases Scopus, Sport Discus, PubMed, PsycINFO, Science Direct, Scielo, Lilacs, and Web of Science. The review included 13 studies published up to the year 2025; the selected studies were published from 1998 to 2025, using quantitative (84.6%), qualitative (7.7%), and both analyses (7.7%). Among the instruments, 92.3% of the studies used validated questionnaires and 7.07% used interviews. The samples included athletes of both sexes, representing individual and team sports, participating in various competitive levels such as municipal, regional, national, and international. The results indicated that motivation and flow state were associated with emotional aspects (anxiety, quality of experience, self-efficacy, relaxation, goal orientation, perceived sports ability, classification of challenges and skills) and personal aspects (perception of success, autonomy, apathy, goal identification, achievement, affiliation, competence, and power). It is concluded that the variables motivation and flow state show a positive relationship and support the idea that autotelic personality is a factor that determines individual experiences of flow state. Another relevant finding is that the experience of flow state had positive associations with extreme sports, suggesting that athletes who practice these sports can experience flow. It was also possible to verify that sporting situations that satisfy the basic psychological needs of competence are more associated with flow state, thus demonstrating the relationship between intrinsic motivation and flow state in sport.
Keywords: Motivation; Flow state; Individual modalities; Collective modalities.

Resumo
O objetivo do estudo foi conduzir uma revisão sistemática da literatura dos estudos que investigaram as variáveis motivação e estado de flow em modalidades individuais e coletivas. As buscas foram conduzidas nas bases de dados eletrônicas Scopus, Sport Discus, PubMed, PsycINFO, Science Direct, Scielo, Lilacs e Web of Science. A

[1] Universidade Estadual de Maringá - UEM. Programa Associado de Pós-Graduação em Educação Física UEM-UEL. Grupo de Estudos de Psicologia do Esporte e Desempenho Humano (GEPEDH). Maringá-PR. E-mail: vggasparin@gmail.com

revisão incluiu 13 estudos publicados até o ano de 2025, os estudos selecionados foram publicados de 1998 a 2025, utilizando-se de análises quantitativas (84,6%), qualitativas (7,7%), e ambas as análises (7,7%). Dentre os instrumentos, 92,3% dos estudos utilizaram questionários validados e 7,07% de entrevistas. As amostras contemplaram atletas de ambos os sexos, representantes de modalidades individuais e coletivas, participantes de diversos níveis competitivos como municipais, regionais, nacionais e internacionais. Os resultados apontaram que a motivação e o estado de flow estiveram associados a aspectos emocionais (ansiedade, qualidade da experiência, autoeficácia, relaxamento, orientação para objetivos, habilidade esportiva percebida, classificação de desafios e habilidades) e aspectos pessoais (percepção de sucesso, autonomia, apatia, identificação da meta, realização, afiliação, competência e poder). Conclui-se que as variáveis motivação e estado de flow apresentam uma relação positiva e sustentam que a personalidade autotélica é um fator que determina as experiências individuais do estado de flow. Outro achado relevante, é que a experiência do estado de flow teve associações positivas com os esportes radicais, entendendo que os atletas que praticam essas modalidades esportivas podem vivenciar as experiências de fluência. Também foi possível verificar que as situações esportivas que satisfazem as necessidades psicológicas básicas de competência estão mais associadas ao estado de flow, demonstrando assim, a relação entre a motivação intrínseca e o estado de flow no esporte.
Palavras-chave: Motivação; Estado de flow; Modalidades individuais; Modalidades coletivas.

1 INTRODUCTION

In the sports context, research has focused on psychological variables such as achievement, affiliation, power, basic psychological needs (BPN), perceived sports ability, and quality of experience (Schuler; Brandstatter, 2013; Kowal; Fortier, 1999; Schuler; Wegner, 2014; Jackson *et al*., 1998; Fave; Bassi; Massimini, 2003) that involve athletes seeking performance improvements. Regarding motivation, this research seeks to understand the reasons that lead athletes to engage in and remain in sports; these reasons are considered intrinsic and/or extrinsic to the athletes.

We consider intrinsic motivation to be when it comes from within the individual, from their inherent satisfactions, and extrinsic when it is related to the environment in which the athlete is inserted (Frederick; Ryan, 1993; Ryan; Deci , 2000).

The study conducted by Molanorouzi, Khoo and Morris (2015) identified a distinction in motivation between team and individual sports, stating that team sports primarily use affiliation with a team as the main motivator. In individual sports, specifically running, bowling, and racquet sports, the primary motivation is enjoyment.

These intrinsically motivated athletes often seem to have their full attention focused on the sport being practiced.

We understand that this total focus on the sport can be the state of flow, understood as a state in which the athlete is completely involved in the activity performed, in such a way that they are not aware of themselves during the process, as if they were separate from the actions performed, highlighting the experience in the activity (Csikszentmihalyi, 2020). This state of complete involvement, according to Weinberg and Gould (2017), occurs when their challenges and abilities are equal. Flow can intensify the performance of athletes in both team and individual sports (Biasutti; Philippe, 2023).

As pointed out in the literature, participation in positive experiences, such as the flow state, favors the athlete's intrinsic motivation, since it allows the athlete to experience pleasure and satisfaction in performing the activity (Massarella; Winterstein, 2009). The importance of the flow state and motivation being studied together is understood, considering that they can maximize athletic performance and improve well-being, as well as enabling a better understanding of the factors that influence success in the sporting context.

The literature is limited when it comes to studies related to the flow state in the sports context, indicating that investigations into the relationship between flow and psychological factors should make the correlation between this state and physical activity more understandable (Jackson *et al*., 1998; Massarella; Winterstein, 2009; Vieira *et al*., 2011).

Therefore, it becomes relevant to investigate these variables in order to understand the relationship between them. Systematic reviews on the topics were found in the literature in isolation, but, within the scope that could be ascertained, no review studies were found that bring together and investigate the intervening factors in the relationship between flow state and motivation in the sports context.

The intention of conducting a systematic review is to understand the selected variables in order to visualize what has been researched, thus defining the best path for the continuation of the dissertation.

Furthermore, the search for relevant results is considered so that coaches, athletes, and the entire sports community can better understand the elements that can aid performance, since greater experience of the flow state leaves the athlete more intrinsically motivated. In this sense, the objective of the present study was to

systematically review scientific publications and understand the aspects of the relationship between the flow state and motivation in individual and team sports.

2 METHODS

2.1 Protocol

This systematic review used the Preferred protocol. Reporting Items for Systematic Review and Meta- Analyses (PRISMA), which aims to assist researchers in preparing their systematic review reports (Moher). *et al*., 2009). In accordance with PRISMA recommendations, the search for articles was divided into four phases: identification, selection, eligibility, and inclusion. The identification phase consisted of identifying articles through searches in the selected databases.

In the selection phase, the titles and abstracts of the articles were analyzed. Duplicate articles were excluded, and the number of selected articles was specified. In the eligibility phase, using pre-determined criteria, the number of excluded articles and the reasons were specified. In the final phase, the inclusion phase, articles from other search sources were added, and the final number selected for the systematic review was specified. No specific time frame was determined for the searches.

2.2 Eligibility Criteria

flow state of athletes in team sports and/or individual sports; b) articles published in English or Portuguese with no date limit; and c) original articles available in full.

The following were excluded: a) review articles, conference abstracts, book chapters, theses and dissertations; b) articles on the development or validation of instruments; c) articles that were not available in full; d) articles that did not address both variables.

2.3 Information and Search Database

The searches were conducted in eight databases: Scopus, Sport Discus, PubMed, PsycINFO, Science Direct, Scielo, Lilacs and Web of Science, without date restrictions, in August and September 2025.

The search terms used were: “Flow State” OR “Flow Experience” OR “Flow Feeling”, “Motivation” OR “Self- Determination”. The search terms “Theory”, “Sports” OR “Individual Sports” OR “Collective Sports” were used, employing the Boolean operators AND, OR, and NOT, along with quotation marks and parentheses, to develop search strategies in the databases used. The terms were selected from an initial survey to choose the best terms for the search.

2.4 Selection of Studies

The selection of studies was carried out independently by two pairs of reviewers based on the results obtained from searches in the databases. The steps were as follows:

Stage/screening 1 – The titles and abstracts of the articles were analyzed to verify the existence of keywords; those that generated indecision were analyzed by a third reviewer for the decisive opinion;

Stage/screening 2 – more detailed evaluation of the full text of the articles selected for this phase; those that generated indecision were analyzed by a third reviewer for the decisive opinion.

2.5 Data Extraction

After the final selection of studies, the following data were extracted by a single reviewer: authors and year of publication, objective, location (country), population/sample, instrument used, variables assessed, and modality.

2.6 Data Analysis

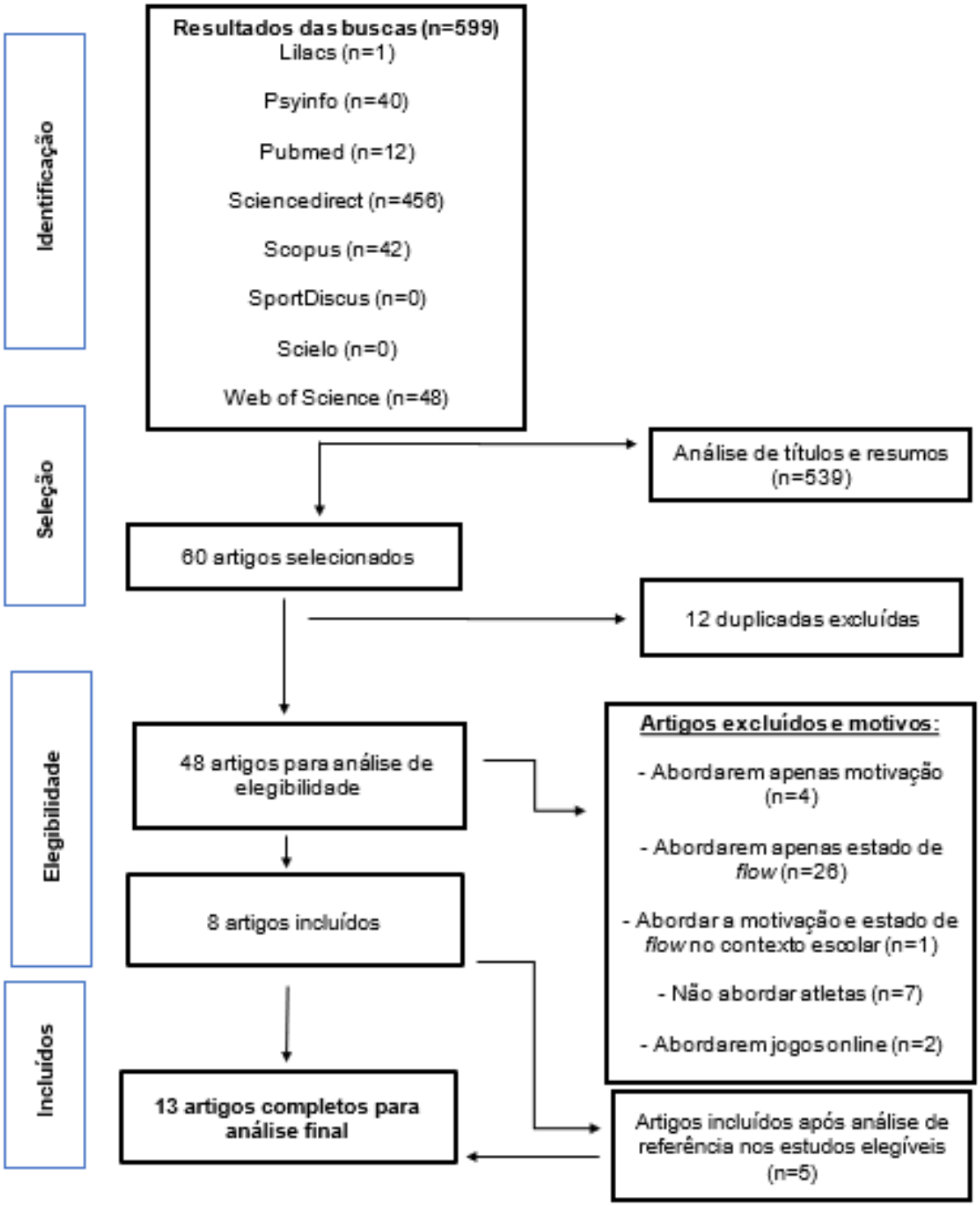
The analyses were performed in pairs, and absolute and relative frequencies were calculated for the following data: authors and year of publication, objective, location (country), population/sample, instrument used, variables evaluated, and modality. A content analysis of the selected articles was also conducted (Bardin, 2016).

3 RESULTS

Through search strategies, 599 articles were found in the first stage. In the initial screening, 539 were excluded due to their titles and abstracts, and 60 were selected. After excluding duplicates, 48 articles remained for the eligibility stage.

In the second screening, after applying the eligibility criteria, 8 articles were included for analysis, and based on the references, another 5 articles were included for the final analysis, totaling 13 articles to be analyzed (Figure 1).

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



Source: Prepared by the authors, 2025

3.1 Characteristics of the Studies

3.1.1 Research methods

Tables 1 and 2 present the characteristics of the 13 studies identified in the systematic review, such as study type (authors and year), objective, location, population/sample, data collection instrument, variables assessed, and modalities. It was observed that 76.9% (n=10) of the studies were published between 2009 and 2025, and only 23% (n=3) between 1998 and 2003 (Jackson *et al*., 1998; Kowal; Fortier, 1999; Fave; Bassi; Massimini, 2003). The researchers predominantly used the quantitative method (n=11; 84.6%). One study (n=1; 7.7%) used the qualitative method, and only one study used both methods (n=1; 7.7%).

Regarding data collection, the instruments used were validated questionnaires (n=12; 92.3%) and semi-structured interviews (n=1; 7.07%). The main instrument used to assess motivation was the SMS (Sport Motivation) questionnaire. Scale) (n=5; 38.4%) and, for the flow state, it was the Flow Short Scale (n=5; 38.4%) (Tables 1 and 2).

Table 1 – Research design and sample characteristics of studies involving motivation and flow state in individual modalities

Authors (year)	Objective	Local	Population/Sample	Instrument used	Variables evaluated	Modality(ies)
Jackson *et al.* (1998) [1]	Examine possible correlates psychological flow in a sample of older athletes	Australia, New Zealand and United States	398 athletes in swimming, triathlon, and cycling. and athletics	*SMS – Sport Motivation Scale* *Perception of Success Questionnaire* *Perceived Sport Ability Sport Anxiety Scale (SAS)* *Flow Scale (TFS)* *Perceived Success Ratings of Challenges and skills*	Intrinsic/Extrinsic Motivation, *Flow Experience,* Goal Orientation, Skill sports perceived anxiety, competitive trait, perception of success, ranking of challenges and skills.	Individual Swimming, Triathlon, Cycling and Athletics
Kowal, Fortier (1999) [2]	Examine the relationship between different types of situational motivation and flow; evaluate the relationship between situational determinants. of motivation (NPB) and the experience of this psychological state	Canada	203 athletes of swimming (105 men and 98 women)	Adaptation of *autonomy items perceptions in life contexts scale* Adaptation of the *Situational Motivation scale* *Flow State Scale (FSS*)	Autonomy, intrinsic motivation, extrinsic motivation, demotivation, experience. of *flow*	Individual - Swimming

Continuation

Authors (year)	Objective	Local	Population/Sample	Instrument used	Variables evaluated	Modality
Fave, Bassi and Massimini (2003) [3]	Investigate the quality of the experience. and perception risk associated with climbing in mountaineers	India	6 men Italian mountaineers	ESM Model of Fluctuation of Experience	Motivation intrinsic, quality of experience, anxiety, apathy, relaxation	Individual Climbing
Massarella, Winterstein (2009) [4]	Identify in practitioners of race of road, which the underlying reasons for choosing this activity	Brazil	10 practitioners street race (6 men and 4 women)	Semi-structured interview	Motivation Intrinsic and extrinsic, *Flow experience*	Individual - Race
Schüler, Brunner (2009)[5] Study 1, 2 and 3	Study 1- explore the Flow rate during a marathon Study 2 - Replicate the results of study 1, suggesting what the flow It's related to future motivation for running, but not to performance in the race itself. Study 3 - Measuring flow during the training, pre-workout and the performance in race	Germany Switzerland	Study 1 – 112 marathon runners (36 women and 76 men) Study 2 – 109 marathon runners (19 women and 90 men) Study 3 – 65 marathon runners (men)	*Flow Short Scale* Future motivation for running was assessed. in 3 items (Study 1) Future motivation was assessed with you 3 initial items plus 3 additional items (Study 2)	Study 1 - Sports motivation Study 2 - Future motivation and experience of *flow*	Individual Marathon

Continuation

Authors (year)	Objective	Local	Population/Sample	Instrument used	Variables evaluated	Modality
Schuler (2010) [6] Study 1	To understand the experience flow when considering simultaneously personal issues (motivational incongruence) and situational factors (incentives).	Germany	127 athletes badminton (83 men and 44 women)	*Multi-Motive Grid (MMG)* *Flow Short Scale*	Reasons for carrying out the project Implicit, intrinsic, and extrinsic, the experience of *flow* .	Individual Badminton
Vieira *et al.* (2011)[7]	Investigate the prevalence of the flow state in climbers and *downhill skaters*	Brazil	22 climbing athletes of Artificial wall and 15 *downhill skate ramps*	SMS – *Sport Motivation Scale* Perception of achievement from the A task sheet was created. Three questions to identify the goal	Motivation sports, perception of achievement from the task, level of difficulty, skill, and identifying the goal.	Individual - Climbing and *downhill* skateboarding

Continuation

Authors (year)	Objective	Local	Population/Sample	Instrument used	Variables evaluated	Modality
Schüler, Brandstätter (2013) [8] Study 1 and 4	To analyze the interaction between The satisfaction of psychological needs and motivations in sport.	Germany Switzerland	Study 1 - 61 men and 33 women athletes badminton Study 4 – 262 athletes in cycling, running, rowing and volleyball	*Multi-Motive-Grid* (realization, affiliation and power) 3-item scale developed by the authors (competence) *Flow Short -Scale*	Realization, affiliation, power, competence and the experience of *flow*	Individual/ Team – Badminton, running, rowing, cycling and volleyball
Schüler, Wegner, Knechtle (2014) [9] Study 1 (Pilot) Study 2	Investigate whether the motives interact with the need for competence and the need of Social relationship satisfaction, respectively, to predict flow experience and well-being in extreme endurance athletes.	Germany, Switzerland and Austria	Study 1 – 29 ultra-endurance athletes (long-distance runners, triathletes, long-distance cyclists), 24 men and 5 women Study 2 – 93 long-distance runners (73 men and 20 women)	*Picture Story Exercise* *Sheldon and Hilpert's Balanced Measure of Psychological* Needs Scale *Flow Short Scale*	Realization implicit, affiliation, NPB, *flow experience*	Individual – Running, triathlon and cycling
Mouelhi-Guizani *et al* . (2023) [10]	To study the effect of gender on motivation and flow state. To evaluate the relationship between different types of motivation and the flow experience.	Tunisia	94 elite junior tennis athletes (44 boys and 50 girls)	*French flow state scale-2 (FSS-2)* *Sport Motivation Scale (SMS)*	Motivation and flow state	Individual – Tennis

Source: Prepared by the authors, 2025

Table 2 – Research design and sample characteristics of studies involving motivation and *flow state* in team sports.

Authors (year)	Objective	Local	Population/Sample	Instrument used	Variables evaluated	Modality
Turksoy, Altinci, Uster (2015)[1]	Examine the relationship between the motivation and the dispositional flow state among soccer players aged 12 to 16 years	Türkiye	125 athletes of soccer	SMS – *Sport Motivation Scale* *Dispositional Flow Scale-2* Form personal information	Motivation sports Intrinsic and extrinsic, *Flow experience*	Collective - Soccer
Schüler, Brandstätter (2013)[2] Study 1 and 4	To analyze the Interaction between the satisfaction of psychological needs and motivations in sport.	Germany Switzerland	Study 1 - 61 men and 33 female badminton athletes Study 4 – 262 athletes in cycling, running, rowing and volleyball	*Multi-Motive-Grid* (achievement, affiliation) and power) Scale of 3 items developed by the authors (competence) *Flow Short -Scale*	Achievement, affiliation, power, competence, and experience of *flow*	Individual/ Team sports – Badminton, running, rowing, cycling and volleyball

Continuation

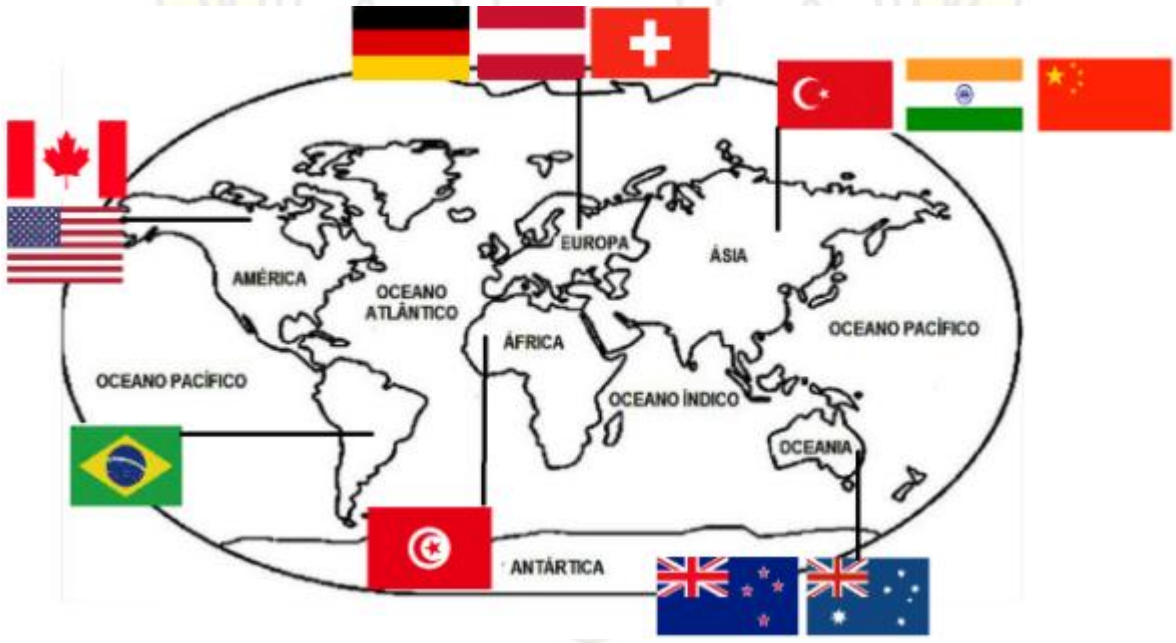
Li, Pan (2025)[3]	To explore the relationship between mood and flow state in soccer players and to clarify the mediating roles of psychological resilience and motivation for achievement in competitions.	China	296 male athletes and 92 female athletes	*Profile of mood state* *Smooth experience scale -2* *Connor Davidson resilience scale* *Achievement Motivation Scale*	Humor, flow state, resilience, and motivation	Press conference - Football

Source: Prepared by the authors, 2025

3.2 Sample characteristics

The total number of participants in the studies was 1,907, and the samples ranged from 6 to 398 subjects. Regarding gender, two studies investigated only males (n=2; 15.38%), while the others investigated both genders. Concerning the countries where the studies were conducted – noting that some studies were conducted in more than one country – we can see in Figure 2 that they were concentrated in Germany (n=4, 22.2%), Brazil (n=3; 16.6%), Switzerland (n=3; 16.6%), the United States (n=1, 5.5%), Australia (n=1, 5.5%), New Zealand (n=1, 5.5%), India (n=1, 5.5%), Austria (n=1, 5.5%), Turkey (n=1, 5.5%), Tunisia (n=1, 5.5%), and China (n=1, 5.5%).

Figure 2 - Mapping of the countries where the studies were conducted.



Source: Prepared by the authors, 2025

To the let's observe to the modalities, you studies they were performed with: badminton, running, cycling, rowing and volleyball (Schuler, 2010; Schuler; Brandstatter, 2013); marathon (Schuler; Brunner, 2009); running, triathlon and cycling (Jackson *et al*., 1998; Schuler; Wegner; Knecthle, 2014); climbing and *downhill skateboarding* (Vieira *et al.,* 2011), mountaineering (Fave; Bassi; Massimini, 2003); soccer (Turksoy; Altinci; Uster, 2015; Li; Pan, 2025); race (Massarella; Winsterstein,

2009); swimming (Kowal; Fortier, 1999); volleyball (Gomes *et al*., 2012) and tennis (Mouelhi-Guizani *et al.,* 2023).

It was observed that 69.23% (n=9) of the articles investigated only individual modalities and 7.7% (n=1) of the articles they analyzed modalities individuals and collectives. Among to the modalities collectives, the soccer and the volleyball they were investigated characterizing 23.07% (n=3) of the studies (Gomes *et al*., 2012; Schuler; Brandstatter, 2013; Turksoy; Altinci; Uster, 2015; Li; Pan, 2025). The most predominant sports were badminton, road running, triathlon, and cycling.

3.3 Variables and terms psychological associates the motivation and state of flow

After extracting the data from the selected studies, the main variables associated with motivation were identified, divided into emotional and personal aspects. and the state of *flow* node context sporty. In Table 3, they were The indicators associated with motivation and *flow* state in individual and collective modalities are presented, along with the absolute and relative frequency of occurrence of the variables.

Table 3 – Frequency of appearance of the indicators associates the motivation and the state of *flow* in individual and collective modalities

Indicators associates the motivation and the state flow		Frequency of occurrence of the variables in the individual modalities	Frequency of occurrence of the variables in the modalities collectives
Aspects Emotional	Anxiety	2 (11.76%)	-
	Quality from the Experience	1 (5.88%)	-
	Self-efficacy	-	1 (12.5%)
	Relaxation	1 (5.88%)	-
	Guidance to objectives	1 (5.88%)	-
Ability sports perceived		1 (5.88%)	1 (12.5%)

	Classification of challenges and skills	1 (5.88%)	-
	Perception of success	1 (5.88%)	-
	NPB	3 (17.64%)	1 (12.5%)
	Resilience	-	1 (12.5%)
Aspects	Apathy	1 (5.88%)	-
Personal	Realization	2 (11.76%)	1 (12.5%)
	Affiliation	2 (11.76%)	1 (12.5%)
	Power	1 (5.88%)	1 (12.5%)
	Humor	-	1 (12.5%)

Source: Prepared by the authors, 2025

4 DISCUSSION

It was found that, within the scope of the research, this is the first systematic study that seeks to understand the studies and knowledge gaps among published articles on motivation and *flow state* together in individual and team sports. Thirteen articles were identified, according to the inclusion and exclusion criteria. From the searches, this research shows itself to be pioneer in investigation of variables, emphasizing, like this, the relevance Similarly, the interconnection of variables maximizes athletic performance and helps to understand it better.

4.1 Behaviors from the Motivation and the State of *flow* in the individual sports

According to the results analyzed, a positive relationship is identified between motivation. intrinsic, i.e, internal reasons to individual that they take him the practice of a given activity and the greatest experiences of *flow state,* referring to the autotelic experience . As pointed out in the study by Kowal and Fortier (1999) with swimmers, intrinsically motivated (self-determined) athletes showed higher levels of *flow* state than those motivated by extrinsic motives.

You results obtained node study of Jackson *et al*., (1998) they go to the meeting From the results cited above, demonstrating that the relationship between psychological factors and the state of *flow* supports the idea that an autotelic personality may to be one factor what explains to the differences individuals to the propensity the experience of *flow.* Based on dispositional assessments, it is suggested that the perceptions successful Perceived ability and motivation are related to the state of *flow*, specifically to the dimensions of challenge-ability balance, sense of control, and autotelic experience. Among the variables, intrinsic motivation showed the strongest relationship with flow (Jackson *et al*., 1998).

The study by Fave and Massimini (2003), which aimed to investigate the quality of the flow experience and the risk perception associated with mountaineering, also demonstrated that intrinsic motivation is one of the essential components of the *flow state*. The mountaineers participating in the study chose to participate in the expedition, thus offering only internal rewards and no other rewards. external of form the to be associated the experience autotelic. The study by Vieira *et al*., (2011) which aimed to investigate the prevalence of flow state in practitioners of climbing and *skateboard downhill* also brings results consistent with The others demonstrated that the motivational level is an important factor for the *flow state*. Among the modalities investigated, it was identified that intrinsic motivation was the most present, in order to achieve objectives such as stimulating experiences and knowledge.

According to the study by Fave and Massimini (2003), which aimed to investigate the quality from the experience and perception of risk associated the climbing in mountaineers, it was identified what to assume risks no it was one objective, but one quite to to experience the *flow* . For climbers, due to individual abilities, it can be said what each time more they they will seek reasons autotelic, searching challenges more complex. The results also identify that the *flow state* is influenced by the objective of the activity and also presents personality traits.

The results obtained by Schuler (2010), in the study conducted with athletes of badminton, demonstrate what you reasons of incongruity (personality) They have negative effects in situations with a high degree of achievement incentive, confirming that you individuals with low incongruity of motivation of realization experience greater state of *flow* in the achievements. Those results indicate what the state Flow is complex, depending on factors such as personality, motivation, and other psychological variables.

Regarding sports, we can identify a similarity between individual sports and the variables of motivation and *flow state*, in which they were identified bigger motivations intrinsic to the individual, satisfaction of basic psychological needs and autotelic experience. As pointed out in the study by Massarella and Winterstein (2009), which identified that, for initiation into the sport, street runners were motivated extrinsically, however, for continuation in the same, affiliation motives, clear objectives and goals, and a tendency towards intrinsic motivation were identified. Similarly, in the study carried out by Vieira *et al*. (2011), performed with athletes of *skateboard downhill* you athletes of sports adventure, They are looking in your practice, in addition from the goal, satisfaction guys, pleasure, among other intrinsic reasons relating to the autotelic experience.

In the results obtained by Schuler and Brunner (2009), it was identified that marathon runners presented high levels of *flow experiences* during the race, resulting in one high motivation future to next races, understanding what one a high *flow* experience rewards the intrinsically motivated individual, leading to a desire to perform the activity again; we can also confirm this positive relationship in the study by Mouelhi-Guizani *et al*. (2023).

According to you results analyzed, he was identified what to the situations Sports that allow for the satisfaction of basic psychological needs for competence are more associated with a state of *flow*. However, when opportunities for these basic psychological needs are lacking, the experience of *flow* is lower than in athletes with low levels of achievement (Schuler; Brandstatter, 2013). Understanding what as more high you reasons of realization bigger you levels of flow experience in sports.

In the study by Schüler, Wegner and Knechtle (2014), the results are consistent with those of Schüler and Brandstätter (2013), showing that individuals highly motivated put achievements if benefit more of Basic psychological needs. The study by Kowal and Fortier (1999) – which aimed to examine the relationship between different types of situational motivation and *flow state*, and to evaluate the relationship between situational determinants of motivation (SNP) – in relation to the dimensions of *flow*, they checked what the loss from the self-awareness and the transformation Time constraints may lead to lower sensitivity regarding the types of motivation in swimming. Furthermore, it was stated that swimmers with stronger relationships with their teammates exhibited higher levels of *flow*.

In the study conducted by Schuler, Wegner and Knechtle (2014), the results

corroborate the previous findings, concluding that achievement and affiliation motives were not related; achievement motives were significantly related to relationship satisfaction and basic competence needs. and satisfaction of relationship they were associated between yes, demonstrating that the satisfaction of basic needs for competence and social relationships alone did not foresee the flow experience.

Other findings demonstrate that changing the sporting environment may not be sufficient to achieve a state of *flow*, understanding that people with low levels of achievement motivation do not respond to these environmental changes (Schuler; Wegner; Knechtle, 2014).

4.2 Behaviors from the Motivation and State flow in relationship the team sports

Among the studies that investigated variables in team sports, the aim was to correlate the motivation with to the dimensions of *flow* in athletes of football among 12- to 16-year-olds, and identified negative relationships with task balance, difficulty and skill, clear goals, *feedback*, sense of control and experience of to achieve the goal, indicating what one increase in levels of adjustment external and the lack Low motivation is associated with a reduction in the *flow state* (Turksoy; Altinci; Uster, 2015). The authors Schuler and Brandstatter (2013) also identified that athletes with high levels of achievement motivation experienced greater flow.

On the other hand, the study by Gomes *et al*. (2012) found results that contradict the previous one, demonstrating that the best way to be intrinsically motivated he would be to reach the state of *flow*. Reaching that state, The athlete achieves high levels of pleasure, enjoyment, and accomplishment.

According to Jackson *et al*. (1998), there is a possibility that the dimensions of the *flow state* - namely, challenge-skill balance, concentration, sense of control, and *feedback* - are more relevant to sport than others and may also present differences between individual and team sports. However, in the study by Schuler and Brandstatter (2013), there was no significant difference in relation to the competence and relationship environments with *flow experience* between individual and team sports.

Taking in consideration the variable age, just one of the studies presented results significant positives in relation to Similarly, a positive correlation was identified only with external motivation, which can be understood as external pressure and reward.

Furthermore, the motivation and desires of the athletes must be respected. and with age/experience he can to suffer changes (Turksoy; Altinci; Uster, 2015). The authors Schuler and Brandstatter (2013) found no differences in the variables. reason of realization, environment of competence and experience of flow among the genres and ages, both they presented what the reason of realization from the activity It was associated with the competency environment and the flow experience.

Among the results, it was also identified that the *flow state* did not show a relationship with athletic performance, suggesting that the *flow state* may contribute to improvement over long periods and that, if rewarded, it can contribute to improvement. positively, increases the probability of perform the The same principle applies again, as there is a causal relationship between the state of flow and motivation, understanding that *flow* influences training motivation and not the other way around (Schuler; Brunner, 2009).

Other findings indicate that the *flow state* is most likely to occur when skill levels are adequate to the demands of the task, that is, when the athlete masters the skills required in the sport practiced (Massarella; Winterstein, 2009).

Li and Pan (2025) found in their study that the mood of soccer players had a negative impact on *flow state*, psychological resilience, and motivation for competitive performance; while *flow state*, psychological resilience, and motivation for competitive performance had a mutually positive impact. Psychological resilience had a positive impact on motivation for competitive performance.

5 CONCLUSION

Considering the limitations encountered, the results of the condensation of the present study they brought contributions important to the literature, with the The objective is to systematically review scientific publications and understand which aspects from the relationship between the state of *flow* and the motivation in modalities individual and team sports.

Among the results obtained, we can verify the positive relationship between intrinsic motivation and the *flow state*, and the scarcity of studies regarding team sports. It was possible to identify the positive relationship between the variables presented, confirming that autotelic personality is a factor that determines individual

experiences of the *flow state*. Another relevant finding is that the experience of the *flow state* had positive associations with extreme sports, understanding that athletes practice the modality sports put to be one quite to the experience of state flow.

The results also demonstrated that sporting situations that satisfy the basic psychological needs of competence are more associated with the *flow state*, thus demonstrating the relationship between intrinsic motivation and the *flow state* in sport. It is suggested to futures studies, Investigations using different terms in databases and the inclusion of articles in other languages.

REFERENCES

BARDIN, Laurence. **Content Analysis**. Translated by Luís Antero Reto, Augusto Pinheiro. - São Paulo: Edições 70, 2016.

BIASUTTI, Michele; PHILIPPE Roberta Antonini. Editorial: I got Flow! The flow state in music and artistic sport contexts. **Front Psychol**, 2023. Available in: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9932971/. Accessed March 15, 2023.

CSIKSZENTMIHALYI, Mihaly . **Flow**: The Psychology of High Performance and Happiness. Translated by Cássio of Arantes Milk. - 1st ed. – Rio de Janeiro: Objetiva. 2020.

FAVE, Antonella Dele; BASSI, Marta; MASSIMINI, Faust. Quality of experience and risk perception in high-altitude rock climbing . **Journal of Applied sport psychology**, v.15, 2003. Available at: https://www.tandfonline.com/doi/abs/10.1080/10413200305402. Accessed on February 13, 2023.

FREDERICK. Christina; RYAN, Richard. Differences in motivation for sport and exercise and their relations with participation and mental health. **Journal of Sport Behavior**, 1993. Available from: https://psycnet.apa.org/record/1994-03770-001. Accessed on March 15, 2023.

GOMES, Simone Salvador et al. Flow in volleyball: relationship with motivation, self-efficacy, ability perceived and guidance to the goals. **Rev. Education Fis/UEM,** v. 23, n. 3, p. 379-387, 3. trim. 2012.

JACKSON, Susan et al. Psychological Correlates of flow in sport. **Journal of Sport & Exercise Psychology**, 1998. Available at: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://ess220.files.wordpress.com/2008/02/jackson-19981.pdf. Accessed February 13, 2023.

KOWAL, John; FORTIER, Michelle. Motivational determinants of flow: contributions from self-determination theory. **The Journal of Social Psychology**, v.139, p.355-368,1999. DOI:10.1080/00224549909598391. Access February 13, 2023.

LI, Jiang; PAN, Xiaofei. The impact of Mood on Sports Flow State in football players: a chain mediating model of Psychological Resilience and Achievement Motivation in Competition. **Frontiers in Psychology**, vol. Volume 16-2025, 2025.

MASSARELLA, Fábio Luiz; WINTERSTEIN, Pedro José. Intrinsic motivation and the state mental Flow in corridors of road. **Movement (Harbor Happy),** v.15(2), p. 45-68 Apr-Jun. 2009. Available in: https://pesquisa.bvsalud.org/portal/resource/pt/lil-522343.

MOUELHI-GUIZANI, S. et al. Relationships between flow state and motivation in junior elite tennis players: Differences by gender. **International Journal of Sports Science & Coaching** , [sl], v. 18, no. 2, p. 490–499, 2023. DOI 10.1177/17479541221082990. Available at: https://research.ebsco.com/linkprocessor/plink?id=e4c0638a-7460-3bc5-b0f0-86be3d97aa32.

MOHER, David et al. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. **PLoS Medicine**, v.6, 2009. Available at: https://pubmed.ncbi.nlm.nih.gov/19621072/ . Accessed on February 13, 2023.

MOLANOROUZI, Keyvan; KHOO, Selina; MORRIS, Tony. Motives for adult participation in physical activity: type of activity, age, and gender**. BMC Public Health,** 2015. Available in: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4314738/#CR38. Accessed March 15, 2023.

RYAN, Richard; DECI, Edward. Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. **Contemporary Educational Psychology**, v.25, p.54–67,2000. doi:10.1006/ceps.1999.1020.

SCHULER, Julia; BRANDSTATTER, Veronika. How basic need satisfaction and dispositional motives interact in predicting flow experience in sport. **Journal of Applied Social Psychology***,* v.43(4), p.687–705, 2013. Available at: https://psycnet.apa.org/record/2013-13459-001. Accessed on 13 Feb. 2023.

SCHULER, Julia; BRUNNER, Sibylle. The rewarding effect of flow experience on performance in a marathon race. **Psychology of Sport and Exercise**, v.10, p.168–174 , 2009. Available at: https://www.sciencedirect.com/science/article/pii/S1469029208000563. Accessed on February 13, 2023.

SCHULER, Julia; WEGNER, Mirko; KNECHTLE, Beat. Implicit motives and basic need satisfaction in extreme Endurance sports. **Journal of sport & Exercise Psychology**, v.36, p.293-302, 2014. Available at: https://sci-hub.hkvisa.net/10.1123/jsep.2013-0191. Accessed February 13, 2023.

SCHULER, Julia. Achievement incentives determine the effects of achievement-motivational incongruence on flow experience. **Motivation and Emotion,** v.34 (1), p.2–14, 2010. Available at: https://psycnet.apa.org/record/2010-06261-002 . Accessed on February 13, 2023.

TURKSOY, Ayse; ALTINCI, Evren Ebru; USTER, Ugur. Relationship between Motivation and Dispositional Flow State on Football Players Participating in the U13-U16 Football Leagues. **Procedia-Social and Behavioral Sciences**, v. 185, p.301-306, 2015. Available at: https://www.sciencedirect.com/science/article/pii/S1877042815022168. Accessed on 13 Feb. 2023.

VIEIRA, Lenamar Fiorese et al . Flow state in climbers and downhill skaters. **Driving: Magazine of education physical**, v. 17, 2011. Available Available at: https://www.scielo.br/j/motriz/a/r95Cnsk3SrMJZZwBCjrKrfN/abstract/?lang=en#. Accessed on February 13, 2023.

WEINBERG, Robert. S.; GOULD, Daniel. **Fundamentals from the psychology of sport and of exercise** . Translation: Maria CG Monteiro and Regina M. Garcez. 6th ed. Porto Alegre: Artmed, 2017. 622p.