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Development of Emotional Competencies in school-aged badminton athletes

[Comportamiento del desarrollo de las competencias emocionales en atletas de bádminton escolar]

[Comportamento do desenvolvimento de competências emocionais em atletas de badminton escolar]

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ABSTRACT

Introduction: It is significant to develop emotional competencies in athletes, enabling them to effectively control their emotions during decision-making. This is crucial for ensuring, to a large extent, the desired sports results.

Objective: To design indicators for the study of emotional competencies in school-aged badminton athletes, allowing for diagnosis and subsequent development.

Materials and Methods: This research involved badminton athletes in the school category, aged 12-13 and 14-15 years, with an average age of 13.7 years, of different genders. Empirical methods employed included: surveys, interviews, observation, document analysis and psychometric techniques with a pre-experimental group, combined with theoretical and mathematical-statistical methods.

Results: The factual study demonstrated a lack of evidence regarding the study of emotional competencies. Athletes exhibited a low level of training in personal competencies and skills that enable them to understand their emotions and control them to achieve better competitive results.

Conclusions: Through the indicators and subsequent diagnosis, it was confirmed that there are theoretical-methodological shortcomings in the development of emotional competencies in school-aged badminton athletes. This reinforces the need to implement models, strategies, and programs aimed at fostering emotional control from an early age.

Keywords: Emotional competencies, indicators, badminton, athletes.

RESUMEN

Introducción: resulta significativo desarrollar en los atletas competencias emocionales que le permitan controlar con eficacia sus emociones en la toma de decisiones, como elementos esenciales para garantizar, en gran medida, los resultados deportivos que se esperan alcanzar.

Objetivo: diseñar indicadores para el estudio de las competencias emocionales en atletas escolares de Bádminton que permita establecer su diagnóstico y posterior desarrollo.



Materiales y métodos: para esta investigación se escogieron atletas del mismo deporte bádminton, categorías escolares, con edades de 12-13 y 14-15 años y un promedio de edad de 13,7 años de diferentes sexos. Se emplearon como métodos empíricos: encuesta, entrevista, observación, estudio de documentos, técnicas psicométricas con un grupo pre-experimento combinado con otros teóricos y matemáticos-estadísticos.

Resultados: el estudio fáctico demostró que existen escasas evidencias sobre el estudio de las competencias emocionales y los atletas presentan un bajo nivel en la formación de competencias y aptitudes personales que permitan el conocimiento de sus emociones y la habilidad de controlarlas para lograr un mejor resultado competitivo.

Conclusiones: a través de los indicadores y el posterior diagnóstico se comprobó que existen insuficiencias teóricas-metodológicas en el desarrollo de las competencias emocionales en los atletas de Bádminton escolar por lo que reafirma la necesidad de aplicar modelos, estrategias y programas con vistas a su formación desde edades tempranas para su control emocional.

Palabras clave: competencias emocionales, indicadores, bádminton, atletas.

RESUMO

Introdução: é significativo desenvolver nos atletas competências emocionais que lhes permitam controlar eficazmente as suas emoções na tomada de decisões, como elementos essenciais para garantir, em grande medida, os resultados desportivos que se esperam alcançar.

Objetivo: desenhar indicadores para o estudo das competências emocionais em atletas escolares de Badminton que permitam estabelecer o seu diagnóstico e posterior desenvolvimento.

Materiais e métodos: para esta pesquisa foram escolhidos atletas da mesma modalidade badminton, categoria escolar, com idades de 12 a 13 e 14 a 15 anos e idade média de 13,7 anos, de sexos diferentes. Foram utilizados os seguintes métodos empíricos: levantamento, entrevista, observação, estudo de documentos, técnicas psicométricas com grupo pré-experimental combinado com outros teóricos e matemáticos-estatísticos.



Resultados: o estudo factual mostrou que há poucas evidências sobre o estudo das competências emocionais e os atletas apresentam baixo nível na formação de competências e aptidões pessoais que permitem o conhecimento de suas emoções e a capacidade de controlá-las para alcançar um melhor resultado competitivo.

Conclusões: através dos indicadores e do posterior diagnóstico, comprovou-se que existem insuficiências teórico-metodológicas no desenvolvimento de competências emocionais em atletas escolares de Badminton, o que reafirma a necessidade de aplicação de modelos, estratégias e programas com vista à sua formação. uma idade precoce para controle emocional.

Palavras-chave: competências emocionais, indicadores, badminton, atletas.

INTRODUCTION

Contemporary sports increasingly demand scientific knowledge and application. This has led to a greater emphasis on the influence of psychological factors in achieving peak athletic performance. Psychological preparation is undoubtedly a crucial element in training, becoming a central theme for those seeking to reach high sporting results.

During athletic practice, athletes experience a range of emotional states with cognitive and somatic repercussions. These states are decisive in choosing tactical decisions, occurring both in training and in competition, although they are most noticeable in the pre-competitive, competitive, and post-competitive phases.

In badminton, athletes need to develop exceptional decision-making skills due to the nature of the sport as a game of opposition requiring rapid and explosive movements. The level of decision-making, along with motor responses, is shaped by emotions, rendering it impossible to separate cognitive levels from the affective and motor components, which are infused with emotional content. However, further theoretical and practical research is needed to explore psychological content that allows for a deeper



understanding of the athlete's emotional sphere from the perspective of emotional intelligence.

In the realm of sports, research has yielded ample evidence confirming the impact of emotional intelligence competencies on athletic performance (Mellalieu, Neil, Hanton & Fletcher, 2009; Lane, Devonport, & Hamar, 2010; Lu, Li, Hsu & Williams, 2010). Numerous studies (Laborde, Dosseville & Allen, 2016; Laborde, Guillén & Watson, 2017; Matos, 2016; Milanés, 2016; Durán, 2017; López, A., 2019; Bernal, 2021; Pages, 2021) concur that athletes experience anxiety and stress in high-level competition and that emotional intelligence is positively associated with emotions that enhance performance in the moments preceding competition.

Along these lines, Balk, De Jonge, Oerlemans & Geurts (2017) highlight the need to integrate the formation and the emotional intelligence training within sports psychology intervention programs, carried out by the sports psychologist, as this factor directly correlates with athlete anxiety levels (Zurita *et al.*, 2018).

Delving deeper into previous studies it is recognize that they primarily focus on specific skills within emotional intelligence rather than its totality and its dialectical relationships. While these investigations encompass the field of Physical Education, very few are embedded within the specific sporting context, especially during the specialized and competitive stages.

Goleman defines emotional competence as "*a learned capability based on emotional intelligence that results in outstanding performance at work*" (Goleman, 1998, p.33). He argues that excelling in an emotional competence requires an underlying aptitude in emotional intelligence characteristics. However, this aptitude alone is not sufficient to manifest the competence. According to Goleman (2001), we possess the potential to become proficient in that competence but success is not guaranteed.



It is share the viewpoint presented by Durán, C (2017), who affirms that one of Goleman's key contributions is the idea that emotional intelligence is rooted in the development of emotional competencies, which are amenable to learning.

This aligns with the importance of designing indicators for studying emotional competencies and establishing a diagnosis of these for subsequent development. Furthermore, considering the results of research during the psychological preparation of badminton athletes, the following deficiencies are identified:

- Athletes receive primarily theoretical-tactical knowledge, with insufficient tasks aimed at enhancing emotional control competencies before the competitive stage.
- Athletes exhibit low levels in the formation of personal competencies and skills that enable them to understand and control their emotions for better competitive performance.
- The documents governing the badminton player preparation process present methodological limitations in the diagnosis, formation, and development of emotional competencies.

(Martos 2015, cited in Bernal, 2021) argues that developing emotional competencies in students is vital, as childhood and adolescence are crucial stages for emotional management. This is the time when learning is most readily acquired, and managing emotions is a fundamental learning experience that underpins all other learning (p. 30). This highlights the importance of educating emotions in badminton athletes, especially at the school category, to promote the implementation, development, and generalization of emotional competencies during developmental stages to ensure proper adjustment to the preparation stage.

It is agree with (Orejudo & Planas, 2016) who assert that it is essential for the formation of these competencies to implement a teaching-learning process focused not only on the cognitive component but also on the emotional and social aspects.



The authors of this article draw upon the mixed model proposed by Goleman, D (1995), which in turn includes the relationship established between situational and personal factors in close connection with personality traits. It classifies emotional competencies into two dimensions: personal and social.

This author argues that emotional intelligence comprises three essential personal components or competencies:

1. Self-awareness or consciousness of oneself.
2. Self-regulation or self-control.
3. Self-motivation.

This theory carries a connotation based on the need to know and understand oneself as the first relevant aspect, to reach self-control, then, personal motivating elements must be sought, to understand and comprehend the emotions and expressions of others, to take the path of conceiving social relationships as a fundamental space for improvement and adequate adaptation to the environment.

Taking into account the theoretical and methodological shortcomings exposed so far, the following general objective is defined: to design indicators for the study of emotional competencies in school badminton athletes at the U.D.D by its acronym in Spanish (Sports Teaching University) "Alfredo Utset Bertot" in the province of Granma.

MATERIALS AND METHODS

This research falls within an explanatory study with a pre-test design, employing a qualitative-quantitative methodology for a single group. It is a field study, implemented during the special preparation and pre-competitive stages between March and June 2022. It was conducted at the U.D.D. "Alfredo Uset Bertot" in Manzanillo, belonging to the EIDE (Sports Initiation School) "Pedro Batista Ramos" in Bayamo.



For this study, six badminton athletes from the School Category were selected, including three females and three males, with ages between 13 and 15 years, with an average age of 13.7 years. The selection type is intentional. They compete in singles and mixed doubles, in both genders.

The inclusion criteria considered were belonging to the school category badminton, having previous competitive experiences, and participating in the special and pre-competitive stages. The exclusion criteria were being between 16 and 18 years old, as this is the chosen sensitive period for the study.

For participant selection, the team's athlete registry was consulted. Once identified, a group interview was held with the presence of parents or legal guardians and coaches. They were informed about the research objective, their involvement as participants, and the benefits the research would bring to the sport specifically, the team they belonged to, and themselves in particular.

From a theoretical standpoint, the analytical-synthetic method was utilized. This method allowed us to consult scientific literature and understand the perspectives of various authors on the topic of the research. The inductive-deductive method was employed to formulate criteria that led to conclusions about the emotional competencies present in school-category badminton athletes. Document analysis facilitated the collection of information on normative documents, such as the badminton athlete preparation plan, the psychological preparation plan, and the psychological characterizations of the athletes.

On an empirical level, observation was employed to gather information about training sessions and some competitions that exhibited manifestations of emotional competencies and influenced the athletes' behavior, as well as the coaches' actions in emotional education. Interviews allowed us to assess whether the athletes had any mastery of emotional competencies and whether the technical staff possessed knowledge or had used techniques to develop these competencies from a psychopedagogical perspective.



Among the techniques and procedures used, document analysis allowed for the study and interpretation of official documents, such as: reviewing medical records to understand the psychological characteristics of the athletes, as well as the badminton athlete preparation program to verify if methodological guidelines existed for training these competencies in badminton's psychological preparation. The emotional intelligence test was also applied to diagnose the level of development of the personal competencies possessed by the athletes.

From a mathematical-statistical standpoint, percentage analysis and descriptive statistics were employed to characterize and represent the obtained results, as well as for quantitative interpretation and evaluation.

Dependent Variable:

Emotional Intelligence: Emotional intelligence refers to the way an athlete interacts with the world, taking emotions into account. It encompasses competencies such as impulse control, self-awareness, motivation, empathy, and social skills that help overcome difficulties in achieving success and meeting the demands of athletic activity. These are essential for social adaptation.

Emotional intelligence is directed in two dimensions: personal competencies and social competencies. This research focuses on personal competencies, which the authors consider to be more closely related to the sport in which the study is framed.

1. Self-Awareness: This is an intrapersonal competency, through which athletes gain knowledge of their own strengths and areas for improvement. This allows them to take advantage of opportunities to better face the demands of the sport and be prepared for the challenges of training, competition, and daily life.

Indicators:

- Identifying emotions.
- Self-confidence.



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- Self-esteem.

2. Self-Regulation: This ability allows athletes to control their impulses and emotions to regulate their behavior. They persevere in achieving complex goals, which in turn increases their willingness to perform successfully in dangerous situations by creating stable forms of guidance and execution of actions.

Indicators:

- Controlling negative emotions (Self-Control).
- Positive attitude during times of low pressure (Optimism).
- Ability to handle conflicts (Adaptability).

3. Self-Motivation: Directing emotions toward a goal is essential for maintaining a state of constant pursuit and keeping the mind creative to find solutions. This ability allows athletes to seek ways and means to achieve the objective. They persist in the face of adversity, providing energetic and directional components to mobilize behavior and seize opportunities.

Indicators:

- Commitment.
- Achievement motivation.
- Initiative.

The methods used for the diagnosis and evaluation of the competencies included in emotional intelligence are not only shown through applied psychological tests. In addition, the observation and interview guides also aim to identify the main indicators that are evident in training and competitions, as well as the emotional education provided by the socializing agents that influence the formation of the athlete's personality.



RESULTS AND DISCUSSION

Results of Semi-structured Interviews with Coaches and Athletes

Interviews were conducted with 100 % of the athletes and two coaches (100% of those working specifically with these athletes).

Semi-structured interviews with the athletes revealed that they were able to elaborate on the negative emotional states that affected them the most. Subjects 1, 3, 5, and 6 exhibited a variety of emotional states, demonstrating fear of failure, very high levels of psychological tension and anxiety, which sometimes prevented them from moving fluidly or relaxed. They also showed excessive nervousness, self-doubt, negative thoughts, and sweating, leading them to make mistakes and experience little enjoyment of the game. At the same time, they frequently exhibited tendencies toward aggressive behavior, particularly subjects 3, 4, and 5, which affected the relationship system between teammates and coaches.

The opinions of others regarding their performance in competition were important for the athletes. Positive feedback provided security and confidence, while negative opinions generated exclusion or rejection within the group, often leading to discomfort and tension. The tendency to rely heavily on the coach's instructions when trailing in the score was observed in four out of the six athletes interviewed. This demonstrates a lack of self-confidence and a negative self-image, as well as an insufficient evaluation of the opponent's strength.

This aligns with the perspective put forth by López (2019), who argues that individuals, when interacting with their environment, need to feel competent (desire to interact effectively with the environment), autonomous (desire for choice and feeling of being the initiator of their own actions), and related to others (desire to feel connected to others and be respected by them). The satisfaction of these needs is essential for the development of both self-motivation and psychological well-being. Coaches should motivate the achievement of goals and objectives while taking into account the



individual characteristics of each athlete during the training process. This should allow the athlete to feel comfortable with the process and be recognized by their peers, which is crucial during this phase.

The coaches, in their opinions, expressed limited understanding of emotional intelligence, relying primarily on anecdotal information from other contexts. They also stated that athletes exhibit a low level of development in emotional intelligence skills, primarily evident in the specialized and competitive stages. It is during these stages, particularly competitions, where the highest tension arises due to the expectations for results from coaches, families, and the athlete themselves.

In semi-structured interviews with family members, parents and guardians revealed limited knowledge of emotional intelligence and the education of emotions in their children. They lacked strategies to encourage emotional control when their children were feeling depressed, irritated, or upset, to the point of exhibiting indifference, discomfort, worry, or a bad mood. This aligns with Ames (1995, cited by Matos, 2016), who affirms that coaches, along with other social agents (parents, peers), create structures in which signals emerge regarding their criteria for success. The perception of these signals by each athlete influences various variables, exerting a significant influence on the athletes, particularly in areas such as the expression of emotions, as well as learning and athletic performance.

Emotional Intelligence Competency test results

The results of the test indicated that emotional intelligence, as a concept, was at a low level in three athletes and at a medium-low level in the other half (Figure 1). This confirms the poor development of these skills in the athletes expressed by the coaches and observed during training.

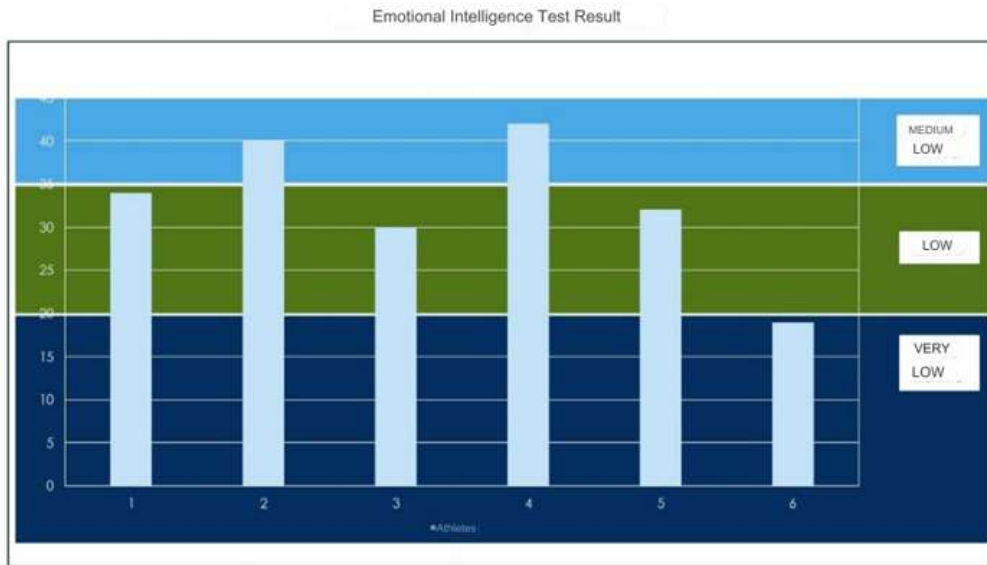


Fig. 1 - Emotional Intelligence Competency Test

In the self-awareness skill, individuals 1, 2, and 3 scored low, while 5 and 6 scored very low. This is due to their limited experience in high-performance sports, lacking previous competitive experiences and mastery of techniques that promote emotional awareness (Figure 2).

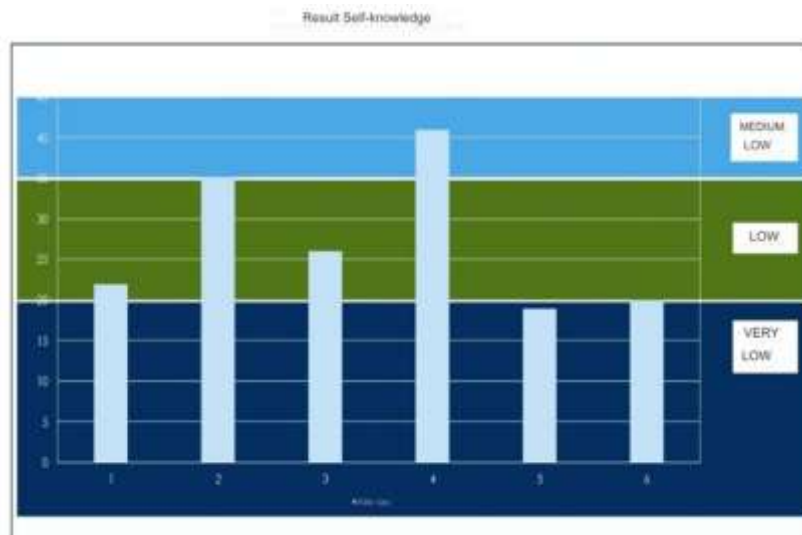


Fig. 2 - Self-Awareness Results



This section aligns with Aroni, L. (2019), emphasizing the importance of perceived control over the situation. Athletes must be aware of their capabilities and limitations, and understand the reality of overcoming those limitations. This demonstrates a strong link between confidence and the athlete's self-awareness competency, as well as the cognitive component of anxiety, offering a more optimistic perspective and a positive impact.

García *et al.* (2010) highlight the crucial link between emotional intelligence and athletic performance, particularly in high-level athletes. They emphasize the athlete's ability to understand their own emotional state (self-awareness) as well as their capacity for regulation (self-regulation).

Similarly, the self-regulation dimension also exhibited low levels, with the remaining scores being moderately low. This confirms similar findings across other techniques, demonstrating a lack of emotional stability during matches. This is corroborated by the observed lack of independence, optimism, initiative, decisiveness during competition, and an imbalance in the change of pace during actions. Athletes 3, 5, and 6 reported that when they strive for good performance and fail, they lack the motivation to continue striving for excellence. They struggle to let go of past mistakes, resulting in a lack of coordination and fluidity that they begin to experience after these events (Figure 3).

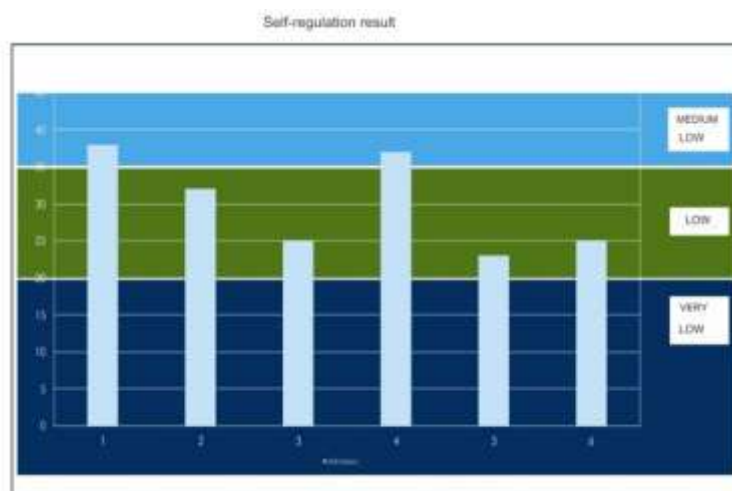


Fig. 3. - Result of Self-Regulation



The findings corroborated that affective processes point towards the subjective experience of anxious sensations. They involve cognitive re-evaluation processes of one's own physiological activation of anxiety. Affective manifestations are composed of unpleasant negative affects such as nervousness, tension, apprehension, agitation, among others, which express the subjective discomfort experienced (Díaz, I, 2019). It was confirmed that anxious reactivity has a neurophysiological correlate that influences the neuromuscular system, affecting the motor coordination and the ability to execute the movement required by the specific technical gestures of sports disciplines (Bello Beltrán O. A., 2017).

However, regarding self-motivation, two athletes scored in the medium-high range, three in the medium-low range, and the last one in the low range, possibly because this athlete had few prospects of being selected for the competition. The two who achieved medium-high scores, despite their mistakes, persist in continuing to strive to do the execution correctly (Figure 4).

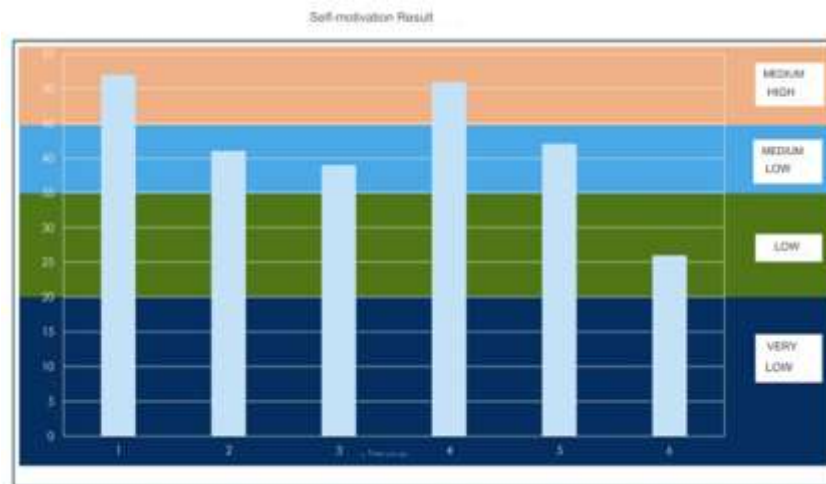


Fig. 4. - Self-Motivation Results

This section shares the idea advocated by Pages, G. (2021), who argues that organism activation is a product of emotion, and utilizing this level of activation is a matter of the individual's will. Observations and interviews revealed that those who scored low on the self-motivation items did not typically cheer themselves up or encourage themselves



when performing excellently. Their focus was more on avoiding mistakes out of fear of embarrassment than on enjoying a good play or valuing the progress they made in developing technical and tactical skills.

(Martos, 2015, cited in Bernal, 2021) points out that developing emotional competencies in students is crucial, as childhood and adolescence are critical periods for emotional management. This time is when learning is most effective, and emotional management is a fundamental skill that underpins all other learning.

After triangulating the information from various techniques used based on the indicators proposed for this study, a low level is evident, which stems from the overall analysis of the data collected. The prevalence in the assessments reached by the variables confirms deficiencies and insufficiencies in the knowledge and development of emotional competencies by socializing agents and athletes.

CONCLUSIONS

Analysis of the theoretical and methodological framework from the literature review revealed that, despite interest in the relationship between emotional competencies and athletic performance, there is limited knowledge about the influence of socializing agents in their development within the sports context.

Studies concerning the development of emotional competencies in adolescents are considered insufficient, especially considering the importance of psychological preparation for athletes from an early age, aiming for sports mastery. This aspect is currently not a priority within psychological intervention programs.

The characterization of the current state of emotional competencies in school-aged badminton athletes demonstrated deficiencies in the treatment of emotional control development.



Based on the identified deficiencies in the factual diagnosis and the limitations in their treatment within sports activity, there is a justified need to design indicators for the study of emotional competencies in school-aged badminton athletes.

Through the application of the designed indicators and the subsequent diagnosis conducted, it is demonstrated that there are theoretical and methodological gaps in the formation of emotional competencies among school-aged badminton athletes. This justifies the need to implement models, strategies, and programs aimed at their development from the initiation of sports.

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Conflict of interest:

The author declares no conflicts of interest.

Authors' contribution:

The author has participated in the drafting of the work and analysis of the documents.



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