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BJSPHD

SPECIAL
ISSUE

Psychology of
Sport, Motor Skills
and Human
Development:
multiple dimensions



LEPESPE
Laboratório de Estudos e Pesquisas em Psicologia do Esporte
UNESP - Rio Claro





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It is with great pleasure that we present the first edition of the *Brazilian Journal of Sport Psychology and Human Development* (BJSPHD), an initiative that marks an important step towards strengthening and consolidating Sports Psychology and related areas in Brazil and on the international scene. This journal is the result of the joint efforts of the Laboratory of Studies and Research in Sports Psychology (LEPESPE), at UNESP – Rio Claro, and the Brazilian Association of Studies in Sports Psychology and Exercise (ABEPPEX), two institutions that have historically contributed significantly to the scientific and practical development of the area.

BJSPHD is a platform for dialogue, reflection and dissemination of knowledge, with the objective of bringing together excellent academic and scientific productions that address the multiple dimensions of sports, physical activity, recreation, leisure, dance and human recovery. In its editorial proposal, the magazine presents itself as an interdisciplinary space, welcoming contributions from psychologists and professionals from related areas, committed to promoting human development through movement, performance and bodily experience.

In this inaugural issue, we are honored to feature articles written by renowned authors from Brazil and abroad, whose research reflects the state of the art of scientific production in Sports Psychology and associated areas. The diversity of themes and methodological approaches present in this issue reaffirms the journal's commitment to plurality, academic rigor, and the social relevance of the published research.

BJSPHD is an open access journal published exclusively online, with continuous publications distributed in four issues per year, which ensures agility in the dissemination of works and greater visibility for authors. With this editorial dynamic, we seek to value the time and commitment of the academic and professional community that trusts our editorial project as a legitimate channel for scientific dissemination.

More than a journal, BJSPHD is a collective construction that aims to reflect the challenges and advances of a field in constant transformation, attentive to the contemporary demands of sports and human development. We invite the scientific community, professionals in Sports Psychology and Psychology and related areas to read this first edition, submit their work and actively participate in the construction of this space.

We wish everyone an excellent reading and that this is the beginning of an inspiring, ethical and committed journey with knowledge and practice.

Kind regards,

Afonso Antonio Machado, Prof. Dr.
Editor-in-Chief of BJSPHD



C'est avec grand plaisir que nous présentons le premier numéro de la Revue Brésilienne de Psychologie du Sport et du Développement Humain (*Brazilian Journal of Sport Psychology and Human Development* - BJSPHD), une initiative qui marque une étape importante dans le renforcement et la consolidation de la psychologie du sport et des disciplines connexes au Brésil et à l'international. Cette revue est le fruit des efforts conjoints du Laboratoire d'Études et de Recherche en Psychologie du Sport (LEPESPE), de l'UNESP – Rio Claro, et de l'Association Brésilienne d'Études en Psychologie du Sport et de l'Exercice (ABEPPEX), deux institutions qui ont historiquement contribué de manière significative au développement scientifique et pratique de ce domaine.

BJSPHD est une plateforme de dialogue, de réflexion et de diffusion des connaissances, dont l'objectif est de rassembler d'excellentes productions académiques et scientifiques abordant les multiples dimensions du sport, de l'activité physique, des loisirs, de la danse et du rétablissement humain. Dans sa proposition éditoriale, la revue se présente comme un espace interdisciplinaire, accueillant les contributions de psychologues et de professionnels de disciplines connexes, engagés dans la promotion du développement humain par le mouvement, la performance et l'expérience corporelle.

Dans ce numéro inaugural, nous avons l'honneur de présenter des articles rédigés par des auteurs renommés du Brésil et de l'étranger, dont les recherches reflètent l'état de l'art de la production scientifique en psychologie du sport et dans les domaines associés. La diversité des thèmes et des approches méthodologiques présentés dans ce numéro réaffirme l'engagement de la revue en faveur de la pluralité, de la rigueur académique et de la pertinence sociale des recherches publiées.

BJSPHD est une revue en libre accès publiée exclusivement en ligne, avec des publications continues réparties en quatre numéros par an, ce qui garantit une diffusion fluide des travaux et une plus grande visibilité aux auteurs. Grâce à cette dynamique éditoriale, nous cherchons à valoriser le temps et l'engagement de la communauté universitaire et professionnelle qui fait confiance à notre projet éditorial comme un canal légitime de diffusion scientifique.

Plus qu'une revue, BJSPHD est une construction collective qui vise à refléter les défis et les avancées d'un domaine en constante transformation, attentif aux exigences contemporaines du sport et du développement humain. Nous invitons la communauté scientifique, les professionnels de la psychologie du sport et de la



psychologie et des domaines connexes à lire ce premier numéro, à soumettre leurs travaux et à participer activement à la construction de cet espace.

Nous vous souhaitons une excellente lecture et souhaitons à tous le début d'un voyage inspirant, éthique et engagé, mêlant connaissances et pratique.

Cordialement,

Afonso Antonio Machado, Prof. Dr.

Rédacteur en chef de BJSPHD





Con gran satisfacción presentamos la primera edición de la Revista Brasileña de Psicología del Deporte y Desarrollo Humano (*Brazilian Journal of Sport Psychology and Human Development* - BJSPHD), una iniciativa que marca un paso importante en el fortalecimiento y la consolidación de la Psicología del Deporte y áreas afines en Brasil y a nivel internacional. Esta revista es fruto de la colaboración entre el Laboratorio de Estudios e Investigaciones en Psicología del Deporte (LEPESPE) de la UNESP – Rio Claro, y la Asociación Brasileña de Estudios en Psicología del Deporte y el Ejercicio (ABEPPEX), dos instituciones que históricamente han contribuido significativamente al desarrollo científico y práctico del área.

BJSPHD es una plataforma de diálogo, reflexión y difusión del conocimiento, con el objetivo de reunir producciones académicas y científicas de excelencia que abordan las múltiples dimensiones del deporte, la actividad física, la recreación, el ocio, la danza y la recuperación humana. En su propuesta editorial, la revista se presenta como un espacio interdisciplinario, que acoge las contribuciones de psicólogos y profesionales de áreas afines, comprometidos con la promoción del desarrollo humano a través del movimiento, el rendimiento y la experiencia corporal.

En este número inaugural, nos complace presentar artículos escritos por reconocidos autores brasileños e internacionales, cuyas investigaciones reflejan el estado del arte de la producción científica en Psicología del Deporte y áreas afines. La diversidad de temas y enfoques metodológicos presentes en este número reafirma el compromiso de la revista con la pluralidad, el rigor académico y la relevancia social de la investigación publicada.

BJSPHD es una revista de acceso abierto publicada exclusivamente en línea, con publicaciones continuas distribuidas en cuatro números al año, lo que garantiza la agilidad en la difusión de los trabajos y una mayor visibilidad para los autores. Con esta dinámica editorial, buscamos valorar el tiempo y el compromiso de la comunidad académica y profesional que confía en nuestro proyecto editorial como un canal legítimo para la difusión científica.

Más que una revista, BJSPHD es una construcción colectiva que busca reflejar los desafíos y avances de un campo en constante transformación, atento a las demandas contemporáneas del deporte y el desarrollo humano. Invitamos a la comunidad científica, a los profesionales de la Psicología del Deporte, la Psicología y áreas afines a leer esta primera edición, enviar sus trabajos y participar activamente en la construcción de este espacio. Les deseamos a todos una excelente lectura y que este sea el comienzo de un camino inspirador, ético y comprometido con el conocimiento y la práctica.

Tuyo sinceramente,

Afonso Antonio Machado, Prof. Dr.

Editor-jefe de BJSPHD



É com imensa satisfação que apresentamos a primeira edição do *Brazilian Journal of Sport Psychology and Human Development* (BJSPHD), uma iniciativa que marca um importante passo para o fortalecimento e a consolidação da Psicologia do Esporte e áreas afins no Brasil e no cenário internacional. Esta revista nasce da união de esforços entre o Laboratório de Estudos e Pesquisas em Psicologia do Esporte (LEPESPE), da UNESP – Rio Claro, e a Associação Brasileira de Estudos em Psicologia do Esporte e Exercícios ABEPPEX, duas instituições que historicamente têm contribuído de forma significativa para o desenvolvimento científico e prático da área.

O BJSPHD surge como uma plataforma de diálogo, reflexão e disseminação de conhecimento, com o objetivo de reunir produções acadêmicas e científicas de excelência, que abordem as múltiplas dimensões do esporte, da atividade física, da recreação, do lazer, da dança e da recuperação humana. Em sua proposta editorial, a revista se apresenta como um espaço interdisciplinar, acolhendo contribuições de psicólogos e profissionais de áreas correlatas, comprometidos com a promoção do desenvolvimento humano por meio do movimento, da performance e da experiência corporal.

Nesta edição inaugural, temos a honra de contar com artigos assinados por autores renomados do Brasil e do exterior, cujas pesquisas refletem o estado da arte da produção científica em Psicologia do Esporte e áreas associadas. A diversidade de temas e abordagens metodológicas presentes nesta edição reafirma o compromisso da revista com a pluralidade, o rigor acadêmico e a relevância social das investigações publicadas.

O BJSPHD é uma revista de acesso aberto e edição exclusivamente online, com publicações em fluxo contínuo distribuídas em quatro números ao ano, o que garante agilidade na disseminação dos trabalhos e maior visibilidade para os autores. Com essa dinâmica editorial, buscamos valorizar o tempo e o empenho da comunidade acadêmica e profissional que confia no nosso projeto editorial como canal legítimo de divulgação científica.

Mais do que um periódico, o BJSPHD é uma construção coletiva, que se propõe a refletir os desafios e avanços de um campo em constante transformação, atento às demandas contemporâneas do esporte e do desenvolvimento humano. Convidamos a comunidade científica, os profissionais da Psicologia do Esporte e da Psicologia e



das áreas afins a conhecerem esta primeira edição, a submeterem seus trabalhos e a participarem ativamente da construção deste espaço.

Desejamos a todos uma excelente leitura e que este seja o início de uma trajetória inspiradora, ética e comprometida com o saber e com a prática.

Atenciosamente,

Afonso Antonio Machado, Prof. Dr.

Editor-chefe da BJSPHD



SPORTS CAREER DEVELOPMENT AMONG YOUNG BRAZILIAN FOOTBALL PLAYERS

DESENVOLVIMENTO DA CARREIRA ESPORTIVA ENTRE JOVENS JOGADORES DE FUTEBOL BRASILEIROS

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Abstract

The aim of this study was to explore the sports career development of young football players. Qualitative semi-structured interviews were employed to examine sport career development of 30 Brazilian football players in different phases of career development (experimentation; specialization; and investment). The interview guide was based on the five domains (athletic, psychological, psychosocial, academic and financial) of a Developmental and Holistic Perspective on Athletic Career Development. Qualitative content analysis of the experimentation phase athletes revealed nine higher orders in relation to the four domains. Experimentation athletes showed a preference for football over other sports and other activities (such as school studies); for athletes in specialization phase it can be noticed a preference for football practice on field instead of other activities; in the transition from specialization to athletic investment, athletes reported having difficulties in adapting to the demands of training and high-performance competitions. In conclusion, this research showed the importance of planning for sports formation that addresses the excellence of the subject as a whole and not only the athletic emphasis, preventing developmental problems as early specialization.

Keywords: Sporting Development; Career transition, Athletes; Football; Psychology.

Resumo

O objetivo deste estudo foi explorar o desenvolvimento da carreira esportiva de jovens jogadores de futebol. Entrevistas semiestruturadas qualitativas foram empregadas para examinar o desenvolvimento da carreira esportiva de 30 jogadores de futebol brasileiros em diferentes fases de desenvolvimento de carreira (experimentação; especialização; e investimento). O guia da entrevista foi baseado nos cinco domínios (atletico, psicológico, psicossocial, acadêmico e financeiro) de uma perspectiva de desenvolvimento e holística sobre o desenvolvimento de carreira atlética. A análise qualitativa do conteúdo dos atletas da fase de experimentação revelou nove ordens mais altas em relação aos quatro domínios. Os atletas de experimentação mostraram preferência pelo futebol por outros esportes e outras atividades (como estudos

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escolares); Para atletas em fase de especialização, pode -se notar uma preferência pela prática de futebol em campo em vez de outras atividades; Na transição da especialização para o investimento atlético, os atletas relataram ter dificuldades em se adaptar às demandas de treinamento e competições de alto desempenho. Em conclusão, esta pesquisa mostrou a importância do planejamento da formação de esportes que aborda a excelência do assunto como um todo e não apenas a ênfase atlética, impedindo os problemas de desenvolvimento como especialização precoce.

Palavras-chave: Desenvolvimento esportivo; Transição de carreira, atletas; Futebol; Psicologia.

1 INTRODUCTION

Of the 360.000 amateur and professional football players in Brazil, only 6% can play professionally, working in 742 clubs. Even fewer are paid competitive wages compared to other professions, countries, and leagues (Soares et al., 2011). In addition, studies highlight that less than 1% of the aspirants to the profession are assessed in the qualifications tests for selection of athletes in professional Brazilian clubs (Damo, 2007; Melo, 2010). It is therefore not surprising, that Brazil is the largest exporter of football players globally.

Around 1.500 players have been transferred to international clubs in 2013 alone, most of them between 17 and 22 years of age and incentivized by the growing monetary value associated with being a successful football athlete (Rocha, Bartholo, Melo; Soares, 2011; Soares, Melo, Costa, Bartholo; Bento, 2011). The Brazilian population has internalized cultural values in relation to football. This passion often starts during childhood as a result of the parents and society's influence, and continues throughout life. In a certain way, this personal identification with its football culture is what moves and maintains the football teams in Brazil (Ciampa, Leme; Souza, 2010). Football is the most practiced sport in Brazil, proof of this are the high investments in teams and events (Damo; Oliven, 2013; Marques, 2013).

Despite being a growing field of interest, career development of research related to the careers of young football players has received little attention in Brazil, especially with regard to holistic transitions to a professional sports career. Most research has emphasized transition out of sport into retirement, therefore defining a gap in the literature within career transition studies (Stambulova, Franck; Weibull, 2012), especially within football which is the most practiced sport worldwide (Fuller, Junge; Dvorak, 2012).



According to the Developmental and Holistic Perspective on Athletic Career Development (Wylleman, Reints; De Knop, 2013), an athlete's career development and trajectory might be considered a succession of stages and transitions (Pummell, Harwood; Lavalley, 2008; Stambulova, 2010; Samuel; Tenenbaum, 2011) including initiation adherence and continued participation in competitive sports organizations (Wylleman; Lavalley, 2004; Pummel et al., 2008).

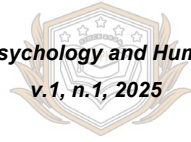
These transitions would occur simultaneously in five different domains of life: Athletic, Psychologic, Psychosocial, Academic/Vocational and Financial (Wylleman, Reints; De Knop, 2013). Such transitions are dynamic and challenge athletes with a variety of demands related to football practice routines, competition amongst players and personal and professional lifestyles. This transition requires effective coping strategies to successfully navigate the sports career. (Park, Lavalley; Tod, 2013; Petitpas, Brewer; Van Raalte, 2009; Stambulova, Alfermann, Statler; Côté, 2009; Samuel; Tenenbaum, 2011).

Thus, being a professional football player carries a more significant role than just a sports career itself, posing as one of the main social ascension careers for the athlete himself and his family (Rubio; Carvalho, 2005). Special attention is needed to understand the challenges and influences of exposure to a football career development regarding positive human development and life skills acquisition, that are unrelated to their athletic performance.

Therefore, this study aimed to analyze the trajectory of sports development of football athletes. We characterized significant elements faced in athletic transitions within the five domains of a developmental and holistic perspective on athletic career development model, by performing an inductive content analysis of qualitative interviews.

2 METHODS

Considering that an athlete's career development and trajectory is a succession of stages and transitions including initiation adherence and continued participation in competitive sports organizations (Samuel; Tenenbaum, 2011; Pummell et al., 2008) we conducted a cross-sectional study with the aim to understand this process in the Brazilian reality, specifically in a group of football athletes in the Parana State.



2.1 Ethics Statement

The research project was presented to and approved by the club coordinators and technical committee. After this process, the parents and football players were contacted directly and invited to participate in the research. Signed consent was obtained by the football players, as well as their parents if the players were below 18 years of age.

2.2 Research team

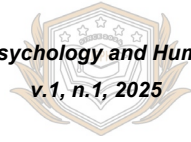
The 2 researchers were male, master's students in the Psychology field, with experience in qualitative research. They had prior knowledge of sports psychology research on athletic development, career transition and experience of supporting athletes in an applied sport psychology context. The second author of the present study had extensive experience of competing as a semi-professional football player and was familiar with the context of the participants. Both researchers participated in all stages (data collection, transcription and data analysis).

2.3 Participants selection and Recruitment

We conducted qualitative in-depth interviews with 30 Brazilian male football players from a team playing the First Division of the Brazilian Football Championship (top League in Brazil).

The team is known as one of the athlete formation clubs with the best structure in Brazil (Pluri Consultoria, 2020). The athlete formation program is organized in three levels of career development: sport initiation, selection of athletes for pre-pro and with 15 years signing a contract and being professionalized (Table 1).

Initially, the project was presented and approved by the club, and permission was signed by the parents of players under 18 years of age, so that they will be contacted directly and invited to participate in the research. Thus, 30 football athletes with ages between 13 and 20 years old constituted our convenience sample. Subjects were selected to illustrate athletic transitions in the three different phases of career development. Although the model developmental and holistic perspective on athletic career development adopted by Wylleman, Reints; Knop (2013) suggests the

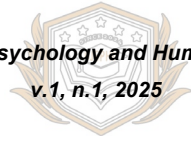


taxonomy of talent development by Bloom (1985), considering general athletic career development programs in Brazilian football, and considering the ages that athletes go through the different training levels, we chose to adopt Côté's (1999) model for athletics development.

Table 1 - Levels of career development

a) Sports initiation	Local football schools funded by the team, situated in different parts of Brazil. In this phase youngsters begin playing at around 6 years and have training sessions twice a week
b) Selection of athletes for pre-pro	According to performance evaluations from trainers, a number of athletes are selected and sent to a pre-professional school in which training sessions are upgraded to an intermediate level. Athletes start to practice on a daily basis, living in the school (around 12/13 years old)
c) Being professionalized	After another selection process the best athletes are sent to the main headquarters of the team (average age around 15 years), now signing a contract and being professionalized. These junior athletes start to train with performance and result expectations, taking part in national and international competitions and are sometimes traded as a football player at that age

Source: prepared by the authors, 2025



Thus, we ended up with three groups of analysis: a) Experimentation phase: 10 athletes in a transition phase from experimentation to specialization (around 13 years old) contacted with initiation schools defined in section (a) described above; b) Specialization phase: 10 athletes in a transition phase from specialization to investment (around 15 years old) contacted with pre-professional school outlined in section (b) described above; c) Investment phase: 10 athletes in investment phase reaching professionalization (around 17 years old). These athletes were part of the junior team outlined in the section (c) described above.

2.4 Interview Procedure

The semi structured interview conducted by the first and third authors was used to gain insight into the participants' perceptions of their career transition in the phases of athletic development. An interview guide was developed for the study to facilitate and standardize the acquisition of the qualitative data. The guide was built iteratively by the authors (JRN and LPO) who conducted the interviews.

The guide was developed with the basis of the elements of the developmental and holistic perspective on athletic career development (Wylleman, Reints; Knop, 2013). Specifically evaluating the following indicators:

Athletic Domain - Satisfaction with the role, the sporting environment, the relationship with coach, teammates, friends, difficulties, parental influence, family support. Psychological Domain- Satisfaction with the role, recognition by peers, friends, family, career changes, motivation to practice;

Psychosocial Domain - Important People, significant peers influence these people, relationships with friends, coach, teacher, parent, family, personal motivations;

Academic Domain - Satisfaction with academic life, difficulties, importance of the study, interpersonal relationships. In this research, the Financial Domain (e.g., higher employability) was reported along with the vocational domain. Pilot interviews with football and futsal athletes were performed to guide conception, testing comprehension and accuracy of the guide to address out research

question adequately. Experts in Sport Psychology and Sports Sciences reviewed our interview script to provide further clarifications. We also investigated the feasibility, meaning and clarity of the interview questions (Bardin, 2008) following an interview script that was previously tested with college athletes from the State University of Maringá and researchers from the GEPEHD research group.

Our interview guide ended up with open, non-leading questions and predefined probes topics and was trained by first and third authors to be conducted similarly. Interviews were conducted across two separate sessions. The first part involved the informed consent acquisition with the athletes and/or legal representatives and the first section of the guide with an overview of the background information such as length of involvement in sport, reasons for participation, and goals.

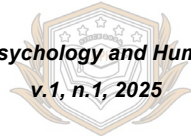
The second moment applied to the subsequent four sections (athletic, psychological, psychosocial and academic/financial dimensions) of the interview guide designed to explore the athletes' experience during their sports career and associate the career transition with the demands and specific features of the sport.

The interview with each athlete individually in an open place under the guidance of a responsible of the club, for approximately 1 hour. They were recorded on two recorders simultaneously to ensure proper collection of audio information. The audio collection was discussed and approved by the participants.

2.5 Data Analysis

All audio-recorded interviews were transcribed verbatim in a naturalistic way, resulting in 112 single-spaced pages of interview data. Two researchers (first and second author) read and reread all the interview transcripts to become fully familiar with each of the participants' accounts. Independently, first and second authors identified raw data themes (quotes or paraphrased quotes that captured major ideas conveyed) characterizing each football player's responses within the career transition dimensions.

Then, each researcher independently developed emerging themes for each interview. Successively, through extensive discussion, consensus was obtained on a joint list of subsection raw data themes characterizing each emerging theme.



Sectional raw data themes characterizing each football player were compiled across players, resulting in a list of raw data themes within each dimension of the interview guide, encompassing the sum total of responses by all 30 players. Thus, an inductive analysis was performed to identify common themes of greater generality from the list of raw themes. Second-level themes were labeled 'higher order themes', while the four career transition domains (dimensions of the interview guide) determined in advance to obtain the raw data themes were labeled 'general dimensions'.

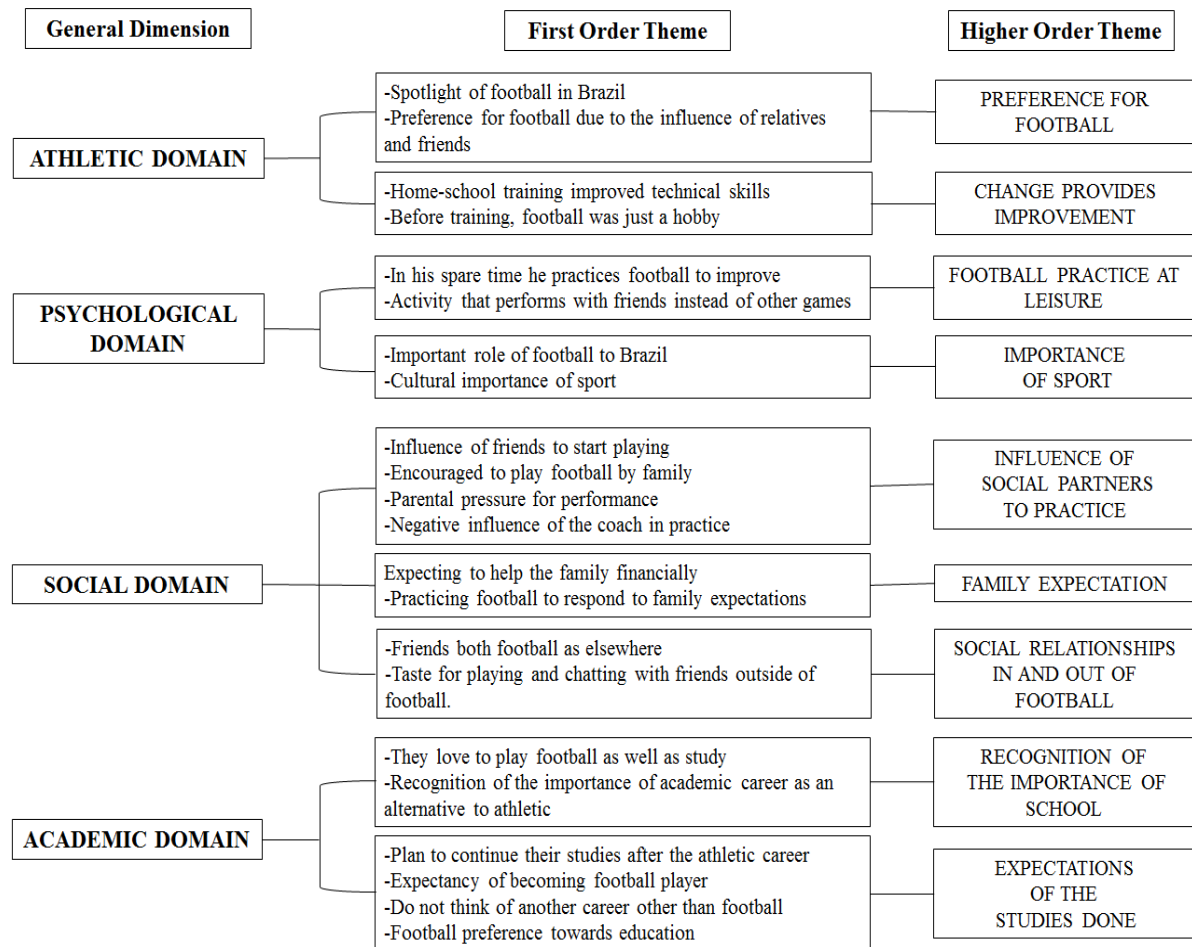
As a supplementary verification of the inductive analysis, the raw data themes and higher order themes were tested by conducting a deductive analysis, in which the researchers went back to the original transcripts and verified that all themes and dimensions were represented.

Sets of raw themes and higher order themes were organized by group (experimentation, specialization and investment) to characterize transitions in each moment of the athletic career development (Figures 1, 2 and 3). To present the results of those revealed, they were translated from Portuguese into English by the researchers themselves and reviewed by the sworn translators who evaluated the article.

3 RESULTS

The four general dimensions (athletic, psychological, psychosocial and academic/financial) used to extract the 22 raw data themes from the transcripts regarding athletes' career transition at the experimentation phase are depicted in Figure 1. Subsequently these raw data themes were organized into 9 higher order themes. Each of these higher order themes is exemplified by unit quotes to illustrate the meaning.

Figure 1 - Hierarchical characterization of athletes from phase of experimentation in the four domains of career transition



Source: prepared by the authors, 2025

3.1 Experimentation phase

Experimentation athletes showed a preference for football over other sports and other activities (such as school studies), indicating that since childhood the Brazilian boys have a preference for football and a dream of becoming a professional player.

The preference for football over other sports may be related to its media presence and greater importance to relatives and friends, as portrayed by the statement of an athlete:



I have practiced handball, but only in school, in physical education classes at school. I liked it, like all sports, but I love football. I fell in love because it is very cool, I like it, and everybody talks too. I love playing football. Everyone says that football can be a future profession. My mother, my friends, relatives. All of them say it (AEX5).

Another important issue in the athletic domain was the change provided by training, where athletes of this stage reported technical improvement and greater interest in differentiated systematic training of daily practice with friends or at school, as evidenced in the quote:

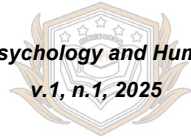
No, I started, it's just I did not know ... my colleagues started to train here, so I came to train, then after they explained that they had to go to the gym to apply for the training, so I went. Oh, it improved, because here there is a specific training, improved shot, everything. (...) Since school it has changed a lot. It was more... it was not as strict as here, here it is harder (AEX7).

In the psychological domain, athletes have reported great identification with football practice, adopting it as a pleasant or playful experience, held in leisure time, as expressed by this athlete:

In the afternoon when there is no training here (in the club), we go to a small open gym to play. When there is no task to be done in the afternoon, we stay there all day long playing' (AEX2).

This choice of football as an activity performed in their free time seems to be due to the importance of the sport specifically in Brazil. Thus, the practice of football would represent an expectation of development and social ascension, assumed as a dream or purpose to be achieved, as the athlete phrases:

Football is the world's best sport, for example, Ronaldinho Gaúcho. Ronaldinho was like me, had no father, and those things, and so he was playing, was playing and turned out to be a great player. Now he's the best in the world' (AEX1).



In this context, the influence of social peers in sport practice is emphasized as crucial for the athlete's engagement. It was revealed by the athletes in the experimentation phase that their main significant social peers were family and friends, as it is noticed in the statements below:

My parents want me to be a footballer, my friends say that I was good at playing on the street, then my parents put me in the local train facility (club), they say I may have a good future (AEX6).

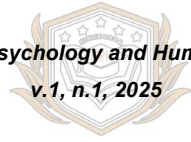
Thinking? To give a better future for my mother, my brother. I think being a footballer will provide me a better future (AEX1).

However, this influence is not always positive, as the expectation of parents and sports professionals in an athlete's career can result in extreme pressure for performance, as well as negative models of coaches and trainers, as athlete AEX1 portrayed: 'I stopped training because T. (coach) swore me a lot'.

Despite the preference for the practice of the football field, the athletes showed an acknowledgment for the importance of school, reporting that they are as fond of playing outdoor football as they were going to school. They mentioned that studying would be a second option to get a career out of the sport or after the end of their athletic career, as the athlete's statement:

I'm doing well, and it is very good, because, for example, if I can not be a football player, or have an injury, I will not be able to play anymore, so I have to graduate. Then I will not be able to work more on that, and I'll have to work on something else (AEX8).

However, since the experimentation phase there has been a preference for an athletic career at the expense of academic professional development. Some athletes have reported interest in continuing an academic career, but only after the end of athletic career, while others can no longer consider other careers than that of a professional football player, a difficulty that is evident when the athlete reports:



Ah, if football does not work out, I'm going to another career, but I do not think of any because I do not see myself doing anything else (AEX7).

3.2 Specialization phase

For athletes in specialization phase (Figure 2) we have identified a preference for football practice on the field instead of other sports activities, as emphasized by the athlete:

I like everything, indoor soccer, handball, I like to play everything, volleyball. But I prefer football, since early age I've been wanting to be a player, even because football here in Brazil is taken more seriously. I also see the players on the field, and it makes you want to be there at their place (AES2).

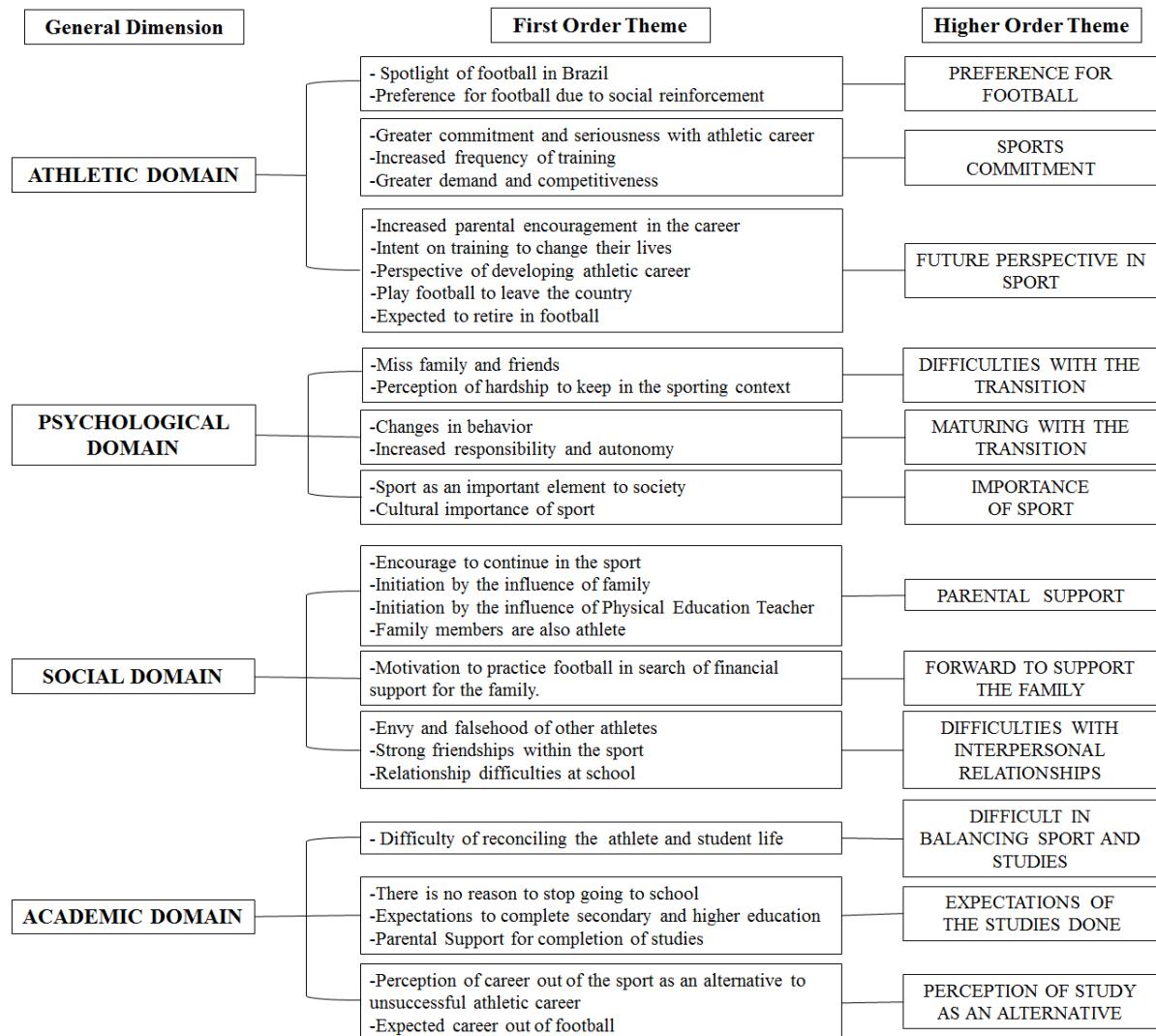
This preference could be explained by the greater emphasis on football in Brazil compared to other sports like volleyball or basketball, as well as by social reinforcement achieved with this practice, like fame, financial support and respect.

During this phase, the commitment to their sports practice also intensified, increasing the frequency of trainings (athletes begin to train every day) and competitions; the requirement by the club and the family is also higher and the sporting career is viewed more seriously, providing the establishment of goals and expectations towards it:

When I played there, you played small championships, you know? Here it's the opposite, and small championships are no longer important because it is a great club, and you always have to go to win and play seriously. Over there it was more for fun when I went to a championship. But here it's not, here it's serious. At the beginning, in the first championship I played here, I was taking it more for fun, then you start to watch the game and take it more seriously. After you've been getting experience from others, playing in the league and team wins it, and then you start learning. At first, you think it's more for fun, but then I was getting the way it's done (AES4).

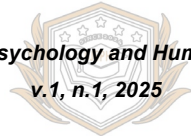
With the transition to the specialization phase, the emphasis was placed on future prospects within the sport and increasing parental encouragement in their sons' athletic careers.

Figure 2 - Hierarchical characterization of athletes from phase of specialization in the four domains of career transition



Source: prepared by the authors, 2025

Regarding the psychological domain athletes experienced difficulties with the transition to the stage of specialization, facing the distancing from family and friends that were left behind for the dedication to sporting career, as stated by the athlete:



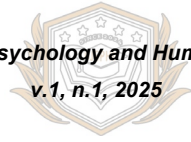
I hope to be a well-known professional player, I do not want to play just to play or playing at a bad team, I want to play football to be a guy who is recognized, famous, that play outside the country, because playing the entire childhood away from the parents, if you have already lost it all, then at least you need to have a strong stimulation in life (AES3).

On the other hand, the participants demonstrated increasing maturity due to family estrangement, resulting in increased autonomy, accountability and behavioral changes, such as coping with problems and adversities that previously were solved by the parents, asound in this athlete's statement:

Negative, because you lose a lot of living with parents, I spend thirty days away from my father and five or six days with him. I think the negative side is the family, of course. I think the positive side is life lessons, beginning to live alone, doing things by yourself. For example, at home my mother always makes my bed, here we have to arrange that, and also we wash clothes or get the clothes done if you can afford, but no underwear, we always wash underwear (AES8).

For these groups, sports were perceived as an important cultural element for Brazil and for the athletes' lives. This fact encourages the commitment with football practice and assists in coping with the previously mentioned family estrangement and deprivation of social relationships outside of their direct context in the football club. The psychosocial domain had parental support as the main factor of encouragement to continue in the sporting context, especially in families that already have athlete members (parents or siblings). Another source of encouragement for practicing football were the physical education teachers who supported the initiation and served as an example of role model for athletes in the specialization phase, as we see in the quote: "So whenever I am home during vacation, they tell me to fight, to not give up, to go for my dreams if it is to play football. They always encourage me, keep telling me not to give up (AES1)".

Another noteworthy element in the psychosocial domain was the expectation of growth in the sport context seeking financial returns as a way of helping the family and thus providing financial support to them. On the other hand, interpersonal relationships were perceived as difficult, as many athletes reported having to face the envy and



falsity teammates and have difficulty in establishing friendly connections with schoolmates, and thereby limiting relationships to friends in the sporting context, as highlighted in this athlete's report:

They are other boys that can take my place in another team, just because he says that is my age and he's not. For example, he's older than me, but he says he's my age, so at the end he can take my place, because he will be in advantage of being older, he can be better but he is not that age that he says. So, I do not like it (AES9).

In terms of the academic and vocational development, the athletes in specialization reported difficulties in navigating a student and athletic life simultaneously, complaining about physical fatigue after workouts and trips to competitions that would impair school performance, as highlighted in the following statement:

It is hard, there is a lot to do. It's homework, training. School homework I have to do at night, just after training. It's very difficult, but it's good right? I do not like to study, I find it boring, but I want to finish everything, go to college, everything. Because if I can not be a football player, I can go to college, do a physical education course, and get a job easily (AES4).

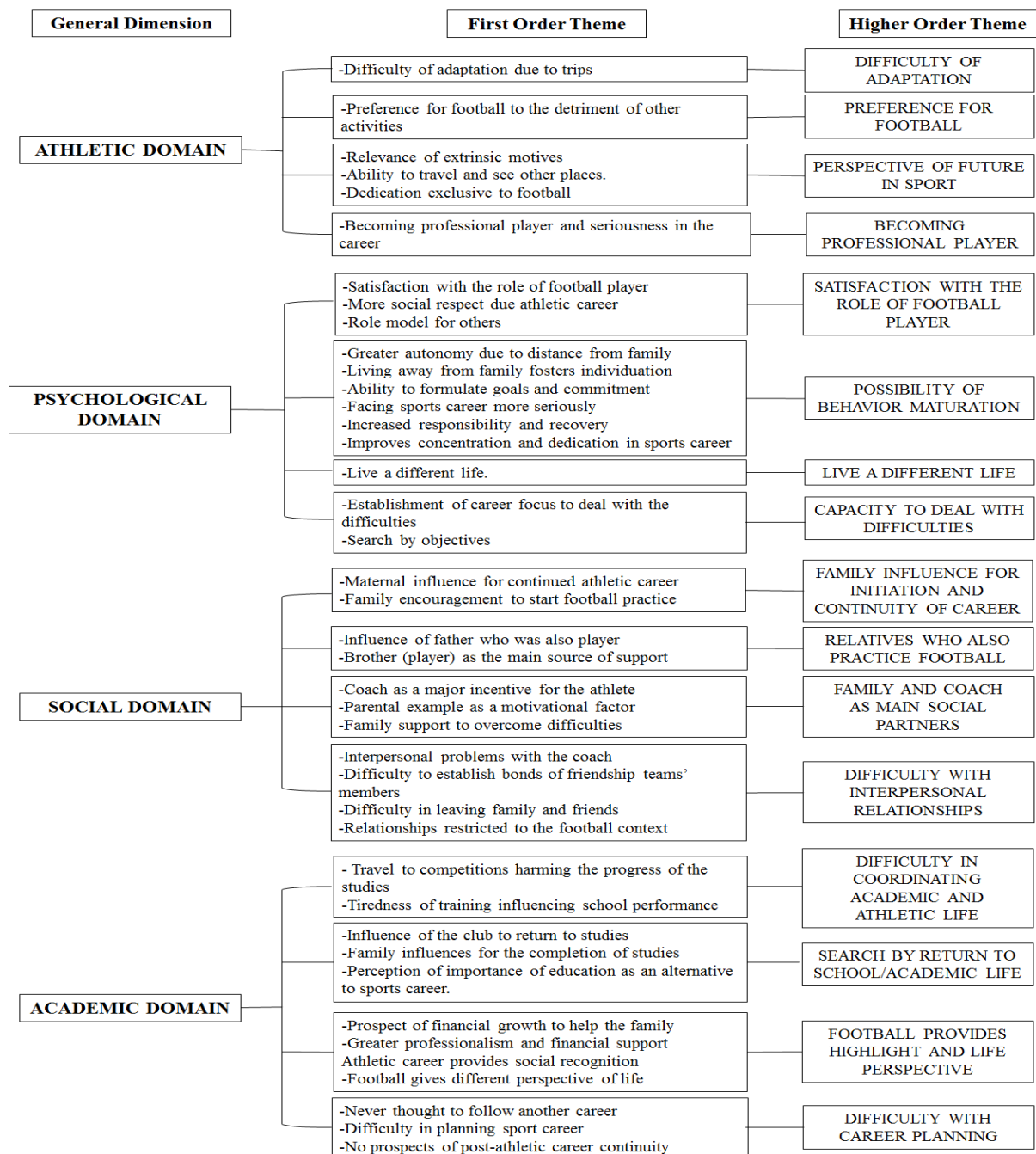
However, the expectation of graduating from school was reported by and considered as a way to meet parental expectations and gain their support. Several athletes in the specialization phase recognized the importance of an of academic and vocational life as an alternative to an unsuccessful football career, as illustrated here:

It does not attract me not to study. I only guess I'm following the path of football, but it is very important to study, God does not want to, but if it happens and I get injured or if I can not turn out to be a professional player, nowadays you can't be without studying. I think, for the future, have a profession. If I can not become a player to be able to support a family, having a profession, because nowadays for all professions you need to study, accepts when your financial life is easy that you don't need. (AES5).

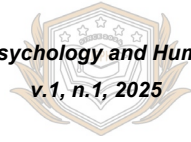
3.3 Investment

The transition from specialization to sports investment was summarized in Figure 3, below:

Figure 3 - Hierarchical characterization of athletes from phase of investment in the four domains of career transition



Source: prepared by the authors, 2025



In the transition from specialization to athletic investment (Figure 3), the study participants reported having difficulties in adapting to the demands of training and high-performance competitions. As it occurs from the transition of experimentation to the specialization phase, athletes have shown preference for football practice instead of other activities, but now with greater emphasis on sports careers.

Still referring to the athletic domain, it is evident that there is a change in the motivational factors compared to the other phases. Emphasis is given to an increasing extrinsic motivation such as finance, hiring, trips to different countries and social prominence, resulting in an exclusive dedication to football practicing, as pointed out by the statement of one of the athletes:

I think mainly coming to the (club), have moved here. My life has changed a lot when I came here. It has changed in a positive way, because when you play in a small team, you do not have [...] several things change, treatment, salary, things like that, you do travel with the club. The highlight is greater, and because it is something that gives you a lot of money, it involves a lot of money in football, and more because of my father, my mother (A15).

Another player emphasized the professionalism found in the athletic career phase, taking the greatest seriousness and dedication to the practice and its development. This change is characterized in the athlete's statement:

All day long, because I train in the morning, I finish at noon, have lunch and in the afternoon I have training again, and at night there is a game to watch. When I signed the contract I saw it was really serious. Then I saw the contract and I saw how much money I worth if I am sold, I saw it was really serious. Because in the past, when we arrive, we just want to learn to play and do not see the money or how much it is. Once you start to grow, you will see things, see the falsehood that there is in football, the guy trying to steal your money. Begin to earn a bit and the guy already wants to take your money, Then you see that the business is serious. Then you start to stop and think you must have a good person on your side. Football is serious. A lot of money that you do not know what to do with the money, and you must know what you will do with this money (A13).



In the psychological domain, a satisfaction with the football player role was emphasized by the athletes, highlighting the social recognition, as reported by the athlete:

(...) It is a dream come true, in my life, my father, my mother, everyone dreams of being a great football player and now I'm here in the (club). None of them imagined that I would be here today, thinking (...), where I am today. People see me as an example, I left there, no one accepted me to play football as a career, just my mother. My father complained that she was only spending money on me. It was supposed for me to help him at the farm, but today I'm here. Now when I go there they look at me differently, my father always asks for me to take things for him. Sometimes my mother looks at me and cries (A11).

The involvement with the athletic career seemed to provide further maturation and behavioral changes as a consequence to meet the demands of the investment phase. Athletes reported increased autonomy and individualization because of family estrangement, greater commitment, development of personal goals, increased responsibility, improved concentration and dedication to their sports careers. Thus, sport as a profession was perceived more seriously during the investment phase, as demonstrated by the athlete in his statement:

More responsibility, previously I only played for fun, then I had to start playing more seriously. It was more responsibility. I began to focus more on my goals; focus more on the things I wanted in what was best for me (A14).

On the other hand, some athletes reported a desire to have a professional life that was not different from other people working regular hours and living close to their families and friends. However, the study shows evidence of greater coping capacity of threatening situations, using as strategies the focus on sporting career and the pursuit of achieving objectives.

Once again, the family appeared to be the main motivational factor to continue the sporting career and along with the coach, were identified as the most significant social peers, serving as a motivational factor, role models to be followed and support provided to overcome difficulties. Another important aspect mentioned was the



presence of family members who also identified themselves as athletes to serve as a support in dealing with the difficulties and demands of the phase of athletic career, emphasized by the athlete in his statement:

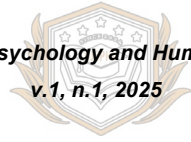
My parents were always there. When I played in the same small school, I had game eight in the morning my father and mother were there watching. Once I did, on Mother's Day, I scored four goals in the championship, then had a T-shirt done commemorating the date, my mother still has this T-shirt. My mother is very supportive too, she really supports me. When I tell her that I'm happy here, she cries (...). My mother's awesome, she and my father. Mainly for them that I'm here, they give me strength even when I am down in the dumps they raise me (A13).

In the psychosocial domain, the main difficulty pointed out by the subjects were interpersonal relationships. Relationship problems were reported with the coach, difficulties in establishing bonds of friendship with the other players, relationships restricted to the football context and difficulties leaving family and friends to dedicate their time and efforts to the sports career. These situations are portrayed by the athlete:

At first it was hard, you get there, do not know anyone and have to start making friends. At such times I thought about my friends, that I could be there with my friends. I even thought about leaving, but as I told you, I began to build friendships, they were growing here (A16).

Another difficulty was to coordinate the academic students' life with the football athlete's life. The frequency of trips to competitions and post-workout fatigue appeared to influence the academic performance, a challenge that was highlighted by this athlete:

I finished my training, I was very tired, there was no longer that energy to train and go to class. I was discouraged, then I came and talked to my parents who supported me. I was out of school for a couple of years until I saw what I was doing wrong, so I went back to school. I trained in the morning and afternoon and studied at night (A18).



Despite the difficulty that athletes reported seeking to return to school, there was a general perception of the importance of completing high school and college as an alternative to unsuccessful sports careers. Nevertheless, the athletic career was still considered more attractive because of the life perspective that it could provide. The interviewed athletes perceived football as the primary vocation and career option, with great prospects for financial growth, which was mentioned to mainly support the family, increased professionalism, social recognition and different life perspectives than what they grew up in.

While attributing importance to the high school and college completion, the athletes still experienced difficulties with planning their alternative career outside of the athletic pathway, as pointed out by the athlete:

(...) I can not imagine, can not imagine (what I would be if I wasn't an athlete). I don't think about another career, I see that college is still kind away from me, I dream of having a car, getting out. Playing football is what I love is the only thing I know to do (A17).

From this perspective, some athletes have come to declare that they never considered another profession except being a football player, despite the difficulties in planning for retirement and little prospect of continuing academic education after the end of their athletic career.

4 DISCUSSION

To our best knowledge, this is the first study in Brazilian literature to analyze the athletic career development from career transitions of young soccer players through a holistic approach, analyzing the perceptions of transition in the athletic, psychological, psychosocial and academic/vocational and financial domains simultaneously among football athletes in different stages of their athletic careers. In the present study, we have found that in all three transition periods common themes related to skills improvement and the perception of football as an activity with the possibility for a better lifestyle, resulting in preference and commitment to practice.

Parents and family members were consistently reported as the main social peers, influencing the engagement with the sport and the continuity of practicing, in



order to meet their expectations of being successful in their sports career and providing financial assistance to the family. Interestingly, the demand for being a professional football athlete starts early in the experimentation phase, stressing the content preference for the sports career in relation to education or other vocational career in all transition stages.

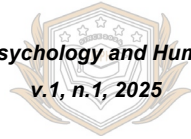
The transition to sports career development marks an intensification of sport dedication, revealing difficulties with interpersonal relationships outside and inside the sports domain, increasing the presence of athletic related social peers such as coaches or colleagues. Athletes report personal growth in independence and autonomy, reflected in the difficulty with maintaining the student-athlete's life, resulting in some cases in the abandonment of academic careers, despite a perception that studies may be an alternative to unsuccessful sporting careers.

The intense commitment to the sporting context of the investment phase results in a high athletic identity and financial/career stability, highly supported by the family and significant others. However, the downside of a restriction and difficulty maintaining extra activities besides soccer, revealed problems in maintaining their academic careers and planning for a professional career after the end of their sports practice.

4.1 Athletic domain

Our results contradict the proposed concept for the experimentation phase, that suggested the practice of different modalities aiming at relaxing activities that provide pleasure to the individuals (Côté, Horton, MacDonald; Wilkes, 2009). However, we observed a strong preference for football and an exclusive dedication to soccer without any reports of other kinds of sports activities, except in physical education classes at school (AEX5). These findings indicate an early commitment, where the main focus of the practice is not recreational, but the development of professional athletic skills (Figure 1), diverging from the overall idea that specialization of activity in the early ages, does not facilitate success in later years and may be, in most cases, the abandonment of sport (Barreiros, 2005).

The goal of becoming an elite athlete who is assigned by the literature to the investment stage in our study was already seen in the specialization phase (Figure 2), which is different from international models (Salmela; Moraes, 2003). Of course, each person has a different time to development, as reported by Agergaard and Ryba



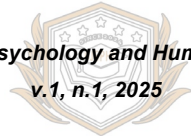
(2014), that 'the transition should not be seen as a simple process of assimilating to a new local setting, but rather as a process through which athletes develop a transnational belonging involving membership in groups that extend beyond national borders' (p. 236). In fact, athletes at that stage showed changes in motivational style, showing extrinsic interest in sports practice. One possible explanation is the diffusion of sport at all levels of society in Brazil and the large number of practitioners of the poorer social classes (Alcântara, 2006), functioning as a major social mobility measure attracting large amounts of youngsters to an early dedication to a sports career (Macagnan; Betti, 2014).

Our findings from the athletic domain align with what is proposed by Wylleman, De Knop, Verdet, and Cecic-Erpic (2007), where athletes come to confront the need to seek professional status and focus on a period of their life exclusively to the dedication and preparation for competition, at the expense of developing in other spheres of human excellence.

4.2 Psychological domain

Considering the psychological domain, participants were mainly adolescents and are, therefore, preparing to adopt meaningful roles for themselves and for society (Klimstra, Luyckx, Germeijs, Meeus; Goossens, 2012). As shown in our results, football seems to satisfy the need to develop an identity mainly by the role and significance this sport has in the social context of the country providing the recognition needed to establish a strong commitment to an athletic identity (Berzonsky, 2008; Lally, 2007; Lally; Kerr, 2005).

However, this process in our study was deemed a negative outcome, with athletes reporting the problems associated with a strong athletic identity. This challenge has been consistently reported in the literature (Houle; Kluck, 2015), such as a lack of other life roles, difficulty with student-athlete careers, and a narrowing of social support networks. Other reports corroborate (Hecimovich, 2004; Papaioannou, Ampatzoglou, Kalogiannis; Sagovits, 2008; Malisoux, Frisch, Urhausen, Seil; Theisen, 2013) the negative effects of high commitment and reduction of investment in other social roles, leading to injuries, anxiety on performance, parental and coach pressure, isolation and burnout.



Such characteristics were common to all athletes in the different career stages was the recognition of the importance of football to society and culture (Figure 1, 2 and 3). This importance legitimated the choice of sport as a professional practice, providing respect for social peers and satisfaction with the role of the athletes' investment phase. It also justified the choice to practice rather than choosing other activities, and provided the possibility of future growth and for athletes in the specialization phase. It also showed how successful players were mirrored by children and inspired by the possibility of future prospects.

On the other hand, positive aspects of appropriately intense commitment were also identified. Athletes highlighted the possibility of maturing and developing autonomy through their sports participation. Participating in sports and physical activity may be inherently intrinsically motivating for many people, especially when they involve self-chosen optimal challenges, as this can help people enjoy the sense of autonomy and mastery (Teixeira, Carraça, Markland, Silva; Ryan, 2012). Similar results were found with other sports modalities, such as good peer communication and friends (Fraser-Thomas, Côté; Deakin, 2008) as well as adherence and motor performance (Brewer, Van Raalte; Petitpas, 2000).

Similarly, the ability to face the demands and threatening situations (coping strategies) is considered a determinant for athletes under development (Gould, Finch; Jackson, 1993; Smith, Smoll, Schutz; Ptacek, 1995; Dale, 2000; Park, 2000; Pensgaard; Roberts, 2003; Amiot, Gaudreau; Blanchard, 2004; Ouwehand, Ridder; Bensing, 2008). Our findings among football players in the investment phase revealed greater abilities to deal with difficulties, mainly using strategies focused on the establishment in sporting careers and the pursuit of achieving the proposed goals and targets.

4.3 Psychosocial domain

The issue of psychosocial development reporting of outdoor football athletes emphasizes the influence of parental support and social peers for initiation and continuation of sports. Thus, the results of this research showed that football players have an important role in helping financially in family spending (Figure 2). These findings are related to the findings of Moraes, Rabelo; Salmela. (2004), noting that the outdoor football players in Brazil come from families of low social class (Moraes et al.,

2004). This possibility to help the family financially appears to be a motivating factor for the athletes included in this research study. According to Holt, Tamminen, Black, Mandigo, and Fox. (2009), parents have a role in the development and permanence of their children in the sporting context.

In our study the parents were considered of great importance for the athletes, but the increasing distance occurs early on, within the specialization phase (13-15 years), in which athletes move from their city to train in more structured clubs, and are living in the club with other athletes. Regarding club mates, relationship difficulties were observed in athletes' phase of expertise and investment, opposing the findings of the studies of Wylleman and Lavalée (2004) and Wylleman et al. (2007). Specifically in the specialization phase, athletes have reported difficulties relating to others because of envy and lying between them.

On the other hand, friendships outside the club were also scarce due to the great dedication to the sport, taking extra time that would provide the establishment of links outside the context of football practices (Figure 2). Only in the experimentation phase have there been reports to people outside the sporting context in a positive context, as pointed out by the literature (Fraser-Thomas et al., 2008). Thus, to counterbalance the difficulty of friendly relationships within the club, athletes seemed to seek family support (Figure 1).

4.4 Academic domain/Financial domain

By analyzing the transitions in their academic and vocational life, outdoor football players showed difficulty in handling athletics with student life. Among the difficulties with athletic and academic transitions, Côté (1999) emphasizes that the increased daily commitment to the sport probably occupies the athlete's time, leaving the rest of the short time for studies. This could overload the players, making them feel tired after training and discouraged from studying.

However, the outdoor football players, instead of having problems in the athletic career during the academic transitions, our study showed that the process is reversed, as athletes are rather dropping out of school to stay in the sport (Figure 2). Similar results were found in Brazilian tennis athletes (Vianna, 2002) which could suggest a problem related to sporting culture in the country.



This is a worrying factor found in the reports of the athletes in this study, since the abandonment or difficulties with studies can have lasting consequences on their academic and vocational formation, as well as psychologically and socially, as shown by Ouwehand et al. (2008). They verified that education is an important factor of preventive coping (stress coping), relating the educational level with planning and prevention. Through education people develop skills that are important to the effective adoption of preventive coping processes, such as problem solving, analytical and communication skills (Prenda; Lachman, 2001).

On the other hand, despite reporting problems (and abandonment) with academic life, athletes (in all phases) demonstrated the desire for continuing their school/university education. In the experimentation phase, some athletes have expressed interest in continuing their education after the end of their career, but it is understood that these athletes are not mature enough to be discerning about the importance of education. During the specialization phase, the expectation of finishing school with an interest to finish a degree was largest, alongside the parental support that served as a major motivational factor (Figure 2). The interest in interrupting the studies was predominant in the investment phase athletes, with great influence of the club and family to do so (Figure 3).

This result indicates concern for life outside sport and preparation for retirement. Thus, post career planning is considered crucial for adapting to life after a sports career (Stambulova, 1994), and a high level of education can influence the post-athletic career opportunities (Wylleman, De Knop, Menkehorst, Theeboom; Annerel, 1993).

Another factor contributing to the growing interest of athletes for excellence also in school life is the prospect of alternative occupations if the athletic career did not result in a professional path (Figure 2). However, even though the athletes voiced concerns about the end of their sports career, there were signs of resistance regarding the planning of post-athletic career, similar to Wylleman et al. (2007) that showed a lack of commitment to the planning of a post-retirement career, identifying this event as too far away to worry about before the start of their professional career. Even those athletes who thought of a career after being a football player, still had the possibility to remain in the sporting context as a professional, coach, officer or any related profession.



4.5 Limitations

A possible limitation of our study is the stratification technique of our subjects. The study included athletes of different age groups and can not keep up with the transitions such as aging and evolution of the athletes, and often we are not sure how these different ages influenced their responses. On the other hand, this type of research allows us to observe the different perceptions of athletes who are at specific developmental moments facilitating the understanding of the demands of each period.

Another limitation was the evaluation of a single training club of Brazilian football, not allowing comparisons between other clubs and regions. However, for this club to be recognized as one of the best training institutes of athletes and receive players from all regions of the country, the findings of this research can serve as parameters for coaches and football clubs to structure the training of their athletes.

5 SUGGESTIONS AND PRACTICAL IMPLICATIONS

The results suggest the continuity of studies comparing results transitions in Brazilian athletes from other regions and other nationalities, understanding how different sports policies influence the development of the athlete and their performance. We also suggest further research to compare the development in different modalities and competitive levels. New studies taking each domain as a starting point for further research to investigate the parental and social peers role, the development of psychological features such as coping, resilience, moral and identity, and the relationship between academic and athletic performance, or the importance of school for athletes, focusing on improving the development programs of sporting talent back to the performance and the development of human beings.

It may be noted that the football formation context presents itself as a potential to assist in the physical (athletic), psychological and social development of young athletes, promoting the development of mental abilities and social climbing. However, we also point out the importance of planning the athletic career in a way that addresses the excellence of the subject as a whole and not only the athletic emphasis, preventing developmental problems such as early specialization, restriction in interpersonal relationships, and end of career, or academic and vocational restrictions and difficulty in exploring roles.



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DO WE REALLY NEED SPORT PSYCHOLOGISTS? Facilitators and Barriers to Sport Psychology Development

PRECISAMOS REALMENTE DE PSICÓLOGOS DO ESPORTE? Facilitadores e Barreiras ao Desenvolvimento da Psicologia Do Esporte

A. Rui Gomes¹
Catarina Morais²

Abstract

Even though sport psychology is an established field of Psychology, with over a century of research and well-defined practice, there are still questions about the added value of these professionals. In this paper, we briefly reflect on some of the advantages of hiring sport psychologists, namely the benefits of supporting evidence-based practice, certified professionals, and developing the athlete as a whole (not just focusing on their performance). On the other hand, there are some barriers related to costs, work conditions, and development opportunities that make organizations question the hiring of such professionals. In this manuscript, we propose a decision-tree on hiring sport psychologists based on one's analysis of four domains: beliefs about science, ethical issues, career opportunities and work conditions.

Keywords: Sport Psychology; Psychological Intervention; Sport Psychologist.

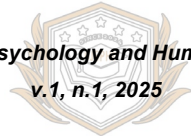
Resumo

Embora a psicologia do esporte seja uma área consolidada da Psicologia, com mais de um século de pesquisa e prática bem definida, ainda existem questionamentos sobre o valor agregado desses profissionais. Neste artigo, refletimos brevemente sobre algumas das vantagens de contratar psicólogos do esporte, a saber, os benefícios de apoiar a prática baseada em evidências, profissionais certificados e desenvolver o atleta como um todo (não apenas com foco em seu desempenho). Por outro lado, existem algumas barreiras relacionadas a custos, condições de trabalho e oportunidades de desenvolvimento que levam as organizações a questionar a contratação desses profissionais. Neste manuscrito, propomos uma árvore de decisão sobre a contratação de psicólogos do esporte com base na análise de quatro domínios: crenças sobre a ciência, questões éticas, oportunidades de carreira e condições de trabalho.

Palavras-chave: Psicologia do Esporte; Intervenção Psicológica; Psicólogo do Esporte.

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1 INTRODUCTION

Mental health in sports contexts, particularly in elite contexts, has been increasingly addressed and draw attention to the role of sport psychologists. The recent cases of high-profile athletes such as Michael Phelps, Naomi Osaka and Simone Biles have brought to public discussion the potential harmful effects of the “win at all costs” sporting culture. At the same time, sport psychology has over a century of research and has known recent shifts in research and intervention that urge us to reflect on the implications of this domain and whether sport psychologists are really necessary in these contexts. In this manuscript, we will reflect on the ontology, object, and practices, discussing our view on the field, the barriers it faces, and the potential added value of sport psychology, making a case of why sport contexts should make psychological interventions a priority.

2 SPORT PSYCHOLOGY: FACILITATORS FOR HIRE

Three main arguments sustain the increasing development of sport psychology and the need of hiring sport psychologists, as described below.

2.1 Sport Psychology is Evidence-Based Science!

First of all, what is sport psychology after all? An accepted definition is that it refers to the scientific study of individuals who are part of sports contexts and their behavior, and how that knowledge is put into practice (Gill; Williams, 2008). This definition highlights two central aspects that we would like to discuss here: (1) scientific study; (2) translate knowledge into practice. Let's focus on the first aspect. The first research related to sport psychology dates of 1898, when Norman Triplett studied how the presence of others hinders or benefits performance. Important steps were taken afterwards and in the 60s, sport psychology was finally established as an independent scientific discipline and professional practice within Psychology. But what does it really mean to look at sport psychology as a *scientific field*? Well, in a nutshell, it means that systematic methodology is used to create knowledge. It means that researchers employ different methods (e.g., observation, data collection) to empirically test knowledge. In other words, it means it is evidence-based.



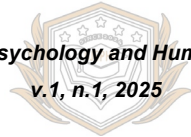
But why is that *so important*? Saying sport psychology is a scientific field can sound, to some, very ‘theoretical’... After all, isn’t “science” the opposite term for “practice”? Well, it might be for non-scientific fields but certainly is not for sport psychology. Practice cannot be dissociated from science. Sport psychologists base their practice in knowledge that has been “scientifically produced”, that is, they employ practices that have been previously studied and tested through different approaches. In simple words, the intervention strategies and techniques used by sport psychologists have proven their usefulness. In other words, they base their practice on what was tested before and *in what they know works!*

2.2 Sport Psychology is Psychological Expertise!

Sport psychology is a scientific area within Psychology. This idea seems logic and scientific valid. However, some debate still exists regarding the nature of sport psychology as a subdiscipline of Psychology or as a subdiscipline of sport and exercise science (for a full debate, see Kontos; Feltz, 2008). Our perspective is that sport psychology is an applied field of Psychology because before being a “sport psychologist” it is necessary to have graduation and training in Psychology.

A background in Psychology is essential to educate future generations of sport psychologists in topics related to basic aspects of human functioning and behavior (e.g., genetics, neuroscience, perception, memory, emotions, motivation, learning, intelligence, personality, among others), models of psychological evaluation and intervention (e.g., counseling and individual intervention; groups, teams, and organizational intervention; and social and community intervention; ethical issues of Psychology, among others), and research methodologies (e.g., quantitative, qualitative, and mixed-methods of research and data analysis).

Then, post-graduate training of psychologists (i.e., master programs, PhD programs, post-professional training on sport Psychology and sports sciences) should educate psychologists on applied aspects of human functioning and behavior in sports contexts (e.g., exercise physiology, sports biomechanics, training planning, sport sociology, among others), models of psychological evaluation and intervention in sports (e.g., clinical sport psychology; educational sport psychology; and social and organizational sport psychology), and research methodologies (e.g., quantitative, qualitative, and mixed-methods of research and data analysis in sport psychology).

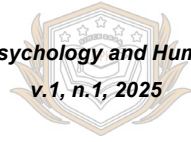


In simple words, being a sport psychologist is having scientific and professional training to (a) assume a clinical sport psychology approach to help clients (most of them athletes) to deal with psychological and emotional problems (e.g., manage stress and anxiety in competitions, manage lack of motivation in training and low self-confidence in competitions, drug and doping use in sports, among others); (b) assume an educational sport psychology approach to help clients (some of them athletes) to improve their personal experiences in sports (e.g., design psychological training programs to increase the athletes mental skills to compete; design life skills programs to increase the athletes ability to succeed in sports and in life, design communication and leadership training programs to facilitate the athletes and coaches relationship, design programs to improve positive relationships between parents and athletes in youth sports, among others); and (c) assume an organizational sport psychology approach to help clients to define policies that stimulate the potential positive effects of sports on all the individuals involved (e.g., design policies that improve fair-play behaviors in sports, design psychological evaluation protocols to select and recruit elite athletes to a sports club, develop sport campaigns to increase the number of young athletes practicing sports, among others).

This understanding of the sport psychology profession is not consensual and other countries and organizations consider alternative paths. Indeed, we agree that alternative backgrounds could be considered under certain circumstances (particularly considering experts that are already in the field), as long as some of the requirements are met (this discussion is being held on different forums and organizations that regulate Psychology professions, including EFPA, the European Federation of Psychologists' Associations).

2.3 Sport Psychology is about Wellbeing and Performance!

Even though a lot of the work sport psychologists do is centered on athletes, and particularly on elite athletes, that does not encompass all that sport psychologists do. Their added value goes well beyond performance, and specifically high performance. In fact, sport psychologists work with a wide range of individuals involved in sports, including, at least, high-performance athletes, individuals of all ages practicing sports and exercise for health and well-being reasons, young people doing sports in organized competitive contexts, adults doing sports for recreational reasons and fun



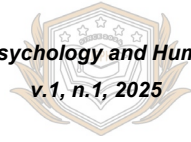
experiences, and even other individuals outside sports that are concerned about their performance, particularly when facing stressful situations (e.g., actors, police and military professionals, CEO's, politicians, health professionals, among others).

In the limit, this can imply to accept that the future of sport psychology will become even more specialized, integrating the “traditional” (sport) psychology performance area (for individuals concerned with achieving high levels of performance) and some other distinct domains related to sport psychology developmental area (for young athletes), exercise psychology wellbeing area (for individuals interested in improving their physical and mental conditions), and even sport participation psychology area (for individuals interested in stimulating and increasing their mental and physical abilities through the practice of sports without competitive reasons).

The potential multiple forms of sport psychology imply that sport psychologists work with a wide range of populations, including children, adults, people with disabilities, and others, and such work can focus (apart from performance) on achieving maximum participation and personal satisfaction and wellbeing through sport (Weinberg; Gould, 2024). Thus, it is true that sport psychology still gives a lot of attention to performance athletes and keeps developing new ways of training psychological strategies to this end. However, and this has become more prominent in recent years, sport psychology has a concern for the individual not ‘just’ as an athlete, but as a whole person.

This more holistic approach when intervening with athletes also implies recognizing that they face other challenges and transitions in their life not just related to performance but also related to other athletic and non-athletic paths and development (cf. Stambulova; Wylleman, 2014; Stambulova et al., 2020). Sport Psychologists have a key role in monitoring and developing their wellbeing, equipping athletes with psychological skills to deal with different challenges and transitions they face, minimizing the odds of developing mental issues (cf. Schinke et al., 2017).

In sum, these three main arguments suggest that (1) sport psychology is a well-established field (even though fairly recent) with solid research and practices; (2) sport psychology interventions and activities occur in the intersection of psychology with other fields of expertise, such as sports sciences, but a solid background in psychology (a comprehensive understanding of human functioning) is crucial; (3) sport psychology go beyond elite athletes including all individual involved in the sports arena, and does not only concern for performance, but also wellbeing.



Thus, sport psychologists are equipped to work in different settings, such as clubs, gyms, national federations, adapted sports contexts, among others. The advantages of hiring sport psychologists seem indisputable – so *why* are we still arguing for the need of hiring sport psychologists? The counterarguments for hiring sports psychologists are discussed in the next section.

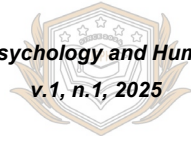
3 SPORT PSYCHOLOGIST: BARRIERS FOR HIRE

In our view, there are a wide range of reasons that are instrumental in explaining sport psychology is still debating whether it deserves place in the sport arena. Here we detail three of them.

3.1 Specialized Professionals are Expensive

Hiring a sport psychologist implies a cost. Simple as that. Unfortunately, for many sport agents that can hire a sport psychology this represents a major problem due lack of funding or budget priorities. This barrier is exacerbated by the poor financial conditions under which a lot of sport contexts operate, deciding to direct their (scarce) resources towards basic operating needs. As a result, in the Portuguese context, a lot of sport psychologists work as consultants, with precarious conditions and little career stability and progression opportunities.

The consolidation of the sport psychology field also implies that we are able to measure and demonstrate the added value to the different contexts, so these professionals are seen as an investment, not a cost. Moreover, the costs of hiring a sport psychologist goes beyond the payment of a salary (or other forms of compensation) related to providing physical, material, and logistics conditions necessary to deliver the psychological services. For example, sport psychologists can need (certified) assessment tools, a physical space to deliver individual and interventions, and may need to travel alongside with staff for competitions that can happen domestically or abroad.



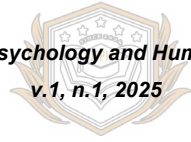
3.2 Alternative Professionals and Knowledge

A second important barrier refers to the emergence of alternative professionals and knowledge. The increased appearance of “new professionals” (such as “mental coaches”, “performance coaches”, “sports and arts performative consultant”) who do not hold basic training in psychology and present themselves as being effective in “mental interventions” is not only a problem for sport psychologists, but especially a dangerous myth that can be detrimental to individuals who contact with these professionals. Psychological intervention is a scientific practice with important implications for individuals’ wellbeing as mentioned above.

Therefore, such practices require professionals with solid training in the psychology field and, therefore, it is important to seek qualified professionals. In a lot of European Countries and in the United States of America, for example, sport psychology is a regulated profession in an attempt to guarantee that individuals providing psychological interventions: (a) have the necessary training; (b) base their practice in evidence; (c) follow specific ethical guidelines; and (d) are held accountable for their interventions, in an attempt to guarantee the safety of those who seek help to improve their wellbeing. Of course, there are “good” and “bad” professionals in every context and jobs but hiring people without scientific and professional certification is a higher risk.

3.3 Lack of Opportunities

A third important barrier is related to formal training opportunities for sport psychologists. Despite the fact that sport psychology is consolidated also as a field of practice, there are still few opportunities for postgraduation and professional certification. This might be, of course, more or less context-dependent but in some countries (e.g. Portugal), there are traditional areas of psychology (clinical/ health, educational, and organizational psychology), which often are reflected on the content of their specialization (Masters’ degree), and sport psychology is an “advanced” certification, subspecialty or proficiency (cf. American Psychological Association). Thus, there is a need for formal postgraduate study plans for sport psychologists that entail the complex combination of knowledge from a wide range of scientific areas (e.g., sports training, medicine, sports pedagogy, among others).



4 TO HIRE OR NOT TO HIRE A SPORT PSYCHOLOGIST: A DECISION-TREE ANALYSIS

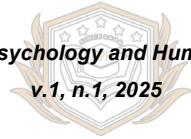
Although the need to continue the path to develop the science and practice of sport psychology, there is now enough information about the benefits and limitations of this scientific area, helping organizations to make a decision on whether the investment of hiring these professionals is worth it. We acknowledge that the decision is complex and depends on different factors that need to be weighed.

Thus, we propose a decision-tree for deciding whether to hire or not a sport psychologist based on the analysis of four domains: (a) beliefs about science (i.e., importance given to evidence-based practice and sport psychology as a specific scientific and practical field); (b) ethical issues (i.e., acceptance of ethical procedures employed by sport psychologists); (c) career opportunities (i.e., importance given to providing a stable career/ career with progression opportunities); (d) work conditions (i.e., importance given to providing the necessary structure and conditions for sport psychologists to work). The following decision-tree summarizes different paths for making the decision of hiring or not a sport psychology (cf. Figure 1).

5 CONCLUSION

There is no doubt that sport psychology is a fascinating topic with substantial implications for practitioners, sports agents, and all individuals interested in comprehend the “mental side of sports”. The increasing interest for the topic of sport psychology has been well addressed by the academy and professional organizations that regulate the practice of this activity.

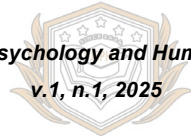
However, we can not say that sport psychology has already achieved a respected status by the sport community until a point where we see the general diffusion of sport psychologists in distinct sport contexts. By the contrary, the barriers to the development of sport psychology are still prominent and can limit the credibility of certified sport psychologist in the sports field. This implies that there is still a long path to go through before we achieve the deserved credibility.

**Figure 1 - Decision Tree for Hiring a Sport Psychology Professional**

A. Beliefs about science			
➤ Do you believe in sport psychology as a valid scientific domain and practical tool that can help the development of all involved?			
Implies			
• Accepting that sport psychology is a scientific domain based in empirical data and scientific assumptions. • Accepting that sport psychologists offer unique contributes to help human development of all sports agents.			
Changeable scenario			
○ Not all potential targets of sport psychology intervention in a specific context are aware of the validity of sport psychology but they are sensible to training or they do not take decisions regarding the sport psychology activity.			
Decision tree		Yes	No
B. Ethical issues			
➤ Do you understand and respect the ethical code of action of (sport) psychologists?			
Implies			
• Accepting the professional responsibility and technical-scientific autonomy of sport psychologists.			
Changeable scenario			
○ Not all potential targets of sport psychology intervention in a specific context are aware of the ethical issues of sport psychology but they are sensible to training or they do not take decisions regarding the sport psychology activity.			
Decision tree		Yes	No
C. Career perspectives			
➤ Do you have conditions to offer a contract to a sport psychologist?			
Implies			
• Accepting that sport psychologists are like any other professionals that need to be paid to do their job.			
Changeable scenario			
○ There are no conditions to offer a full contract to the sport psychologist but there are alternatives of payment until conditions for a full contract are met (consultancy, project-based contracts, partial time contracts, among others).			

Decision tree			Yes	No
D. Work conditions				
➤ Do you have structural conditions that allow the sport psychologists to do their job efficiently?				
Implies				
• Accepting that sport psychologists need resources, materials, and tools provided by the organizations to work.				
Changeable scenario				
○ Not all structural conditions are available but minimal conditions are available to start the activity of the sport psychology professional and there is a plan to provide all the necessary resources.			↓	↓
Decision tree			Yes	No
Scenarios				
1. The basic conditions to employ the sport psychologist in the organization are guaranteed, being important to monitor them over time.			Hire	Do not
2. The basic conditions to employ the sport psychologist in the organization are not guaranteed, being important to openly discuss if there is something that could be done to solve these issues.			(1)	hire (2)

Source: prepared by the authors, 2025



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RELACIÓN ENTRE EL ESTILO INTERPERSONAL DE LOS ENTRENADORES, LA COHESIÓN Y LA VITALIDAD SUBJETIVA DE LOS JÓVENES JUGADORES DE BALONCESTO

RELATIONSHIP BETWEEN COACHES' INTERPERSONAL STYLE, COHESION, AND SUBJECTIVE VITALITY OF YOUNG BASKETBALL PLAYERS

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Resumen

En el marco de la teoría de la autodeterminación, el objetivo del presente trabajo consistió en estudiar las relaciones entre el estilo interpersonal percibido del entrenador (apoyo a la autonomía y controlador) con las dos dimensiones de la cohesión (tarea y social) y con un indicador del bienestar eudaimónico (vitalidad subjetiva). Participaron 114 jugadores y jugadoras de baloncesto (52.6% chicos y 47.4% chicas), con una edad media de 14.68 años (DT = 1.71). Los análisis de regresión lineal mostraron que el estilo de apoyo a la autonomía predijo positivamente la cohesión de tarea y la vitalidad subjetiva, mientras que el estilo controlador no actuó como predictor significativo. Estos resultados remarcen la importancia del estilo de apoyo a la autonomía del entrenador sobre variables grupales e individuales.

Palabras clave: Clima Motivacional; Apoyo A La Autonomia; Estilo Controlador; Cohesión Tarea; Cohesión Social; Vitalidad Subjetiva.

Abstract

Within the framework of self-determination theory, the objective of this study was to study the relationships between the coach's perceived interpersonal style (autonomy-supporting and controlling) with the two dimensions of cohesion (task and social) and with an indicator of eudaimonic well-being (subjective vitality). One hundred and fourteen male and female basketball players (52.6% boys and 47.4% girls) participated, with a mean age of 14.68 years (SD = 1.71). Linear regression analyses showed that the autonomy-supporting style positively predicted task cohesion and subjective vitality, while the controlling style did not act as a significant predictor. These results highlight the importance of the coach's autonomy-supporting style on group and individual variables.

Keywords: Motivational Climate; Autonomy Support; Controlling Style; Task Cohesion; Social Cohesion; Subjective Vitality.

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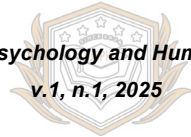
1 INTRODUCCIÓN

Uno de los procesos centrales a tener en cuenta en los equipos deportivos es la cohesión, entendida como “un proceso dinámico que se refleja en la tendencia de un grupo a no separarse y permanecer unido en la búsqueda de sus objetivos instrumentales y/o por la satisfacción de las necesidades afectivas de sus miembros” (Carron et al., 1998, p. 213). En el ámbito deportivo, se valora muy positivamente que existan grupos cohesionados, ya que se ha demostrado que la cohesión está asociada a importantes beneficios, tanto para el equipo (por ejemplo, mayor rendimiento – Carron et al., 2002) como para los participantes (por ejemplo, mayor compromiso – Leo et al., 2011). Por ello, hay un gran interés en conocer cuáles son sus principales características, sus antecedentes y, sobre todo, desde una perspectiva aplicada, saber cómo el entrenador puede actuar como promotor de la cohesión del equipo.

Carron et al. (1985) desarrollaron el modelo conceptual de cohesión en el cual se propone que el nivel de cohesión de un grupo puede evaluarse a través de las percepciones individuales de sus miembros sobre: (a) la atracción personal que sienten hacia el grupo y (b) el grupo como una unidad, asumiendo que dentro de estas se incluyen dos facetas, la orientación hacia la tarea del grupo (los objetivos comunes del grupo) y la orientación hacia los aspectos sociales del grupo (desarrollo y mantenimiento de relaciones sociales con el grupo).

Así pues, el modelo queda constituido por cuatro dimensiones: Integración Grupal hacia la Tarea, Integración Grupal hacia lo Social, Atracción Individual hacia el Grupo en la Tarea, y Atracción Individual hacia el Grupo en lo Social. Todas ellas conforman el Cuestionario de Entorno de Grupo (GEQ) para poder evaluar dichas percepciones en deportistas mayores de 18 años. No obstante, este cuestionario no es útil para la población de menor edad, ya que a esta edad no se diferencia entre la integración y la atracción del grupo (Eys et al., 2009). Por esta razón, para la población de deportistas menores de 18 años se elaboró el Cuestionario de Entorno Deportivo para Jóvenes (YSEQ), con solo dos dimensiones: cohesión de tarea y cohesión social.

Los estudios realizados hasta el momento sobre los antecedentes de la cohesión en el ámbito deportivo resaltan la importancia que tienen los entrenadores. Concretamente, Duda y Balaguer (1999) formularon un modelo integrado sobre los antecedentes y las consecuencias de la conducta del entrenador como líder, en el que el clima motivacional percibido creado por los entrenadores se vinculaba directamente



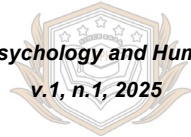
con las respuestas cognitivas, afectivas y conductuales, tanto de los deportistas (constructos personales) como del equipo (constructos grupales), y también entre los constructos personales y grupales. En investigaciones posteriores se puso de manifiesto la relevancia de conocer algunos de los factores sociales y personales que actúan como predictores (Balaguer et al., 2015).

Desde esta perspectiva, el objetivo del presente trabajo ha sido estudiar, en jugadores y jugadoras de baloncesto, las relaciones entre la percepción del estilo interpersonal del entrenador (estilo interpersonal de apoyo a la autonomía y estilo interpersonal controlador), con las dos dimensiones de la cohesión (tarea y social) y con el bienestar de los deportistas utilizando como indicador la vitalidad subjetiva.

La vitalidad subjetiva se define como un estado positivo de energía interna que genera entusiasmo y ánimo, haciendo que la persona se sienta “viva” (Ryan; Frederick, 1997). Desde la literatura, se plantea que las personas con alta vitalidad subjetiva muestran un carácter activo y emprendedor, con interés en el desarrollo de sus competencias y potencialidades y se ha relacionado con el óptimo funcionamiento psicológico y el crecimiento personal.

Estudios previos han analizado la relación entre el clima motivacional creado por el entrenador y la cohesión, principalmente desde la Teoría de las Metas de Logro (AGT; Ames, 1992; Nicholls, 1989). En general, se ha encontrado que un clima de implicación en la tarea — que enfatiza el aprendizaje cooperativo, valora la mejora y el esfuerzo, y hace ver que cada deportista juega un papel importante en el equipo — favorece la cohesión, mientras que un clima de implicación en el ego — que fomenta la rivalidad entre los miembros del equipo, muestra un reconocimiento desigual hacia los deportistas, y utiliza el castigo como respuesta a los errores — la dificulta (p. ej., Eys et al., 2013; Balaguer et al., 2015). La mayoría de estas investigaciones han utilizado la AGT como marco teórico, pero en el presente estudio nos apoyamos en la Teoría de la Autodeterminación (SDT, Ryan; Deci, 2017).

Al igual que la AGT, la SDT también destaca la importancia del clima motivacional creado por el entrenador en el bienestar y el funcionamiento de los deportistas y equipos. Esta teoría expone la existencia de dos dimensiones del clima motivacional: estilo interpersonal de apoyo a la autonomía y estilo interpersonal controlador. Así pues, cuando un entrenador presenta un estilo interpersonal de apoyo a la autonomía, favorece las iniciativas de sus jugadores y crea condiciones para que experimenten un sentido de volición, elección y desarrollo personal. Son personas que



se preocupan por conocer las preferencias de sus jugadores e intentan comprenderlas desde su perspectiva. Cuando les piden que lleven a cabo determinadas acciones, les explican las razones por las que se las han solicitado y, cuando la situación lo requiere, les proponen opciones significativas en los entrenamientos y partidos (Mageau; Vallerand, 2003).

Por otro lado, un entrenador con un estilo controlador actúa de forma coercitiva y autoritaria para imponer a los jugadores y al equipo su manera de pensar y actuar. Este es un estilo en el que el entrenador intimida y humilla a sus jugadores (Bartholomew et al., 2010). Por tanto, las consecuencias de ambos estilos interpersonales serán muy diferentes: en el primero, los entrenadores son capaces de despertar la curiosidad y el interés de sus deportistas, favoreciendo sus iniciativas y su bienestar; mientras que en el segundo, se reduce la creatividad de los jugadores y se fomenta su malestar, pudiendo observarse sentimientos negativos e incluso *burnout*.

Tal como ocurre en la AGT, los supuestos de la SDT han sido puestos a prueba en el contexto deportivo, donde se ha confirmado que la figura del entrenador como agente de socialización es fundamental para el desarrollo óptimo de los participantes y del equipo (Ryan; Deci, 2017). Además, los estilos de apoyo a la autonomía del entrenador se han asociado positivamente con diferentes variables individuales (p. ej., vitalidad), interpersonales (p. ej., mayor satisfacción con el entrenador) o de equipo (p. ej., más cohesión). Por el contrario, cuando el entrenador presenta estilos controladores, las consecuencias son negativas en los niveles mencionados (Ng et al., 2012).

Teniendo en cuenta este marco teórico, en el presente estudio se persiguieron dos objetivos. El primero de ellos estuvo dirigido a analizar las relaciones entre las dos dimensiones del estilo interpersonal percibido creado por el entrenador y las dos dimensiones de la cohesión. Así, se hipotetizó que la cohesión de tarea y social estarían relacionadas positivamente con el estilo de apoyo a la autonomía y negativamente con el estilo controlador.

El segundo objetivo se encaminó a examinar las relaciones entre los dos estilos interpersonales y la vitalidad subjetiva, donde se hipotetizó que la vitalidad subjetiva presentaría una relación positiva con el estilo de apoyo a la autonomía y una relación negativa con el estilo controlador.



2 MÉTODO

2.1 Participantes

El estudio fue aprobado por el Comité de Ética de Investigación en Humanos de la Universidad de Valencia (número de identificación: UV-INV_ETICA-1784774). Los participantes fueron 114 jóvenes jugadores y jugadoras de baloncesto (54 chicas y 60 chicos) con edades comprendidas entre los 12 y 18 años ($M = 14.68$, $DT = 1.71$). Los deportistas practicaban baloncesto una media de 9.26 horas por semana ($DT = 3.24$), llevaban jugando en su club una media de 2.89 temporadas ($DT = 1.12$) y entrenando con su entrenador actual una media de 1.28 temporadas ($DT = 0.54$) en el momento de la recogida de la información.

2.2 Procedimiento

Una vez la directiva del club otorgó el visto bueno y recibió los consentimientos informados de los padres, madres y/o tutores legales, se procedió a realizar una charla presencial con los deportistas para solicitar a todos los equipos de interés su participación. Posteriormente, se les envió el enlace para acceder a la encuesta en la plataforma *LimeSurvey* de la Universitat de València, donde se encontraban los diferentes cuestionarios que debían responder. Se les concedieron tres semanas para completar de forma voluntaria y anónima los cuestionarios durante su tiempo libre. El *apoyo a la autonomía* se evaluó con la versión en español del *Cuestionario de Clima en el Deporte* (SCQ; Balaguer et al., 2008).

Este instrumento, evalúa la percepción que tienen los deportistas sobre el grado de apoyo a la autonomía ofrecido por su entrenador/a a través de 15 ítems (p. ej., “Tengo la posibilidad de comunicarme fácilmente con mi entrenador/a mientras estoy entrenando”). Las respuestas se recogen en una escala tipo Likert que va desde *Nada verdadero* (1) hasta *Muy verdadero* (7). Investigaciones previas han confirmado su validez y fiabilidad (Balaguer et al., 2008).

La *percepción del estilo controlador* por parte del entrenador/a se evaluó con la versión en español (Castillo et al., 2014) de la *Escala de Conductas Controladoras del Entrenador en el contexto deportivo* (CCBS; Bartholomew et al., 2010). El cuestionario evalúa el estilo controlador del entrenador/a mediante 15 ítems (p. ej., “Mi



entrenador/a me grita delante de los demás para que haga determinadas cosas”). Las respuestas se recogen en una escala tipo Likert que oscila desde *Totalmente en desacuerdo* (1) hasta *Totalmente de acuerdo* (7). Su validez y fiabilidad han sido confirmadas previamente (p. ej., Castillo et al., 2014).

La *percepción que tienen los deportistas de la cohesión* fue medida con la versión en español (Castillo, Rodenas et al., 2017) del *Cuestionario de Entorno Deportivo para Jóvenes* (YSEQ; Eys et al., 2009). Esta escala, compuesta por 18 ítems, evalúa la cohesión de tarea (8 ítems; p. ej., “Como equipo, hemos estado todos/as en la misma sintonía”) y la cohesión social (8 ítems; p. ej., “He invitado a mis compañeros/as de equipo a hacer cosas conmigo”). Los dos ítems restantes se emplean para identificar la aquiescencia en las respuestas de los participantes. Los deportistas responden en una escala tipo Likert de cinco puntos, que va desde *Muy en desacuerdo* (1) hasta *Muy de acuerdo* (5). Investigaciones previas han confirmado su validez y fiabilidad (p. ej., Eys et al., 2009; Eys et al., 2013).

La *vitalidad subjetiva* se evaluó con la versión en español (Castillo, Tomás y Balaguer, 2017) de la *Escala de Vitalidad Subjetiva* (SVS; Ryan y Frederick, 1997). A través de 6 ítems (p. ej., “Tengo energía y ánimo”), se evalúa la experiencia subjetiva de energía y vitalidad. Las respuestas se recogen en una escala tipo Likert que va desde *Completamente falso* (1) hasta *Completamente verdadero* (7). Investigaciones previas, han confirmado su validez y fiabilidad (Castillo et al., 2017).

2.3 Análisis

Los análisis estadísticos se llevaron a cabo mediante el programa SPSS v.25. En los análisis preliminares, se evaluó la consistencia interna de las escalas, los valores atípicos y la normalidad de la muestra. Para evaluar los valores atípicos, se calcularon las puntuaciones Z de las variables de estudio y se aplicó el criterio que consideraba extremos aquellos valores superiores a ± 3.29 . Finalmente se llevó a cabo la contrastación de las hipótesis planteadas mediante análisis de correlación y regresión lineal múltiple.

2.4 Resultados

Utilizando una metodología de recorte univariante, los análisis detectaron y eliminaron a trece participantes debido a la manifestación de valores extremos en las diferentes variables del estudio.

Los resultados de los análisis descriptivos y de los coeficientes de fiabilidad de la escala se presentan en la Tabla 1. Los coeficientes de asimetría y curtosis se encontraron dentro del rango recomendado de $(-2, 2)$ para distribuciones normales. Además, los coeficientes alfa de Cronbach mostraron una fiabilidad satisfactoria para todas las escalas. Las puntuaciones medias indicaron que los jugadores percibían que sus entrenadores y entrenadoras generaban predominantemente estilos interpersonales de apoyo a la autonomía, al mismo tiempo que se caracterizaban como grupo por buenos niveles de cohesión, tanto de tarea como social, y por altos niveles de vitalidad subjetiva.

Tabla 1 - Estadísticos descriptivos, consistencia interna y correlaciones de las variables de estudio

Variables	M	DT	α	Asimetría	Curtosis	1	2	3	4
1. Apoyo a la autonomía	5.72	.68	.88	-.92	.17	-			
2. Estilo controlador	2.15	.80	.83	.36	-.93	-.52**	-		
3. Cohesión tarea	4.23	.74	.90	-1.23	.69	.44**	-.21*	-	
4. Cohesión social	4.55	.45	.76	-1.35	1.92	.21*	-.06	.39**	-
5. Vitalidad subjetiva	5.55	.93	.80	-.82	.75	.35**	-.15*	.16	.19*

Nota. ** $p < .01$. * $p < .05$

Fuente: elaborado por los autores, 2025

Los análisis de correlación de Pearson indicaban que el estilo interpersonal de apoyo a la autonomía se relacionaba positivamente con ambas dimensiones de la cohesión, mientras que el estilo interpersonal controlador se relacionó negativamente solo con la cohesión tarea. En cuanto a la vitalidad subjetiva, encontramos relaciones positivas con el estilo de apoyo a la autonomía y negativas con el estilo controlador.

Se realizaron tres análisis de regresión lineal múltiple para examinar si el estilo interpersonal de apoyo a la autonomía y el estilo controlador actuaban como buenos predictores de la cohesión y de la vitalidad subjetiva (Tabla 2).

Tabla 2 - Regresión lineal múltiple de las dimensiones del estilo interpersonal percibido creado por el entrenador sobre las dimensiones de cohesión en el deporte y la vitalidad subjetiva

Variables	R²	BETA	t	SIG.
<i>Cohesión tarea</i>	.19			
Apoyo a la autonomía		.51	4.49	.00
Estilo controlador		.03	0.03	.79
<i>Cohesión social</i>	.05			
Apoyo a la autonomía		.21	2.27	.03
Estilo controlador		.05	0.66	.51
<i>Vitalidad subjetiva</i>	.12			
Apoyo a la autonomía		.51	3.52	.00
Estilo controlador		.05	0.38	.70

Fuente: elaborado por los autores, 2025

Respecto a la cohesión tarea, los resultados indicaron que, aunque en conjunto ambos estilos interpersonales explicaron un 19% de varianza ($F = 12.99$, $p < .001$), solo el apoyo a la autonomía actuó como predictor positivo. Por otra parte, encontramos que en conjunto ambos estilos interpersonales (apoyo a la autonomía y estilo controlador) explicaron un 5% de la varianza de la cohesión social ($F = 2.78$, $p < .05$), siendo únicamente el apoyo a la autonomía un predictor significativo.

Por último, en cuanto a la vitalidad subjetiva, el modelo explicó un 12% de la varianza ($F = 7.64$, $p < .001$), y nuevamente, solo el apoyo a la autonomía la predijo de forma significativa y positiva.



3 DISCUSIÓN

En el contexto deportivo se valora muy positivamente que los grupos estén altamente cohesionados, ya que esta dinámica favorece el funcionamiento del equipo (Carron et al., 2002). Con base a esta concepción varios investigadores han analizado los correlatos de la misma, figurando entre ellos la importancia que tiene el clima motivacional que crean los entrenadores en sus equipos (Balaguer et al., 2015).

Mientras que en trabajos anteriores se han explorado principalmente estas relaciones entre clima motivacional y cohesión desde la AGT, en este trabajo la aproximación se realizó desde la SDT, siendo nuestro primer objetivo estudiar las relaciones del estilo interpersonal del entrenador (apoyo a la autonomía y controlador) con la cohesión del equipo (tarea y social). Los resultados obtenidos han respaldado la primera hipótesis planteada, que sostenía que la percepción del estilo de apoyo a la autonomía presentaría una relación positiva con la cohesión de tarea y con la cohesión social. Esta hipótesis fue confirmada tanto a través del análisis de correlaciones como del análisis de regresión.

En los estudios previos basados en la AGT, también se encontró que ambas dimensiones del clima motivacional (clima de implicación en la tarea y clima de implicación en el ego) se relacionan con la cohesión. Ejemplo de ello son los estudios de Eys et al. (2013), con chicos y chicas participantes en diferentes deportes y actividades, y el estudio de Balaguer et al. (2015) con jóvenes futbolistas de ambos sexos. Estas investigaciones indican que cuando el entrenador fomenta la cooperación entre los miembros del equipo y un buen ambiente en la consecución de los objetivos del grupo, está contribuyendo al deseo de mantener vínculos cercanos entre los compañeros, tanto durante la participación deportiva (cohesión de tarea) como una vez finalizada (cohesión social).

Así pues, la percepción de un clima de implicación en la tarea se relaciona positivamente con la cohesión de tarea, lo que ayuda a mantener unidos a los miembros del equipo en la consecución de sus objetivos en el juego. Además, la percepción del clima de implicación en la tarea se asocia igualmente con relaciones positivas fuera de la cancha. Extrapolando esto a la SDT, se puede interpretar que los efectos sobre la cohesión de tarea y la cohesión social en el deporte base se producen cuando el entrenador adopta la perspectiva de sus jugadores, es comprensivo y flexible, motiva a través del interés y ofrece diferentes opciones. En el presente



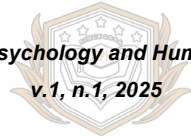
estudio, las correlaciones confirmaron las relaciones positivas del estilo de apoyo a la autonomía con ambas dimensiones de cohesión, mientras que los análisis de regresión demostraron que cuando los jugadores y jugadoras perciben que su entrenador apoya la autonomía, es más probable que perciban una alta cohesión de tarea y una alta cohesión social.

Siguiendo con este primer objetivo, la segunda hipótesis planteada no se ha cumplido completamente. Los análisis de correlación mostraron que la percepción del estilo controlador solo presentaba una relación negativa con la cohesión de tarea y no con la cohesión social. Este hecho parece indicar que el estilo de los entrenadores caracterizado por el uso controlador de recompensas, la atención condicional negativa, la intimidación hacia sus deportistas y el ejercicio de un control personal excesivo, se relaciona negativamente con la unión del grupo en lo que respecta a la ejecución de la tarea.

Sin embargo, este estilo controlador no parece estar relacionado, ni positiva ni negativamente, con las relaciones sociales de sus jugadores y jugadoras. Los resultados coinciden con la evidencia previa que ha encontrado que la percepción de un clima de implicación en el ego se relaciona negativamente con la cohesión de tarea, pero no con la cohesión social (Balaguer et al., 2015; Eys et al., 2013). Estas diferencias podrían deberse a que los participantes de esta investigación, al margen del estilo interpersonal creado por el entrenador, son amigos. De hecho, muchos de ellos asisten a la misma clase en el instituto y, además, algunos viven juntos porque han sido becados desde diferentes partes de la comunidad.

En cuanto a los análisis de regresión, el estilo controlador no predijo ni positiva ni negativamente la cohesión de tarea ni la cohesión social. Aunque el estudio de Balaguer et al. (2015) sí encontró que los climas de implicación en el ego predecían negativamente ambos tipos de cohesión, en nuestro estudio el estilo controlador no fue un predictor significativo. Un posible factor que explique estas diferencias podría ser el tamaño de la muestra en nuestro estudio, que se limita a 114 sujetos. También podría deberse a que las investigaciones anteriores se han centrado más en la AGT que en la SDT, por lo que existe poca literatura que haya explorado estas relaciones.

En cuanto al segundo objetivo, se exploraron las relaciones entre el estilo interpersonal percibido creado por el entrenador y un indicador de bienestar personal, concretamente la vitalidad subjetiva. Siguiendo la dirección de lo sugerido por Ng et al. (2012), se planteó la hipótesis de que la vitalidad subjetiva se relacionaría



positivamente con el estilo de apoyo a la autonomía y negativamente con el estilo controlador. Aunque estas relaciones se demostraron en el análisis de correlaciones, en los análisis de regresión solo el estilo de apoyo a la autonomía predijo la vitalidad subjetiva de los jugadores y jugadoras.

Esto sugiere que cuando un entrenador adopta la perspectiva de sus jugadores, es comprensivo y flexible, motiva a través del interés y ofrece diferentes opciones, está contribuyendo a su bienestar. Resultados en esta línea han sido encontrados tanto en estudios transversales (p. ej., Adie et al., 2008; Reinboth et al., 2004) como longitudinales (p. ej., Balaguer et al., 2012; Wang et al., 2023). Por el contrario, cuando utiliza recompensas de manera controladora, presta atención condicional negativa, intimida a sus deportistas y ejerce un control personal excesivo, no está ni aumentando ni disminuyendo su bienestar.

Estos resultados difieren de los obtenidos en algunas investigaciones (Balaguer et al., 2011; González et al., 2017), donde el estilo controlador sí que actuó como predictor negativo de la vitalidad subjetiva mediante su efecto sobre variables como la motivación y la frustración de las necesidades psicológicas básicas. Tal como se mencionaba anteriormente, sería necesario contar con muestras más amplias para evaluar estos planteamientos a través de modelos de ecuaciones estructurales, considerando además otras variables que podrían estar implicadas como mediadoras.

4 CONCLUSIÓN

En síntesis, los resultados del presente trabajo ofrecen apoyo a los supuestos teóricos, subrayando el importante papel del apoyo a la autonomía de los entrenadores en variables grupales como la cohesión de tarea - que refleja el funcionamiento del equipo en su conjunto - y sobre la vitalidad subjetiva – que nos indica el grado bienestar de los deportistas. Aunque la muestra del estudio es pequeña, los resultados obtenidos, al igual que los ofrecidos en investigaciones previas, remarcan que apoyar la autonomía de los deportistas favorece el funcionamiento óptimo de los participantes y del equipo (p. ej., Balaguer et al., 2015; Duda y Balaguer, 1999; Ng et al., 2012).

Sin embargo, futuras investigaciones experimentales y longitudinales deberían orientarse a estudiar la relación causal entre el estilo interpersonal percibido creado por el entrenador, la cohesión y la vitalidad subjetiva, dado que el presente trabajo

solo informa sobre asociaciones establecidas entre estas variables a nivel transversal. Aun así, se trata de un estudio novedoso en baloncesto, ya que la mayoría de las investigaciones previas se han llevado a cabo en fútbol.

A nivel de *aplicación práctica*, los resultados obtenidos impulsan a que los entrenadores promuevan estilos interpersonales de apoyo a la autonomía, en los que en su interacción con sus deportistas se sitúen desde su perspectiva, les expliquen las razones por las que les piden las cosas, fomenten su iniciativa, y que siempre que sea posible les ofrezcan la posibilidad de elección.

Por todo esto y, considerando que el entrenador es un agente de socialización clave para el funcionamiento óptimo de los participantes y del equipo (Ryan y Deci, 2017), los clubes deberían promover la formación de sus entrenadores en la creación de climas motivacionales en los que se fomente la autonomía y se expliquen los riesgos de crear climas de estilo controlador (Véase Balaguer et al., 2021 sobre programas de formación de entrenadores).

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IMPACT OF A MULTIMODAL COGNITIVE BEHAVIOURAL INTERVENTION ON STRESS MINDSET, IRRATIONAL BELIEFS, AND PERFORMANCE PERCEPTION IN FEMALE SOCCER PLAYERS

IMPACTO DE UMA INTERVENÇÃO COGNITIVO-COMPORTAMENTAL MULTIMODAL NA MENTALIDADE DE ESTRESSE, CRENÇAS IRRACIONAIS E PERCEPÇÃO DE DESEMPENHO EM JOGADORAS DE FUTEBOL

Shane Carrington¹

Paul C. Mansell²

Abstract

The mental health of female athletes has received increasing attention, but many teams lack adequate psychological support. This study tested a novel multimodal cognitive-behavioural intervention, based on Rational Emotive Behavioural Therapy (REBT), with insights into stress mindset, threat and challenge appraisals, self-compassion and mental imagery. Fourteen one-time top-flight football players from the Republic of Ireland participated in six sessions, with assessments at baseline, post-intervention and two-week follow-up. Results revealed significant increases in stress mindset and reductions in self-deprecation, 'getting worse' behaviour and low frustration tolerance, with effects maintained at follow-up. No significant changes in perceived performance or traits were observed, suggesting that such an intervention could significantly modify stress mindset and irrational traits in female athletes.

Keywords: Mental health; Female athletes; Cognitive-behavioral intervention.

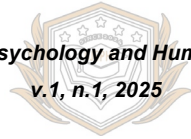
Resumo

A saúde mental de atletas femininas tem recebido cada vez mais atenção, mas muitas equipes carecem de apoio psicológico adequado. Este estudo testou uma nova intervenção cognitivo-comportamental multimodal, fundamentada na Terapia Racional Emotivo-Comportamental (TREC), incorporada à teoria da mentalidade de estresse, avaliações de desafios e ameaças, autocompaixão e imagens mentais. Quatorze jogadoras de futebol de um time de primeira divisão da República da Irlanda participaram de seis sessões, com avaliações no início do estudo, após a intervenção e após duas semanas de acompanhamento. Os resultados revelaram um aumento significativo na mentalidade de estresse e reduções na autodepreciação, no comportamento de "worsening" e na baixa tolerância à frustração, com efeitos mantidos no acompanhamento. Não foram observadas mudanças significativas na exigência ou no desempenho percebido, o que sugere que tal intervenção pode modificar efetivamente a mentalidade de estresse e as crenças irracionais em atletas femininas.

Palavras-chave: Saúde mental; Atletas femininas; Intervenção cognitivo-comportamental.

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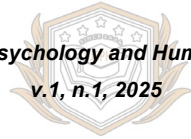
1 INTRODUCTION

Athlete wellbeing has garnered increasing attention, with research highlighting a high prevalence of mental health concerns in elite sport (Prinz et al., 2016). Evidence suggests that female athletes may be particularly vulnerable, with elite female soccer players exhibiting significant mental health symptoms, including eating disorders (36%) and moderate to severe depression and anxiety (11%) (Perry et al., 2022). Notably, 86% report having needed psychological support at some stage, yet access remains limited (Perry et al., 2022). Sport-related stressors, such as performance pressure and injury risk, may contribute to these challenges.

Stress is defined as an individual's perception that situational demands exceed their resources (Lazarus; Folkman, 1984). Not all forms of stress should be regarded as detrimental, as the experience of stress is inherently individual and may contribute to adaptive performance and positive well-being outcomes (Mansell, 2021). An emerging concept related to stress appraisal is stress mindset—an individual's belief that stress is either enhancing or debilitating (Crum et al., 2013). A 'stress-is-enhancing' mindset is associated with mental well-being (Mansell, 2021), proactive coping behaviours (Mansell; Turner, 2023) and enhanced physical performance (Smith et al., 2020). Conversely, a 'stress-is-debilitating' mindset correlates positively with threat appraisal tendencies and depressive symptoms (Mansell, 2021).

Research suggests that although stress mindset is a trait level belief it can be altered through education and psychological skills training, such as imagery (Crum et al., 2013). Furthermore, The Theory of Challenge and Threat States in Athletes (TCSTA; Jones et al., 2009) posits that stress appraisal influences outcomes where challenge occurs when perceived resources meet demands, whereas threats occur when demands surpass resources. The revised framework (TCTSA-R; Meijen et al., 2020) further emphasises the role of trait dispositions in shaping these appraisals, underscoring the need to examine how cognitive factors influence athlete wellbeing. Within environments such as high-performance sports teams, where stressors and demands are continually present, it is essential to work with athletes to enhance their beliefs about stress.

Irrational beliefs, central to Rational Emotive Behaviour Therapy (REBT; Ellis, 1994), may contribute to poor mental health in female athletes. These rigid, extreme cognitions include demandingness (e.g., "I must succeed"), awfulizing ("Failure is

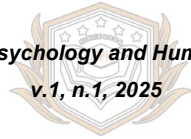


catastrophic"), self-depreciation ("Failure defines me"), and low frustration tolerance ("I cannot endure setbacks") According to the GABC model put forth within REBT, goal-incongruent events (A) elicit emotional and behavioural consequences (C) through the influence of either rational or irrational beliefs (B). The expanded GABCDE model incorporates disputation (D) and the reinforcement of adaptive beliefs (E). The framework facilitates individuals in developing self-awareness regarding the role of their beliefs in contributing to maladaptive outcomes, thereby emphasising that they have control over their responses to adversity due to their autonomy over their beliefs (Turner, 2022).

A 'stress-is-debilitating' mindset may be considered analogous to irrational beliefs, as it is characterised by rigidity, illogical reasoning, and a lack of utility for well-being and performance (Mansell, 2021). Research suggests that irrational beliefs exacerbate maladaptive stress responses, whereas fostering rational beliefs enhances resilience and wellbeing (Turner, 2022). Evidence demonstrates that REBT-based interventions effectively reduce irrational beliefs, mitigate anxiety and facilitate adaptive stress appraisals (Mansell et al., 2023). Such interventions are inherently flexible due to the diverse range of approaches that the framework can support when working with athletes.

A fundamental principle of REBT is the education of individuals about the ABC thinking framework, particularly the crucial role beliefs play in shaping thoughts, emotions, and behaviours (Turner, 2022). In addition to education, reappraisal has been shown to be effective in altering the emotional impact of a perceived stressful situation (Mansell et al., 2023). Reappraisal aligns with the core tenets of REBT by not advocating for the avoidance of stressors but rather recognising their inevitability and facilitating the adoption of more adaptive ways of thinking about stress. One method of reappraisal is the use of imagery. Considered as a psychological skill in which an individual uses all available senses to experience an event (White; Hardy, 1998), imagery is a method that enables individuals to attach facilitative meanings to stress responses.

The ABC framework within REBT is conceptually linked to imagery (Turner, 2022) and may be complemented by self-compassion. Self-compassion, encompassing self-kindness, mindfulness, and common humanity (Neff, 2003), has been associated with improved psychological functioning in female athletes (Mosewich et al., 2013). Integrating stress mindset, REBT, imagery, and self-compassion within a



multimodal intervention may enhance athlete well-being and performance. Despite evidence supporting REBT and stress mindset interventions, no studies have specifically examined the effects of a multimodal intervention on individual irrational beliefs in female soccer players (Jordana et al., 2020). This study aims to assess a six-session cognitive-behavioural intervention targeting irrational beliefs, stress mindset, and perceived performance in female soccer players. It is hypothesised that the intervention will reduce irrational beliefs, enhance stress mindset, and improve perceived performance, with sustained effects at follow-up.

2 METHOD

2.1 Participants

Fourteen female soccer players ($M_{\text{age}} = 22.79$ years, $SD_{\text{age}} = 4.64$ years) participated in the study. All players competed in the Women's League of Ireland (WLOI), which is the highest level of female club soccer in Ireland. Prior to the initial data collection, ethical approval was obtained from the university's ethics committee. The participants were also provided with an information sheet outlining details of the study such as data confidentiality and inclusion/exclusion criteria. The participants were also made aware of their freedom to withdraw at any stage. All players signed a consent form prior to taking part in the study.

2.2 Design and Procedures

To examine the effectiveness of the intervention, a quasi-experimental design was used with data collected at pre-test (beginning of intervention; session one), post-test (immediately following the intervention) and follow up (two weeks following conclusion of intervention). The data collected allowed for comparison on each of the outcome variables across three time points. This intervention took place towards the end of the season typified by the latter stages of cup competitions and important league fixtures that may determine a team's final position. Data were gathered via questionnaires created through the use of Qualtrics software. Social validation was also used to compliment the quantitative data and further comprehend the intervention's effectiveness.

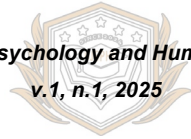
2.3 Intervention

Regarding the intervention, analyze Table 1 below:

Table 1 - Structure of the Multi-Modal Cognitive Behavioural Intervention (M:PUP)

Session Topic	Session Content	Theory	Example Activities
1. Stress mindset	Introduction of intervention (aims, practicalities). Explore understanding of stress. Introduction of stress-mindset	Stress Mindset (Crum et al., 2013)	Production of mind map of associated words with stress. Video: Rethinking stress.
2. Stress mindset, challenge and threat	Understand how to apply stress mindset theory. Introduction of seeing a stressful situation as a challenge or threat	The Theory of Challenge and Threat in Athletes-Revised (Meijen et al., 2020)	Control Map: Acknowledging what an individual can/cannot control
3. Irrational beliefs	Introduction of the ABC framework poised within REBT to help players think more adaptively prior to stressful situations	Rational Emotive Behaviour Therapy (REBT; Ellis; Dryden, 1997)	The 'Badness Scale' to dispute players' beliefs.
4. Self-compassion	Understand how players might think prior to a competitive match and which strategies' players can use to approach competition more helpfully	Self-compassion (self-kindness, common humanity, and mindfulness (Neff, 2003)	Be your own coach task to promote self-kindness.
5. Imagery	Introduction to imagery, practice imagery underpinned by the Bioinformational Theory of Imagery (Lang, 1979)	Enhancing stress mindset through imagery (Keech et al., 2021a)	Depiction of the importance of imagery. Co-write imagery script for future use
6. Recap of all topics	Recap and reflect on how athletes' thoughts and feelings about stressful situations may have changed over the course of the intervention	All the above	Athletes were provided with an overview of strategies they had learned on the intervention which was referred to as their toolkit

Source: prepared by the authors, 2025



The intervention was based on the work of Mansell et al. (2023). Entitled 'Mindset: Performing Under Pressure' (MPUP), the first session contained educative content on stress that aimed to enhance stress mindset, while the second focused on stress appraisals of challenge and threat. The third session featured education on the ABC framework posited within REBT, with session four focused on compassion and highlighted the importance of common humanity. The fifth session was devoted to effective use of imagery, whereas the final session was used to recap key learnings with the group. For a more in-depth breakdown of the materials covered please see Table 1.

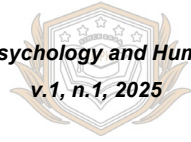
2.4 Measures

2.4.1 Irrational Beliefs

Irrational beliefs were measured using the Irrational Beliefs Performance Inventory (IPBI; Turner et al., 2018). The 28-item scale was broken down into four subscales assessing each of the four irrational beliefs (Ellis, 1994); demandingness, awfulizing, low frustration tolerance, and self-depreciation. Responses were scored on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The Cronbach alphas coefficient showed largely high levels of reliability for each subscale (Demandingness; $\alpha = 0.72$, Awfulizing; $\alpha = 0.73$, Low frustration tolerance; $\alpha = 0.82$, Depreciation; $\alpha = 0.86$).

2.4.2 Stress Mindset

Stress mindset was assessed using the Stress Control Mindset Measure (SCMM; Keech et al., 2021). The SCMM is a 15-item scale scored on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). In contrast to the original Stress Mindset Measure (Crum et al., 2013), the SCMM reflects malleability of stress responses (e.g., "stress can be used to.", "stress will impair"). Cronbach's alphas coefficient showed high levels of reliability ($\alpha = 0.96$).



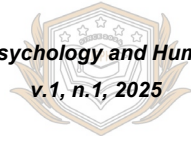
2.4.3 Perceived Performance

The players' perception of performance was measured across the three time points by asking "How well do you feel you are performing at this time". Taking into account the last two weeks, please rate from 0-100% how well you think are performing (0 = extremely poorly to 100 = extremely well)?" This approach is based on the assessment of performance in other previous studies (Mansell et al., 2023). A correlation analysis was used to assist test-retest reliability. Results indicated a significant positive relationship between performance at all time points. (Baseline to post intervention $r = 0.729$, $p = .003$; Baseline to follow up $r = 0.738$, $p = .003$; Post intervention to follow up $r = 0.836$, $p = .001$).

2.5 Social Validation

The experimental group ($n = 14$) completed a number of social validation questions following the completion of the intervention. The social validation section contained a combination of quantitative and qualitative elements based on previous research examining participants' experience of psychological interventions (Slater; Barker, 2019). Participants were asked to explain what they enjoyed about the intervention, what they would change about the intervention and what strategies they were using as a result of the intervention.

This section also contained quantitative questions related to the suitability of the intervention (e.g., "To what extent do you think that taking part in the project has enhanced your wellbeing?"). All questions within this section were scored using a 7-point Likert scale. Some questions were structured in such a way that 1 equated to the lowest score and 7 equated to the highest (e.g., "How likely would you be to recommend taking part in the sessions to a friend?"). Other questions were structured that 4 equated to the ideal score, whereas 1 and 7 were deemed the most negative scores in either direction (e.g., "How appropriate was the intervention in terms of the number of sessions?").



2.6 Data analyses

Data were screened and cleaned using SPSS (IBM, Version 29), with the final dataset containing less than 5% missing data. Little's MCAR test confirmed that data were missing at random ($p > 0.05$), and the expectation maximisation method was applied to complete the dataset. Z-scores (-3 to +3) were used to identify outliers, which were subsequently adjusted using the Winsorising technique (e.g. Mansell et al., 2023). Normality was assessed through visual inspection of histograms and Shapiro-Wilk tests ($\alpha = 0.05$).

A repeated-measures ANOVA was conducted to examine differences across three time points (baseline, post-intervention, and two-week follow-up) in the four irrational belief subscales, stress mindset, and perceived performance. Significant pairwise differences were identified using Bonferroni-adjusted comparisons. Partial eta-squared (η^2_p) was used to determine effect sizes, classified as small ($.01 \geq \eta^2_p < 0.06$), medium ($.06 \geq \eta^2_p < .14$), or large ($\eta^2_p \geq .14$) (Cohen, 1988). As perceived performance data were not normally distributed, a Friedman test was conducted.

3 RESULTS

3.1 Manipulation Checks

Quantitative data suggests the athletes were engaged with the imagery content throughout the intervention ($M = 5.20$, $SD = 1.15$). This is echoed by some qualitative findings, *"I found it easy to concentrate because it was interesting"*.

3.2 Stress Mindset

The means and standard deviations for each variable are displayed in Table 2. A repeated measures ANOVA determined that stress mindset had differed significantly between time points $F(2,26) = 24.19$, $p < .01$, $\eta_p^2 = 0.65$. Subsequent Post Hoc analysis using a Bonferroni test revealed that stress mindset had significantly increased from baseline to post-intervention (1.19 (95% CI 1.87, 0.54), $p < .01$) and from baseline to two-week follow-up (1.07 (95% CI 1.65, 0.5), $p < .01$). There was no significant

difference in stress mindset within the group between post-intervention and follow-up (0.12 (95% CI -0.35, 0.59), $p > .05$).

Table 2 - Means/totals and standard deviations of stress mindset, demandingness, low frustration tolerance, awfulizing, self-depreciation and perceived performance at baseline, post-intervention and follow-up.

	Baseline		Post Intervention		Effect Size	Follow Up		Effect Size
	Mean/Total	SD	Mean/Total	SD		Mean/Total	SD	
Stress Mindset a, b**	3.2	0.89	4.39	0.86	1.34	4.27	0.87	1.2
Demandingness b**	27.86	3.2	25.64	2.9	-0.69	25.5	3.25	-0.74
Low Frustration Tolerance a, b***	30.29	4.39	25.57	2.77	-1.08	24.64	4.57	-1.29
Awfulizing ab*	26.21	3.47	23.57	3.44	-0.76	22	3.33	-1.21
Self-depreciation a*	20.14	3.32	16.21	4.63	-1.18	17.94	5.09	-0.66
Perceived Performance	62.45	22.06	63.09	23.47	0.02	70.09	6.88	0.34

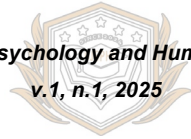
Description:

^a = Significant difference between baseline and post intervention

^b = Significant difference between baseline and follow up

* = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$

Source: prepared by the authors, 2025



3.3 Demandingness

A repeated measures ANOVA determined that demandingness had differed statistically significant between time points $F(2,24) = 8.80$, $p < .01$, $\eta_p^2 = 0.42$. A Post Hoc analysis using a Bonferroni test revealed no significant difference between demandingness from baseline to post intervention (2.54 (95% CI -0.618 5.96), $p > .05$) and from post intervention to two-week follow-up (1.69 (95% CI -1.8 3.57), $p > .05$). However, there was a significant decrease in demandingness from baseline to follow-up (4.23 (95% CI 1.00 7.46), $p = .01$).

3.4 Awfulizing

A repeated measures ANOVA determined that awfulizing had differed statistically significant between time points $F(2,24) = 4.05$, $p < 0.05$, $\eta_p^2 = 0.25$. Subsequent Post Hoc analysis using a Bonferroni test revealed a significant decrease in awfulizing from baseline to post intervention (2.15 (95% CI -0.55 4.86) $p = .02$) and from baseline to two-week follow-up (-4.21 (95% CI 0.87 to 7.56) $p = .01$). There was no significant difference from post intervention to follow up.

3.5 Self-Depreciation

A repeated measures ANOVA determined that self-depreciation had differed statistically significant between time points $F(2,26) = 5.22$, $p < .05$, $\eta_p^2 = 0.29$. Subsequent Post Hoc analysis using a Bonferroni test revealed a significant decrease in self-depreciation from baseline to post intervention (-3.93 (95% CI 0.55 to 7.30), $p = .03$). There was no significant difference from post intervention to follow-up or from baseline to follow-up.

3.6 Low Frustration Tolerance

A repeated measures ANOVA determined that low frustration tolerance had differed statistically significant between time points $F(2,26) = 11.095$, $p < .001$, $\eta_p^2 = 0.46$. Subsequent Post Hoc analysis using a Bonferroni test revealed a significant

decrease in low frustration tolerance from baseline to post intervention (-4.71 (95% CI -0.82 to 8.60), $p = .02$) and from baseline to two-week follow-up (-5.64 (95% CI 1.74 to 9.54), $p = .05$). There was no significant difference from post intervention to follow up.

3.7 Perceived Performance

A Friedman test was carried out as the data failed the test of normality. The Friedman test revealed there was no significant difference in perceived performance across the three time points $\chi^2(2, N = 11) = 3.35, p > 0.05$.

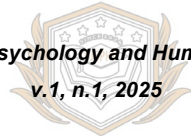
3.8 Social Validation

Social validation data indicated that participants perceived improvements in wellbeing ($M = 5.6, SD = 1.24$) and performance ($M = 5.33, SD = 1.40$) following the intervention. Strong evidence suggests they found the intervention both enjoyable and useful, with a high likelihood of recommending it to a friend ($M = 5.93, SD = .80$). Qualitative data supported these findings, highlighting key intervention components that resonated with athletes. Stress mindset was particularly well received, with eight of fourteen participants referencing their enhanced understanding.

One athlete noted, *“I got to look at a good side of stress and learned how to take stress to succeed in my performance.”* Others valued learning to *“turn stress into a positive”*. Self-compassion and self-kindness were also appreciated, with one athlete highlighting the benefit of *“talking to yourself as a friend would”*. Imagery techniques were frequently mentioned as enjoyable, particularly visualising performance in advance: *“I liked how I was taught to visualise my performance a day/night before to be prepared for what could happen.”* Group work and discussions were also well received, referenced by five participants, likely due to their familiarity with one another. Finally, session and intervention length were generally deemed appropriate ($M = 4.93, SD = 1.1$; $M = 4.67, SD = 1.54$, respectively).

4 DISCUSSION

This study examined the impact of a multimodal cognitive-behavioural intervention on stress mindset, irrational beliefs, and perceived performance in female



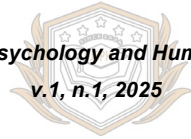
soccer players. As hypothesised, the intervention significantly reduced self-depreciation, awfulising, and low frustration tolerance while increasing stress mindset. These changes were maintained at follow-up, reinforcing the intervention's efficacy (Nejati et al., 2022). However, demandingness did not significantly decrease immediately post-intervention, and perceived performance did not improve, suggesting further refinement may be required.

Findings align with prior research supporting the use of REBT-based interventions to reduce irrational beliefs in team sport settings (Nejati et al., 2022). Notably, this is the first study to simultaneously reduce irrational beliefs and enhance stress mindset in an female team sport context, addressing the underrepresentation of female athletes in psychological research (Jordana et al., 2020).

A novel aspect of this study was the individual analysis of irrational belief subscales, offering insights into intervention mechanisms. The significant reduction in self-depreciation may be linked to the session on self-kindness and common humanity (Mosewich et al., 2013), where athletes learned to extend compassionate self-talk. Similarly, reductions in awfulising may have resulted from cognitive restructuring exercises, such as the "badness scale" (Mansell et al., 2023), which helped contextualise stressors.

The badness scale helps the athletes twofold. First, it helps the athlete understand that branding setbacks in sport as "awful" is in fact illogical. Secondly, through the visual aid of the scale, it demonstrates that although things may seem very bad, they are not "awful". In terms of performance, awfulizing is shown to have a positive association with threat appraisal tendencies (Mansell, 2021). With previous research highlighting the direct relationship between awfulizing and athlete wellbeing, it would be advantageous to implement an intervention such as the one used in the present study to reduce this irrational belief.

Low frustration tolerance also significantly decreased, supporting previous findings that this belief negatively influences threat appraisals and performance (Mansell, 2021). Additionally, the ABC framework (Ellis, 1994) may have facilitated cognitive restructuring, encouraging athletes to challenge irrational beliefs. Contrary to the hypothesis, demandingness did not significantly decrease post-intervention, though a delayed reduction was observed at follow-up. This challenges the REBT-I model's assertion that secondary irrational beliefs stem from demandingness (Mansell; Turner, 2022), suggesting that these beliefs may operate independently. Resistance



to modifying demandingness may stem from its perceived motivational function in elite sport (Turner, 2022). Future interventions may require stronger disputation techniques to address this belief effectively.

Perceived performance did not significantly improve, in contrast to previous research (Nejati et al., 2022). The subjective nature of performance assessment may account for this, as athletes' perceptions can be influenced by isolated game events. Objective performance measures, such as GPS tracking (e.g., total distance covered, sprint count), may provide more reliable assessments in future studies. Nonetheless, indirect performance benefits may emerge over time, given the positive relationship between stress mindset and challenge appraisals (Mansell, 2021).

In line with the hypothesis, stress mindset significantly increased post-intervention and was maintained at follow-up. These findings support previous research demonstrating that stress mindset is malleable and can be modified through short interventions (Crum et al., 2013; Keech et al., 2021). The educational content, particularly multimedia materials promoting the adaptive aspects of stress, likely contributed to this change (Crum et al., 2013). A "stress is enhancing" mindset is associated with improved cognitive function, challenge appraisals, and proactive coping (e.g. Mansell; Turner, 2023), making it a valuable psychological asset for athletes.

4.1 Strengths and Limitations

This study's primary limitation was the absence of a control group. Although a control group was initially planned, participant withdrawals precluded its inclusion. Future research should employ randomised controlled trials and crossover designs to strengthen causal claims. The small sample size is another limitation, warranting replication with a larger cohort. However, a key strength was the ecological validity of data collection across multiple time points, capturing real-world intervention effects.

4.2 Applied Recommendations

Findings have several practical implications. Athletes should be encouraged to adopt a "stress is enhancing" mindset through education and cognitive restructuring, as this belief is linked to improved performance and wellbeing. Practitioners should



integrate self-compassion strategies, particularly in high-pressure contexts, and promote imagery techniques to facilitate more adaptive stress responses. Disputing irrational beliefs over time should be a core focus, with structured cognitive disputation exercises to challenge well established beliefs.

5 CONCLUSION

This study provides initial evidence that a six-week REBT-based intervention can concurrently reduce irrational beliefs and enhance stress mindset in female soccer players. Findings suggest that a stress-is-debilitating mindset shares characteristics with irrational beliefs, as both are rigid and maladaptive. Furthermore, the study underscores the efficacy of integrating stress mindset education with practical techniques such as imagery and self-compassion to facilitate psychological change. Given the sustained effects observed at follow-up, this intervention model holds promise for wider application in women's sport.

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CONSIDERATIONS ON THE IMPACT OF SOCIAL MEDIA AND THE MEDIA ON ATHLETES' IDENTITY AND PERFORMANCE: How Media Exposure Influences Self-Image, Psychological Pressure, and Sports Motivation

CONSIDERAÇÕES SOBRE O IMPACTO DAS MÍDIAS SOCIAIS E DA MÍDIA NA IDENTIDADE E NO DESEMPENHO DOS ATLETAS: como a exposição à mídia influencia a autoimagem, a pressão psicológica e a motivação esportiva

Marcos Alencar Abaide Balbinotti¹

Abstract

This article aims to investigate the impact of social media and media exposure on athletes' identity, motivation and performance. Based on a theoretical review of recent studies in Sports Psychology, the text seeks to understand how the use of social networks affects the emotional well-being, sports self-image and competitive performance of athletes. The study explores three main axes: the construction of sports identity, the psychological pressure generated by constant exposure, and the effects on motivation and performance. As final considerations, the article proposes that coaches, sports psychologists and athletes develop strategies for the conscious use of social networks. It also suggests that future research explore individual differences in the way athletes deal with these exposures, in the long term and in different cultural contexts. In short, the strategic and regulated use of social networks can be an ally or a threat, depending on how it is conducted.

Keywords: Social media; Sports identity; Mental health; Emotional regulation.

Resumo

Este artigo tem como objetivo investigar o impacto das mídias sociais e da exposição midiática na identidade, motivação e desempenho de atletas. A partir de uma revisão teórica de estudos recentes em Psicologia do Esporte, o texto busca compreender como o uso das redes sociais afeta o bem-estar emocional, a autoimagem esportiva e a performance competitiva dos atletas. O estudo explora três eixos principais: a construção da identidade esportiva, a pressão psicológica gerada pela exposição constante, e os efeitos sobre a motivação e o desempenho. Como considerações finais, o artigo propõe que treinadores, psicólogos esportivos e atletas desenvolvam estratégias de uso consciente das redes sociais. Também sugere que futuras pesquisas explorem as diferenças individuais na forma como os atletas lidam com essas exposições, a longo prazo e em contextos culturais diversos. Em suma, o uso estratégico e regulado das redes sociais pode ser uma aliada ou uma ameaça, dependendo da forma como é conduzido.

Palavras-chave: Mídias sociais; Identidade esportiva; Saúde mental; Regulação emocional.

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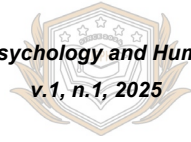


1. INTRODUCTION

Social media has revolutionized how athletes engage with fans, sponsors, and media. Today, thanks to platforms like Instagram and TikTok, sports individuals can directly control their public persona, posting everything from training sessions to personal milestones and victories. Despite such advantages, however, this constant visibility also creates profound challenges to both their mental well-being and sporting performance (Hayes; Filo; Riot; Geurin, 2019). As such, there is increasing interest across Sport Psychology in exploring how this new digital landscape influences essential domains like self-confidence, emotional control, and the psychological pressures faced by sports individuals (Rice et al., 2016).

This article aims to investigate the impact of social media and media exposure on athletes' identity and performance. Specifically, it seeks to answer the following questions: (1) How does interaction on social media influence the way athletes construct their sporting identity? (2) In what way does media exposure affect the psychological pressure and mental health of these individuals? (3) What are the effects of this constant exposure on motivation and athletic performance? By addressing these questions, the intent is to shed light on the role of social media in athletes' lives and to suggest practical strategies for managing this exposure in a healthy manner.

The rapid growth of social media has provided athletes with an unprecedented opportunity to communicate directly with the public, allowing a closeness and authenticity previously impossible through traditional media. However, this more direct contact has brought additional pressure to maintain a perfect image under the constant scrutiny of followers (Filo; Lock; Karg, 2014). Anxiety and insecurity can increase, especially due to continual public evaluations and comments about their performance (Rice et al., 2016). Frequently, the comparison with other athletes and the need for online approval generate feelings of inadequacy and insecurity (Hayes; Filo; Riot; Geurin, 2019). On the other hand, when used strategically, social media has the potential to strengthen athletes' self-confidence, allowing them to construct inspiring and authentic personal narratives (Smith; Sanderson, 2015). Thus, understanding these dynamics becomes essential for proposing effective strategies that minimize negative impacts and maximize the benefits of digital presence in athletes' lives.



2 LITERATURE REVIEW

2.1 Social Media and the Construction of Athletic Identity: Challenges, Opportunities, and Psychological Implications

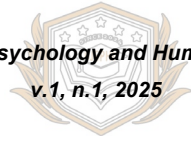
Social media has profoundly transformed how athletes communicate with the public, allowing them to showcase a more authentic sporting identity and rely less on traditional media (Lebel; Danylchuk, 2012). This direct connection with fans enhances emotional bonds and boosts engagement, as athletes can share everyday moments and interact in real time (Geurin-Eagleman; Burch, 2016). Yet, with this increased freedom also comes the constant pressure to maintain a flawless and consistent public image.

Nowadays, building a “personal brand” is key for athletes seeking visibility, sponsorships, and recognition, which often means carefully curating content that reflects personal values, lifestyle, and unique interests (Geurin-Eagleman; Burch, 2016). However, upholding such an idealized image can lead to significant emotional strain, particularly under constant public scrutiny—especially during challenging times such as defeats or injuries—and may result in internal conflicts and psychological distress (Rice et al., 2016).

Moreover, continuous exposure on social media can deeply affect athletes’ self-esteem and perception of performance. Regular commentary, comparisons with other athletes, and the pressure to display only moments of success contribute to anxiety and insecurity (Rice et al., 2016). This selective curation, which highlights only positive aspects, sets unrealistic expectations of uninterrupted achievement, increasing the likelihood of mental health issues like anxiety or depression when real outcomes fall short of the idealized online persona (Geurin-Eagleman; Burch, 2016; Lebel; Danylchuk, 2012).

2.2 Psychological Pressure and Media Exposure: Challenges, Impacts, and Coping Strategies for Athletes

Constant interaction with the public on social media can bring both considerable benefits and noteworthy challenges for athletes. On the one hand, positive feedback and encouraging remarks from fans can increase motivation and bolster athletes’



confidence, fostering a supportive environment of genuine engagement (Lebel; Danylchuk, 2012). On the other hand, repeated exposure to harsh criticism and unrealistic expectations can lead to high levels of stress, anxiety, and psychological strain.

Studies indicate that this relentless pressure to live up to the public's expectations heightens the risk of disorders such as anxiety and depression, particularly among elite athletes (Rice et al., 2016). Additionally, the obligation to maintain a flawless social media image can result in excessive self-imposed standards, increasing the likelihood of emotional and physical burnout. Continual comparisons with other athletes and public critiques can gradually erode self-confidence, directly undermining athletic performance (Rice et al., 2016).

In this environment, issues like cyberbullying and “cancel culture” become especially concerning. Cyberbullying involves ongoing virtual harassment—such as insults, humiliation, and threats—that can substantially harm athletes' emotional well-being, exacerbating symptoms of anxiety and depression (Kavanagh; Brown; Jones, 2017). Meanwhile, cancel culture, defined by collective boycotts in response to perceived inappropriate behaviors or statements, can lead to social isolation and tarnish an athlete's reputation, heightening negative emotions such as shame, guilt, and despair (Kavanagh; Brown; Jones, 2017). A telling recent example is the case of player Kirian Rodríguez, who chose to abandon his social media platforms after intense personal and professional criticism, illustrating the severe and damaging consequences of online harassment (López-González; Griffiths, 2016).

Given these challenges, it is crucial for athletes to develop effective coping strategies and carefully manage their social media interactions to safeguard their mental and emotional well-being.

2.3 Social Media as a Factor in Motivation and Performance: Potential Benefits, Risks, and Self-Regulation Strategies

Social media is playing an increasingly prominent role in athletes' lives, directly influencing their motivation and performance. Many athletes use these platforms to connect more closely with fans, gain inspiration, and reinforce their sporting identity. However, others face considerable challenges related to excessive exposure, constant negative feedback, and overreliance on external validation. The impact of social media

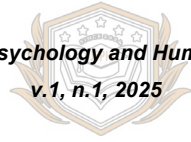


on athletic performance largely depends on how each individual athlete processes online responses and on their emotional capacity to cope with external criticisms and pressures.

Online feedback heavily affects athletes' motivation, and when it is positive and constructive, it can strengthen their confidence and sense of belonging. In these cases, encouraging comments, fan support, and public recognition often boost athletes' motivation and reinforce their sporting identity (Lebel; Danylchuk, 2012). However, when feedback is negative, critical, or marked by constant comparisons, it can trigger intense feelings of anxiety, insecurity, and inadequacy, seriously undermining self-esteem and sports performance (Rice et al., 2016). Furthermore, relying excessively on external online approval can weaken intrinsic motivation, making athletic performance overly influenced by public opinion (Rice et al., 2016).

The way athletes interact with the digital environment ultimately determines social media's effect on their performance. Some are able to use these platforms strategically, increasing motivation by building positive support networks and maintaining a healthy, inspiring focus (Hayes; Filo; Riot; Geurin, 2019). By contrast, athletes who continuously monitor online feedback risk experiencing high stress, competitive anxiety, reduced concentration, and significant drops in their performance—particularly when external expectations are not met (Filo; Lock; Karg, 2014; Rice et al., 2016).

Within this context, emotional self-regulation emerges as a vital skill for managing the challenges posed by social media in a healthy way. Athletes who adopt effective emotional self-regulation strategies—such as mindfulness (focused awareness), cognitive restructuring (positive reframing of criticism), and establishing clear boundaries for digital platform use—are better equipped to protect their self-confidence and emotional well-being (McGannon; Curtin; Schinke; Schweinbenz, 2012; Browning; Sanderson, 2012). The support of sport psychologists also plays a pivotal role, offering personalized emotional guidance and practical techniques to help athletes benefit from social media without compromising their mental health and athletic performance.



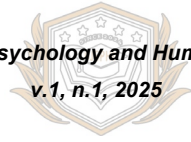
2.4 Final Considerations and Future Perspectives: Social Media, Athletic Identity, and Competitive Performance

Social media has become an integral part of athletes' lives, shaping their sporting identity, motivation, and performance. On the one hand, it offers opportunities for engagement, personal branding, and immediate feedback; on the other, it exposes athletes to serious challenges, including psychological pressure, constant criticism, and social comparisons. How athletes handle these digital interactions can ultimately determine whether social media's effects are beneficial or detrimental to their careers and well-being (Rice et al., 2016; Lebel; Danylchuk, 2012).

By examining the opportunities and pressures associated with social media, this article underscores that effective use of digital platforms can strengthen athletes' self-confidence and authenticity (Smith; Sanderson, 2015). However, the need to maintain a polished public image can also elevate anxiety and insecurity, particularly when performance dips or online feedback is overwhelmingly critical (Filo; Lock; Karg, 2014; Rice et al., 2016). Moreover, continued exposure and comparisons with peers can create a cycle of self-doubt and stress, amplifying the very pressures that social media was initially intended to alleviate (Hayes; Filo; Riot; Geurin, 2019).

In this context, the dual nature of social media becomes clear: its capacity to offer genuine connection and immediate fan support is offset by the potential for heightened scrutiny and the perpetuation of unrealistic expectations (Lebel; Danylchuk, 2012). Future investigations could, therefore, deepen our understanding of how athletes develop coping strategies—both psychological and practical—that enable them to benefit from the positive aspects of online visibility while minimizing its adverse effects (Rice et al., 2016). Beyond individual measures, studies might also explore broader support systems, including the roles of coaches, sports organizations, and mental health professionals in guiding athletes' healthy engagement with social media.

In sum, social media can be either an asset or a liability for athletes, depending on how they navigate its demands and opportunities. By continuing to refine our knowledge of the interplay between digital platforms, athletic identity, and mental well-being, we can help ensure that athletes capitalize on the motivational and branding benefits of social media without compromising their performance or psychological health.



3 SUMMARY OF THE MAIN FINDINGS DISCUSSED IN THE ARTICLE

This article has provided an in-depth discussion on the relationship between social media and athletic performance, highlighting three key points:

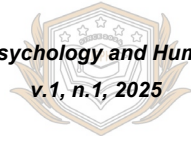
1. Identity and media exposure – Social media enables athletes to construct and project their sporting identities, but also places pressure on them to maintain a consistent public image. This exposure can affect their self-esteem and perceptions of sporting competence (Hayes; Filo; Riot; Geurin, 2019).
2. Psychological pressure and emotional impacts – Digital interaction can heighten stress and anxiety in athletes, particularly when they are targets of harsh criticism, cyberbullying, or cancel culture. Research shows that athletes' mental health is vulnerable to constant public scrutiny (Kavanagh; Brown; Jones, 2017; López-González; Griffiths, 2016).
3. Motivation and performance – Online feedback may be a source of motivation, but it can also undermine performance and foster discouragement, depending on the nature of the interaction and how effectively athletes can regulate their emotions. Athletes who filter out negative content tend to use social media in a healthier way (McGannon; Curtin; Schinke; Schweinbenz, 2012).

A central contribution of this article lies in merging perspectives on sporting identity, mental health, and competitive performance. It underscores the importance of emotional self-regulation as a fundamental strategy for optimizing athletes' use of social media, thereby maximizing its advantages and minimizing potential emotional and competitive setbacks.

3.1 Implications for Coaches, Sports Psychologists, and Athletes

The findings of this study offer direct implications for coaches, sports psychologists, and athletes:

- **Coaches** need to be aware of the potential impact social media can have on their athletes' performance and guide them toward establishing healthy boundaries in its use. Fostering a sports environment that prioritizes psychological well-being is key to alleviating external pressures stemming from the digital realm (Browning; Sanderson, 2012).



- **Sports psychologists** should incorporate media exposure management into their psychological training programs for athletes. Strengthening emotional self-regulation skills can help athletes cope with social media–related stress and build greater psychological resilience (Rice et al., 2016).
- **Athletes** are encouraged to adopt mindful strategies when using social media, filtering out harmful content while seeking interactions that reinforce their sporting identity and motivation. Moreover, professional support and psychological training can be indispensable in managing digital exposure and its emotional consequences (Filo; Lock; Karg, 2014).

4. FINAL CONSIDERATIONS

4.1 Suggestions for Future Research on This Topic

Although scholarly interest in social media and athletic performance has grown in recent years, there are still gaps that warrant deeper investigation. Possible directions for future research include:

- **Individual differences in social media impact** – Examining how factors such as age, competitive level, and gender influence athletes' responses to media exposure.
- **Longitudinal studies** – Analyzing the long-term effects of social media use on athletes' careers, mental health, and performance over extended periods.
- **Effective psychological interventions** – Investigating the effectiveness of emotional regulation programs and training aimed at conscious, balanced social media use.
- **Cultural comparisons** – Exploring how athletes from different countries and sociocultural contexts manage the influence of social media and their public exposure.

By delving deeper into these areas, academic research can offer more robust recommendations for coaches, sports psychologists, and athletes, helping them navigate the challenges of the digital environment more effectively.



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RELAÇÃO ENTRE ATITUDES DE DOPING, PAIXÃO E ROBUSTEZ MENTAL EM ATLETAS JOVENS DE MODALIDADES ESPORTIVAS INDIVIDUAIS

RELATIONSHIP BETWEEN DOPING ATTITUDES, PASSION AND MENTAL TOUGHNESS IN YOUNG ATHLETES IN INDIVIDUAL SPORTS

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Resumo

Analisar a relação entre as Atitudes de Dopagem, Paixão e Robustez Mental em atletas de modalidades esportivas individuais. MÉTODOS: Participaram 251 atletas de modalidades individuais, com média de $18,3 \pm 2,9$ anos; participantes de diferentes níveis competitivos (internacional, nacional e estadual). Como instrumentos, foram utilizadas a Escala de Atitudes para Melhoria de Rendimento, Escala da Paixão, e Escala de Robustez Mental. A análise de dados foi conduzida por meio dos testes de *Shapiro-Wilk*, U de *Mann-Whitney*, *Kruskal Wallis*, Coeficiente de Correlação de *Spearman* e Análise em rede (LASSO). RESULTADOS: Foi encontrada diferença significativa no tempo de experiência e horas de treinamento ($p < 0,01$) entre homens e mulheres, e nas horas de treinamento em função da remuneração ($p < 0,01$). Foram encontradas correlações positivas significativas ($p < 0,01$) entre os níveis competitivos e o tempo de experiência ($r = 0,53$) e horas de treinamento ($r = 0,54$), a paixão obsessiva se correlacionou positivamente ($p < 0,01$) com a paixão harmoniosa ($r = 0,30$) e a robustez mental ($r = 0,30$); enquanto as atitudes de dopagem apresentaram correlação inversa significativa ($p < 0,05$) com a paixão harmoniosa ($r = -0,16$) e a robustez mental ($r = -0,14$). A análise em rede revelou correlações significativas entre as atitudes de dopagem e o status de remuneração ($r = 0,07$), a paixão harmoniosa ($r = -0,07$), a robustez mental ($r = -0,05$) e o nível competitivo ($r = -0,01$). CONCLUSÃO: Maiores níveis de paixão harmoniosa e de robustez mental podem estar relacionados a atitudes menos favoráveis ao doping, ou menos permissivas quanto ao seu uso no esporte; por outro lado, o recebimento de salário ou auxílio financeiro para a prática esportiva teve relação positiva com as atitudes de doping, possivelmente, em função de alguns

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atletas se sentirem mais pressionados a apresentar bons resultados de modo a preservar sua fonte de renda.

Palavras-chave: Esportes individuais; Psicologia do esporte; Doping.

Abstract

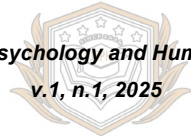
To analyze the relationship between Doping Attitudes, Passion and Mental Toughness in athletes of individual sports. METHODS: A total of 251 athletes of individual sports participated, with a mean age of 18.3 ± 2.9 years; participants of different competitive levels (international, national and state). The following instruments were used: Performance Improvement Attitude Scale, Passion Scale and Mental Toughness Scale. Data analysis was conducted using the Shapiro-Wilk, Mann-Whitney U, Kruskal-Wallis, Spearman Correlation Coefficient and Network Analysis (LASSO) tests. RESULTS: A significant difference was found in the time of experience and training hours ($p < 0.01$) between men and women, and in the training hours as a function of remuneration ($p < 0.01$). Significant positive correlations ($p < 0.01$) were found between competitive levels and experience time ($r = 0.53$) and training hours ($r = 0.54$), obsessive passion correlated positively ($p < 0.01$) with harmonious passion ($r = 0.30$) and mental toughness ($r = 0.30$); while doping attitudes showed a significant inverse correlation ($p < 0.05$) with harmonious passion ($r = -0.16$) and mental toughness ($r = -0.14$). Network analysis revealed significant correlations between doping attitudes and remuneration status ($r = 0.07$), harmonious passion ($r = -0.07$), mental toughness ($r = -0.05$) and competitive level ($r = -0.01$). CONCLUSION: Higher levels of harmonious passion and mental toughness may be related to less favorable attitudes toward doping, or less permissive toward its use in sports; on the other hand, receiving a salary or financial aid for practicing sports had a positive relationship with doping attitudes, possibly because some athletes feel more pressured to perform well in order to preserve their source of income.

Keywords: Individual sports; Sports psychology; Doping.

1 INTRODUÇÃO

De acordo com a WADA (*World Anti-Doping Agency*), utilizar substâncias proibidas para melhoria de rendimento no esporte é considerado *doping*. Essa prática pode ter consequências negativas para a integridade do esporte, criando vantagens injustas, ferindo princípios e regras além de trazer efeitos deletérios para a saúde dos atletas (Blank et al., 2016; Elbe; Barkoukis, 2017). De acordo com Ntoumanis et al. (2024), as estimativas alarmantes de até 39% de prevalência de doping no esporte demandam intervenções psicossociais e programas educacionais bem informados por evidências científicas para guiarem o trabalho prático.

Com frequência, atletas jovens lidam com expectativas e pressão para treinarem, desempenharem e realizarem seu potencial, e podem se tornar uma



população de risco para prática do doping. Em sua meta-análise, Kristensen et al. (2022) revisou 15 estudos, representando 8584 atletas jovens, com idades entre 14 e 20 anos, e revelou a importância de fomentar a busca por valores autônomos, aprendizado e crescimento pessoal no esporte como forma de evitar o doping, além do papel essencial que o ambiente ao redor do atleta, como pais, técnico, colegas de equipe e amigos, exerce na identidade do atleta e suas necessidades psicológicas e sociais. De fato, a literatura revela que valores pessoais do atleta, como moralidade, autoeficácia, atitudes e motivação, aliados aos fatores ambientais como a motivação e moralidade relacionadas ao técnico e normas sociais da equipe, são alguns dos principais preditores do uso e intenção de uso do doping (Ntoumanis et al., 2024).

Portanto, estudar os indicadores sociodemográficos, as relações psicossociais e as motivações para o doping pode fornecer subsídios para a compressão do fenômeno, no qual as motivações autodeterminadas podem explicar parcialmente as relações do perfeccionismo para as atitudes perante ao doping, ou até mesmo, torná-los mais propensos a tais atitudes (Zucchetti, Candela e Villosio, 2015; Wang et al., 2020; Mudrak; Slepicka e Slepickova, 2018), assim como demonstrado também pela influência da autodeterminação nas intenções de doping (Barkoukis et al., 2013).

A partir do cenário atual da literatura, observa-se a necessidade de considerar fatores individuais do atleta, como sua autoeficácia e motivação, ao se estudar o doping no contexto esportivo, além da necessidade de se considerar as pressões ambientais por desempenho, neste sentido, a robustez mental do atleta pode ser determinante. Gucciardi (2017) propõe que a robustez mental de atletas pode ser entendida como a capacidade ou habilidade mental de superar condições estressantes advindas do ambiente externo, de superar barreiras e/ou adversidades em que o mesmo é submetido sem que haja um decréscimo em seu desempenho, podendo ser entendida como uma característica da saúde mental em relação aos desafios e pressões impostos por estímulos estressores em qualquer circunstância; frente a um conjunto de atributos que influenciam no modo como o indivíduo responderá as metas (Clough; Strycharczyk, 2015; Gucciardi et al., 2015).

Além disso, a partir da importância do estudo de fatores motivacionais e autodeterminados e sua relação com o doping no esporte, nota-se uma lacuna nos estudos acerca da paixão pela atividade. A paixão é entendida como uma forte disposição para uma determinada atividade que o indivíduo ama, investindo nela tempo e energia (Vallerand et al., 2003; Vallerand et al., 2008). O Modelo Dualístico



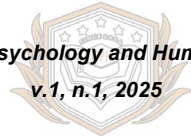
da Paixão sugere que as atividades são exercidas conforme a motivação do indivíduo pela tarefa, ocorrendo uma internalização dessas atividades à medida em que são valorizadas pela pessoa, tornando-as assim, características centrais de suas próprias identidades (Vallerand et al., 2003b). Quando essa atividade é internalizada de forma autônoma, predomina a paixão harmoniosa (PH), onde a atividade está em harmonia com as demais facetas da vida, possuindo controle sobre a atividade. Por outro lado, quando há uma internalização extrinsecamente controlada, há predomínio da característica obsessiva da paixão (PO), onde o atleta pode perder o controle sobre a atividade, que poderá conflitar com outras atividades de sua vida (Vallerand et al., 2008).

Durante as competições de modalidades individuais, normalmente, os atletas não podem usufruir da presença de companheiros de equipe, e muitas vezes devem encontrar, sozinhos, maneiras de superar os obstáculos e as barreiras do universo em que estão inseridos, se tornando ainda mais dependentes de sua própria robustez mental e de seus valores motivacionais. Desta forma, o presente estudo teve o objetivo de analisar a relação entre as Atitudes de Doping, Paixão e Robustez Mental em atletas jovens de modalidades individuais. Ressalta-se a importância do estudo de populações jovens como um dos principais focos para intervenções educacionais no esporte, além da necessidade de se expandir os atuais conhecimentos acerca dos fatores individuais e sua relação com o doping.

2 MATERIAIS E MÉTODOS

2.1 Amostra

Participaram do estudo, 251 atletas de três modalidades individuais: Ginástica Rítmica (GR, n=100) Badminton (BAD, n=71) e Atletismo (ATL, n=80); com idade média de $18,3 \pm 2,9$ anos, sendo que a amostra foi, em sua maioria, composta por atletas do sexo feminino (n=161, 64%). Estes atletas competiam em nível estadual (n=34), nacional (n=138) e internacional (n=79), sendo que 102 (40,6%) deles declararam receber alguma forma de remuneração em função do esporte. O tempo médio de experiência em suas respectivas modalidades foi de $84,3 \pm 48,6$ meses, além disso, a frequência semanal de treinamento média foi de $17,2 \pm 7,4$ horas.



2.2 Procedimentos

O estudo faz parte do projeto institucional intitulado “Processo de desenvolvimento de variáveis psicológicas positivas no contexto esportivo”, aprovado pelo Comitê Permanente de Ética em Pesquisa com Seres Humanos da Universidade Estadual de Maringá (COPEP-UEM) sob parecer número 6.463.994.

A coleta de dados foi realizada durante o segundo semestre do ano de 2023 e o primeiro semestre do ano de 2024, tanto em competições de diferentes níveis (nacional e estadual) das respectivas modalidades, quanto nos locais de treinamentos dos próprios atletas, mediante a autorização antecipada da comissão técnica. Os questionários foram respondidos de maneira individual. De maneira prévia, todos os atletas assinaram o Termo de Consentimento Livre e Esclarecido (TCLE), que também foi assinado previamente pelos treinadores e técnicos responsáveis por cada atleta.

2.3 Instrumentos

2.3.1 Ficha de Identificação

Para a caracterização da amostra, utilizou-se uma ficha de identificação contendo dados sociodemográficos como a idade, sexo, maior nível de competição que já participou, tempo de experiência desde o início na modalidade, a quantidade de horas semanais dedicadas ao treinamento esportivo e se recebe ou não alguma forma de remuneração em função da modalidade em que compete.

2.3.2 Escala de Atitude para melhoria de Rendimento (Doping)

Para avaliar as atitudes dos atletas em relação ao doping foi utilizado o *Performance Enhancement Attitudes Scale* (PEAS) desenvolvido por Petróczi e Aidman (2009) e validado para o contexto brasileiro por Codonhato et al. (2024). O instrumento avalia as atitudes de atletas em relação ao comportamento de doping de forma unidimensional pela soma de todos os itens, variando de 17 à 102 pontos, sendo que pontuações mais altas indicam uma atitude mais propensa ou até favorável ao



doping. Os itens são pontuados em uma escala do tipo *Likert* de 06 pontos que variam entre (1) = “Discordo totalmente” à (6) “Concordo totalmente”.

2.3.3 Escala da Paixão

A fim de verificar o tipo e o nível da paixão dos atletas por suas modalidades esportivas, foi utilizada a Escala da Paixão para o esporte, desenvolvida inicialmente por Vallerand et al. (2003a) e validada para o contexto esportivo brasileiro por Peixoto et al. (2019). Este instrumento é composto por 12 itens medidos em uma escala *Likert* de 05 pontos, na qual 01 corresponde à discordo totalmente e 05 corresponde à concordo totalmente. Tal instrumento nos permite avaliar a paixão em duas dimensões: Paixão obsessiva e Paixão harmoniosa.

2.3.4 Robustez Mental Index

Para avaliar a robustez mental, foi aplicado o Robustez Mental Index (RMI) desenvolvido por Gucciardi et al. (2012) e validado transculturalmente para o contexto brasileiro por Moreira, Codonhato, Fiorese (2021). O constructo contém 8 questões sobre como o atleta geralmente pensa, sente e se comporta durante uma prática esportiva. É respondida em uma escala *Likert* de 01 (Falso, 100% do tempo) a 07 (Verdadeiro, 100% do tempo) e seu resultado é dado de forma unidimensional a partir da média geral das questões.

2.3.5 Análise Estatística

Para a análise dos dados foi utilizado o software JASP, versão 0.19.1, adotando nível mínimo de significância para $p < 0,05$ em todas as análises. A normalidade (distribuição) dos dados foi verificada por meio do teste de *Shapiro-Wilk*, que revelou uma distribuição não-paramétrica de todas as variáveis no banco de dados. Desta forma, os dados foram apresentados por meio da estatística descritiva em mediana e quartis (Md, Q1-Q3), além de sua frequência absoluta (%). Para as comparações em função do sexo e recebimento de salário foi utilizado o teste U de *Mann-Whitney*, para as comparações em função das modalidades e níveis competitivos utilizou-se o teste



de *Kruskal-Wallis*, e o Coeficiente de Correlação de *Spearman* foi usado para verificar a existência de correlações bivariadas entre os dados.

Por fim, com o intuito de responder ao objetivo de pesquisa, foi conduzida uma Análise em Rede do tipo LASSO (*Least Absolute Shrinkage and Selection Operator*, ou Operador de Seleção e Contração Mínima Absoluta). A análise em redes é um método guiado pelos dados (*data-driven*), que calcula uma rede de correlações parciais entre todas as variáveis nela inseridas e leva em consideração a influência das demais variáveis ao estimar uma associação entre pares de nodos, resultando, portanto, em uma análise multivariada. Essa rede é então submetida ao algoritmo LASSO, que reduz todas as correlações triviais para zero e devolve uma estrutura com apenas as associações mais fortes, potencialmente removendo todas as correlações espúrias (Wang et al., 2018). Sendo assim, redes LASSO apresentam uma chance muito baixa de reportar falsos positivos, podendo, entretanto, conter falsos negativos ao zerar conexões mais fracas.

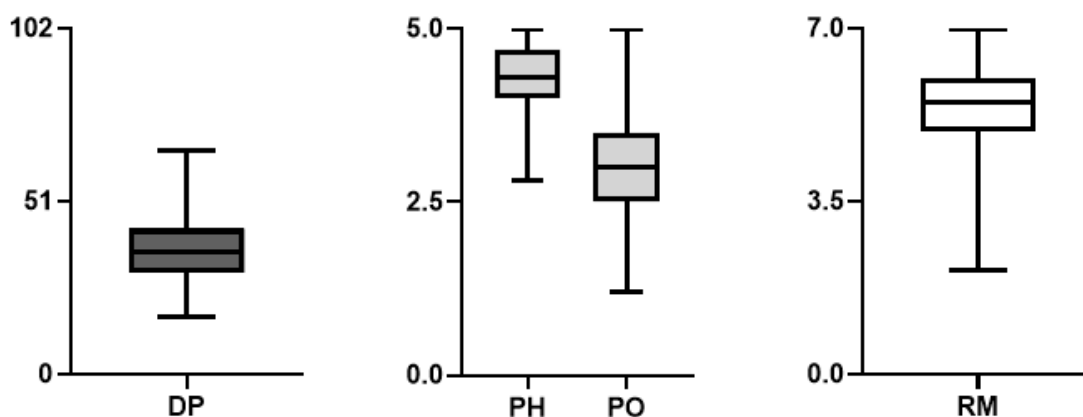
As redes são compostas graficamente por “nodos” (círculos), que representam as variáveis, estes nodos são conectados por “arestas” (linhas), sendo que a espessura indica o seu grau de força. Além disso, o posicionamento e distribuição dos nodos também é calculado pelo algoritmo (Silva et al., 2006). Para identificar as variáveis mais influentes, ou de maior importância na rede, foram utilizados os indicadores de centralidade de Força (*Strength*), que indica a somatória de todo o efeito exercício na rede; Proximidade (*Closeness*), que avalia a distância (comprimento das arestas) conectando um nodo com os demais; e Grau de Intermediação (*Betweenness*), que representa número de vezes em que um nodo age como ponte/conexão para o menor caminho entre dois nodos, ou seja, o quanto de informação passa por aquela variável dentro de uma rede, indicando seu potencial em afetar as demais variáveis (Dalege, Borsboom, Harreveld; Maas, 2017).

3 RESULTADOS

A figura 1 traz os valores descritivos das atitudes de doping, paixão e robustez mental da amostra. Observa-se, no geral, níveis baixos a moderados de atitudes de doping (Q1-Q3= 30,0-43,0), caracterizando atitudes mais conservadoras e desfavoráveis ao doping. Em seguida, notam-se altos níveis de paixão harmoniosa (Q1-Q3= 4,0-4,7) e níveis médios de paixão obsessiva (Q1-Q3= 2,5-3,5), com uma

maior amplitude de distribuição (Min-Max = 1,2- 5,0). Por fim, a amostra apresentou um alto nível de robustez mental (Q1-Q3= 4,9-6,0).

Figura 1 - Diagramas de caixa das Atitude de Doping, Paixão Harmoniosa, Paixão Obsessiva e Robustez Mental de atletas brasileiros de modalidades esportivas individuais



Descrição: n = 251 atletas; Valores Mínimo/Máximo; DP = Atitudes de Doping; PH = Paixão Harmoniosa; PO = Paixão Obsessiva; RM = Robustez Mental.

Fonte: Elaborado pelos autores, 2025

Não foram encontradas diferenças significativas nas comparações entre as variáveis psicológicas de Paixão Harmoniosa, Paixão Obsessiva, Robustez Mental e Atitudes de Doping em função do sexo, modalidade, nível competitivo e status de remuneração. Por outro lado, foi encontrada diferença significativa no tempo de experiência e horas semanais de treinamento ($p < 0,01$) entre homens (Md=63 meses; 15 horas) e mulheres (Md=90 horas; 20 horas), diferença significativa nas horas de treinamento em função da remuneração ($p < 0,01$), e valores muito próximos de significativos para as atitudes de doping em função da remuneração (Recebe, Md = 38,5; Não-recebe, Md = 35,0; $p = 0,053$). Verificou-se uma diferença significativa ($p < 0,01$) nas atitudes de doping entre atletas de badminton (Md=34,0) e GR (Md=37,5), ainda, houve diferença significativa no tempo de experiência (meses) entre atletas da GR (Md=103), badminton (Md=77) e atletismo (Md=48) ($p < 0,01$).

Na tabela 1, é possível observar correlações positivas significativas ($p < 0,01$) entre os níveis competitivos e o tempo de experiência ($r = 0,53$) e horas semanais de treinamento ($r = 0,54$), a paixão obsessiva se correlacionou positivamente ($p < 0,01$) com

a paixão harmoniosa ($r=0,30$) e a robustez mental ($r=0,30$), enquanto as atitudes de doping apresentaram correlação inversa significativa ($p<0,05$) com a paixão harmoniosa ($r=-0,16$) e a robustez mental ($r=-0,14$).

Tabela 1 - Matriz de correlação entre variáveis psicológicas e características esportivas de atletas brasileiros de esportes individuais

Variáveis	1	2	3	4	5	6	7
1.Tempo de experiência	-						
2.Treinamento (horas/semana)	0,51**	-					
3.Nível competitivo	0,53**	0,54**	-				
4. Paixão Harmoniosa	-0,01	-0,10	0,05	-			
5. Paixão Obsessiva	0,05	0,01	0,09	0,30**	-		
6. Robustez Mental	-0,01	0,03	0,10	0,35**	0,30**	-	
7. Atitudes de Doping	-0,01	-0,02	-0,11	-0,16*	-0,02	-0,14*	-

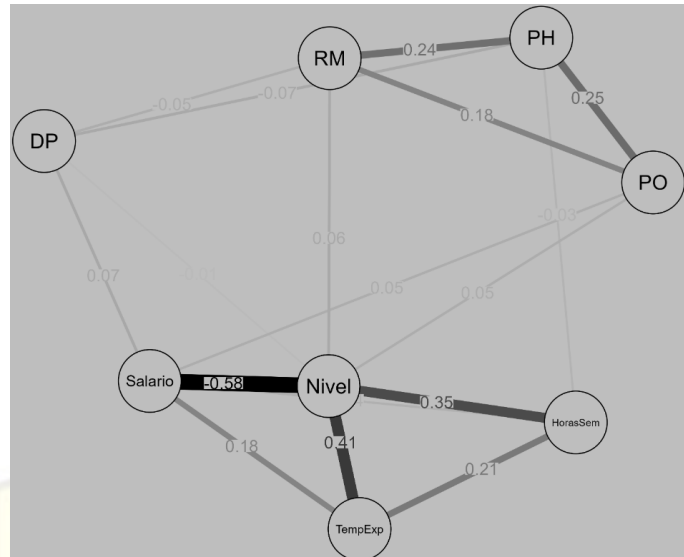
Descrição: $n = 251$; * $P < 0,05$, ** $P < 0,01$ = Correlação significativa entre as variáveis.

Fonte: Elaborado pelos autores, 2025

Em relação ao objetivo do estudo, a análise em rede (Figura 2) revelou correlações significativas entre os nodos de atitudes de doping e de remuneração (Salário) ($r=0,07$), da paixão harmoniosa ($r=-0,07$), da robustez mental ($r=-0,05$) e do nível competitivo ($r=-0,01$).

Analisando as demais características da rede, observa-se que as variáveis psicológicas se distribuíram ao lado superior da figura, enquanto as características esportivas se agruparam na extremidade oposta. Além disso, outras conexões entre esses dois grandes grupos de nodos são feitas por meio de conexões entre robustez mental e nível competitivo ($r=0,06$), paixão harmoniosa e horas semanais de treinamento ($r=-0,03$), e paixão obsessiva e ambos remuneração ($r=0,05$) e nível competitivo ($r=0,05$).

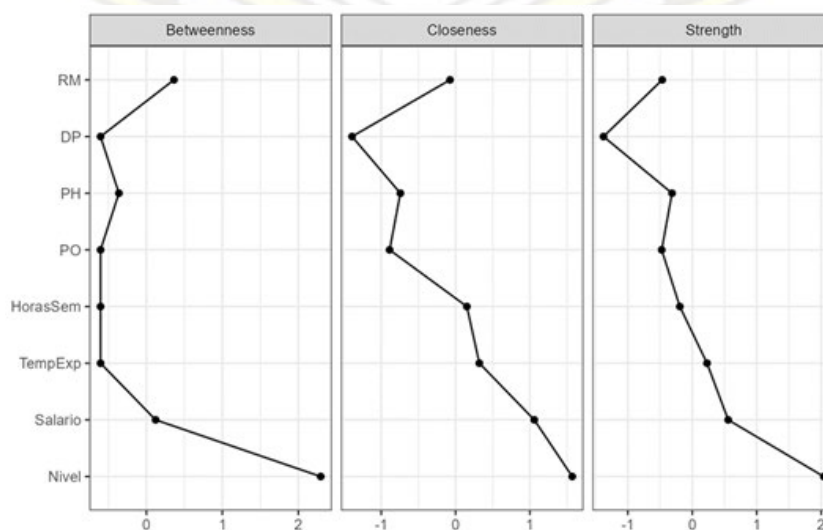
Figura 2 - Rede LASSO de correlações entre as atitudes de doping, paixão, robustez mental e características de treinamento de atletas brasileiros de modalidades individuais



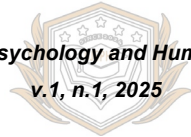
Fonte: Elaborado pelos autores, 2025

Na figura 3, podemos observar o alto grau de intermediação, proximidade e força do nível competitivo, se destacando como variável mais influente na rede. Dentre as variáveis psicológicas, há um destaque para robustez mental como variável mais influente por seus graus de intermediação e proximidade, enquanto a paixão harmoniosa mostrou maior grau de força.

Figura 3 - Indicadores de centralidade da rede



Fonte: Elaborado pelos autores, 2025



4 DISCUSSÃO

O presente estudo buscou analisar a relação entre as atitudes de doping, a paixão pelo esporte e a robustez mental em atletas jovens de modalidades individuais. A partir dos resultados, evidentes principalmente na Figura 2, foi possível observar que existe uma relação inversa entre as atitudes de doping de um atleta e seus níveis de robustez mental e de paixão harmoniosa. Além disso, alguns fatores ambientais também apresentaram evidências, como a relação da paixão obsessiva com maior nível competitivo e remuneração pela prática, que, por sua vez, podem ser entendidos como pressão por resultados, que de fato se mostraram positivamente associados às atitudes de doping no presente modelo de rede.

Os resultados, inicialmente evidentes por meio dos coeficientes de correlação bivariada entre atitudes de doping e paixão harmoniosa ($r=-0,16$) e robustez mental ($r=-0,14$), se mantiveram significativos mesmo após a adição das demais variáveis e sua ponderação pelo algoritmo da rede LASSO. De acordo com o Modelo Dualístico da Paixão, (Vallerand, 2008), uma das características da paixão harmoniosa é a conformidade e consideração por outros aspectos da vida ao se praticar a atividade de forma apaixonada, o que pode explicar sua relação inversa com atitudes de doping nos presentes resultados, uma vez que o uso de substâncias ilícitas pode comprometer seriamente diversos outros aspectos da vida do atleta, como sua fonte de renda, sua reputação e sua saúde (Blank et al., 2016; Elbe; Barkoukis, 2017). Corroborando com esses resultados, um estudo com 587 atletas canadenses de nível recreativo e universitário encontrou um efeito protetor ainda mais forte da paixão harmoniosa sobre as atitudes de doping de atletas ($\beta=-0,29$) (Wilson e Potwarka, 2015), entretanto, para essa amostra, houve também uma influência da paixão obsessiva sobre atitudes mais favoráveis ao doping ($\beta=0,26$), um efeito que não foi evidente no contexto da presente investigação.

Nesta mesma linha, outra importante evidência foi a relação inversa entre atitudes de doping e a robustez mental. Porém, há uma lacuna de evidências a respeito da relação entre robustez mental e atitudes de doping no esporte, limitando maiores comparações. No estudo de Sheykhangshe et al. (2022), realizado com fisiculturistas, também foi encontrado efeito protetivo da robustez mental sobre as atitudes de doping, avaliada por suas dimensões de confiança ($r=-0,48$), constância ($r=-0,48$) e controle ($r=-0,57$). Segundo Gucciardi (2017), a robustez mental é um



recurso psicológico naturalmente proposital, por possuir direção e energia; flexível quanto a mudança, incerteza e conflitos; e eficiente por maximizar a congruência entre as metas e o comportamento. Dentro das próprias características deste constructo, espera-se que atletas mais robustos mentalmente tenham atitudes menos favoráveis ao doping, assim como a aqueles com maiores níveis de autoestima, autocontrole e autoeficácia (Folkerts et al., 2021; Kristensen et al., 2022; Ntoumanis et al., 2024).

Outro importante resultado foi a relação positiva entre o recebimento de remuneração pela prática esportiva e as atitudes de doping. Uma vez que há o envolvimento de um fator extrínseco, de grande importância, no desempenho do atleta, ter um bom desempenho para manter sua remuneração para prática esportiva, ou mesmo a cobrança pessoal por fazer o incentivo financeiro valer a pena e mostrar resultado em retorno, características da motivação controlada e da pressão por desempenho, pode levar atletas a considerarem alternativas ilícitas para o aumento da performance (Kristensen et al., 2022; Ntoumanis, 2024).

Embora o presente estudo traga contribuições relevantes para a compreensão da relação entre atitudes de doping, paixão e robustez mental em atletas de modalidades individuais, algumas limitações devem ser consideradas. Primeiramente, a natureza transversal da coleta de dados impede o estabelecimento de relações causais definitivas entre as variáveis investigadas. Estudos futuros poderiam empregar desenhos longitudinais para examinar a direção e a evolução dessas relações ao longo do tempo.

Em segundo lugar, a amostra, composta por atletas de modalidades individuais com uma faixa etária específica e diferentes níveis competitivos, pode limitar a generalização dos achados para atletas de outras modalidades esportivas, diferentes faixas etárias ou contextos socioculturais distintos. Adicionalmente, a utilização de instrumentos de autorrelato pode ter introduzido vieses de desejabilidade social ou dificuldades de recordação por parte dos participantes. Por fim, o estudo se concentrou em um conjunto específico de variáveis psicológicas, sendo que outros fatores individuais e contextuais podem também desempenhar um papel significativo nas atitudes em relação ao doping, merecendo investigação em pesquisas futuras.

Para futuras investigações, sugere-se a adoção de desenhos longitudinais para examinar a causalidade e a dinâmica temporal das relações entre as variáveis estudadas. Estudos comparativos entre atletas de modalidades individuais e coletivas poderiam enriquecer a compreensão da influência do contexto esportivo nessas



relações. Além disso, pesquisas futuras poderiam se aprofundar nos mecanismos subjacentes à relação protetora da paixão harmoniosa e da robustez mental contra as atitudes de doping, investigando potenciais variáveis mediadoras. Abordagens qualitativas poderiam fornecer insights valiosos sobre as experiências e percepções dos atletas em relação ao doping, à paixão e à robustez mental. Propõe-se também o desenvolvimento e a avaliação de intervenções psicológicas focadas na promoção da paixão harmoniosa e da robustez mental como estratégias preventivas. Por fim, é relevante investigar o papel de fatores contextuais mais amplos, como o clima motivacional, as políticas antidoping e a influência de figuras significativas no ambiente esportivo.

Os achados do presente estudo possuem importantes implicações práticas para o contexto esportivo. Em primeiro lugar, reforçam a necessidade de incorporar o desenvolvimento da paixão harmoniosa e da robustez mental em programas de prevenção ao doping direcionados a jovens atletas. Intervenções psicológicas focadas no cultivo dessas qualidades podem ser uma estratégia eficaz para promover atitudes menos permissivas em relação ao uso de substâncias ilícitas. Em segundo lugar, as iniciativas de educação antidoping podem enfatizar os benefícios de uma paixão intrínseca pelo esporte e o desenvolvimento de habilidades de robustez mental como alternativas saudáveis e sustentáveis para o sucesso atlético.

Além disso, a disponibilidade de apoio psicológico para atletas, especialmente aqueles que recebem remuneração, torna-se crucial para ajudá-los a lidar com a pressão por resultados e a desenvolver estratégias de enfrentamento saudáveis. Por fim, sugere-se que treinadores e equipes sejam orientados sobre a importância de criar um ambiente de apoio que valorize a paixão pelo processo, o desenvolvimento da resiliência mental e a ética esportiva, contribuindo para a formação de atletas mais íntegros e engajados com os valores do esporte limpo.

CONCLUSÃO

Como considerações finais, o presente estudo destaca a relevância da paixão harmoniosa e da robustez mental como fatores potencialmente protetores contra atitudes de doping em atletas jovens de modalidades individuais. A identificação de uma relação positiva entre a remuneração e as atitudes de doping aponta para a importância de um acompanhamento psicológico específico para atletas que



dependem financeiramente do esporte. As implicações práticas desses achados incluem a necessidade de integrar o desenvolvimento psicológico em programas de formação esportiva e de implementar estratégias de prevenção ao doping que valorizem a motivação intrínseca e a resiliência mental. Pesquisas futuras poderão refinar a compreensão desses mecanismos e avaliar a efetividade de intervenções direcionadas.

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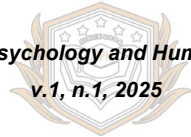
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INTERAÇÕES HUMANAS AMPUTADAS: realidades de um mundo virtual

AMPUTE HUMAN INTERACTIONS: realities of a virtual world

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Resumo

Este projeto de pesquisa busca investigar as transformações nas interações humanas causadas pelo crescente uso das tecnologias digitais, com foco em adolescentes atletas de esportes individuais. A pesquisa examinará como essas interações podem estar sendo amputadas em sua profundidade emocional e social devido à predominância de ambientes virtuais. Adotando uma abordagem de pesquisa participante, serão coletados dados com 189 adolescentes do sexo masculino, com idades entre 16 e 18 anos, através de questionários e entrevistas semiestruturadas. A revisão de literatura explora as bases teóricas da comunicação digital, impactos emocionais e sociais, além de discussões sobre identidade e relações interpessoais no contexto virtual. Espera-se contribuir para o entendimento das dinâmicas humanas na contemporaneidade e propor reflexões sobre o equilíbrio entre as relações online e presenciais.

Palavras-chave: Interações Humanas; Mundo Virtual; Adolescentes; Atletas; Comunicação Digital.

Abstract

This research project seeks to investigate the transformations in human interactions caused by the increasing use of digital technologies, focusing on adolescent athletes in individual sports. The research will examine how these interactions may be being amputated in their emotional and social depth due to the predominance of virtual environments. Adopting a participatory research approach, data will be collected from 189 male adolescents, aged between 16 and 18, through questionnaires and semi-structured interviews. The literature review explores the theoretical bases of digital communication, emotional and social impacts, as well as discussions about identity

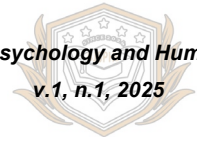
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and interpersonal relationships in the virtual context. It is expected to contribute to the understanding of human dynamics in contemporary times and propose reflections on the balance between online and face-to-face relationships.

Keywords: Human Interactions; Virtual World; Teenagers; Athletes; Digital Communication.

1 INTRODUÇÃO

As interações humanas têm sido profundamente alteradas com o advento das tecnologias digitais, em especial as redes sociais. Para adolescentes, essa dinâmica é ainda mais impactante, considerando que eles estão em um período crucial de formação de identidade e estabelecimento de relações interpessoais. No entanto, observa-se que o excesso de interações mediadas por telas pode estar levando à superficialidade, à diminuição da empatia e ao distanciamento emocional.

Quando o foco se volta para adolescentes atletas de esportes individuais, há um fenômeno adicional: o isolamento inerente à natureza desses esportes pode ser exacerbado pelo predomínio das interações virtuais. Este estudo pretende compreender as implicações desse fenômeno, buscando respostas para questões como: De que forma as interações virtuais moldam os relacionamentos desses jovens? Há impacto em seu desempenho esportivo e bem-estar emocional?

A presença cada vez mais marcante de dispositivos digitais na vida cotidiana levanta questões sobre como esses meios influenciam a comunicação e os laços sociais. Para os adolescentes, as redes sociais oferecem tanto um espaço para conexão quanto um ambiente de constante comparação e validação social. Esse paradoxo pode levar à formação de laços frágeis e à ampliação de sentimentos de inadequação ou solidão, principalmente quando a interação presencial é relegada a um segundo plano. Esses desafios tornam-se ainda mais relevantes no contexto de atletas que, devido à natureza de seus treinamentos e competições, já enfrentam uma rotina de menor convivência social.

Além disso, o conceito de "amputação" das interações humanas vai além da simples substituição das interações presenciais por virtuais. Ele refere-se à perda de elementos essenciais da comunicação, como a linguagem corporal, a entonação e o contato visual, que são fundamentais para a empatia e a compreensão mútua. Esse déficit é amplificado entre adolescentes que, em um estágio de intensa construção de



sua identidade, necessitam de interações profundas e significativas para seu desenvolvimento emocional e social.

No caso dos adolescentes atletas, o equilíbrio entre os desafios esportivos e as demandas sociais é um componente crucial para seu bem-estar. No entanto, a introdução das redes sociais e outras formas de interação virtual em suas rotinas pode representar tanto uma oportunidade quanto uma ameaça. Por um lado, essas tecnologias permitem manter contato com amigos e familiares, mesmo em agendas lotadas. Por outro, podem contribuir para a alienação, o estresse e o aumento de expectativas irreais, impactando negativamente sua saúde mental e desempenho esportivo. Assim, este estudo busca lançar luz sobre essas questões, investigando as múltiplas dimensões das interações humanas em um mundo mediado pelas tecnologias digitais.

A comunicação digital não apenas modifica a maneira como as interações ocorrem, mas também influencia os padrões de comportamento e cognição. Como destaca Castells (2010), a sociedade em rede reconfigura as experiências humanas, alterando as referências sociais e emocionais dos indivíduos. Nesse contexto, adolescentes que crescem sob essa influência podem desenvolver habilidades de comunicação distintas das gerações anteriores, adaptando-se a uma realidade em que a expressão de emoções ocorre majoritariamente por meio de emojis, mensagens curtas e vídeos rápidos.

Ademais, a prevalência do ambiente virtual pode levar a uma desconexão com o mundo real. Estudos indicam que a substituição da interação face a face pelo contato digital pode prejudicar a capacidade de leitura emocional e o desenvolvimento de habilidades sociais fundamentais (Carr, 2015). Para os adolescentes atletas, que já lidam com desafios específicos de isolamento e performance, essa desconexão pode ser ainda mais significativa, impactando sua capacidade de formar laços de apoio e desenvolver resiliência emocional.

Por fim, este estudo busca compreender como essas mudanças na comunicação influenciam o cotidiano dos adolescentes atletas, propondo uma reflexão sobre os efeitos das interações digitais na formação da identidade e nas relações interpessoais. Ao analisar as implicações desse fenômeno, pretende-se fornecer subsídios para estratégias que promovam um uso mais consciente e equilibrado das tecnologias digitais, favorecendo tanto o desenvolvimento pessoal quanto o desempenho esportivo desses jovens.



2 REVISÃO DE LITERATURA

2.1 Impactos psicológicos das interações virtuais

Pesquisas apontam que o uso excessivo de redes sociais está associado a um aumento de ansiedade e depressão entre adolescentes (Twenge, 2017). A dependência de validação digital também interfere no desenvolvimento da autoestima e da identidade (Przybylski, 2013). Esses impactos psicológicos resultam, em grande parte, da necessidade constante de estar conectado e disponível nas redes, o que cria uma pressão social que ultrapassa os limites da interação saudável. Para adolescentes, essa pressão pode ser ainda mais significativa, já que estão em uma fase de desenvolvimento emocional e social crucial.

Além disso, a busca incessante por curtidas e compartilhamentos reforça ciclos de recompensa imediata, o que pode afetar negativamente a regulação emocional. Segundo Valkenburg e Piotrowski (2017), essa dinâmica pode contribuir para o aumento de comportamentos impulsivos e a diminuição da capacidade de lidar com frustrações, uma habilidade essencial para o bem-estar psicológico. Quando aplicada ao contexto dos atletas, a pressão por desempenho nas redes pode ser somada à pressão esportiva, criando um cenário que favorece o desgaste emocional.

Outro ponto relevante é o efeito das redes sociais na construção da autoimagem. Muitos adolescentes passam a se comparar constantemente com figuras idealizadas que veem online, o que pode intensificar sentimentos de inadequação e insegurança, no parecer de Desmurget (2024). Esses sentimentos são especialmente preocupantes para atletas adolescentes, que frequentemente enfrentam críticas externas e autoavaliações rigorosas relacionadas ao seu desempenho esportivo e físico.

O tempo gasto nas redes sociais também tem sido associado à diminuição da qualidade do sono entre adolescentes, um fator crucial para a saúde mental. Segundo Levenson et al. (2017), a luz emitida por dispositivos eletrônicos e a estimulação constante das redes sociais prejudicam o início e a manutenção do sono. Para atletas, que dependem de um bom descanso para a recuperação física e mental, essa é uma questão particularmente alarmante, pois pode comprometer tanto o desempenho esportivo quanto o bem-estar geral.

As redes sociais também influenciam as interações interpessoais fora do ambiente digital. Adolescentes que passam muito tempo conectados tendem a reduzir

a qualidade das interações presenciais, o que pode levar a sentimentos de solidão. Esse fenômeno, discutido por Turkle (2011), destaca como a comunicação mediada por telas pode criar a ilusão de proximidade enquanto, na prática, reduz a profundidade emocional das conexões.

Ademais, estudos apontam que o uso excessivo das redes pode levar à "fadiga social digital", um estado em que os adolescentes se sentem sobrecarregados pela constante necessidade de manter-se ativos online (Bright, 2015). Para atletas, que já enfrentam rotinas exaustivas de treinos e competições, esse estado de fadiga pode gerar desmotivação e afetar diretamente seu desempenho.

Por fim, é importante destacar que o impacto das interações virtuais na saúde mental não ocorre de maneira homogênea. Fatores como suporte familiar, habilidades de autorregulação e a presença de redes de apoio offline podem mediar os efeitos negativos das redes sociais. Portanto, é essencial considerar o contexto individual e social dos adolescentes para compreender melhor as implicações desse fenômeno.

2.2 Adolescentes e a formação da identidade

A adolescência é um período crítico para a formação da identidade (Erikson, 1968). Nesse estágio, os jovens buscam compreender quem são, estabelecendo valores, crenças e objetivos pessoais. No entanto, o excesso de exposição e curadoria da própria imagem nas redes sociais pode levar à construção de "identidades artificiais" (Goffman, 1959), caracterizadas por uma projeção idealizada e frequentemente distante da realidade.

As redes sociais oferecem um espaço onde os adolescentes podem experimentar diferentes aspectos de sua identidade. Embora isso possa ser positivo ao promover a exploração e a criatividade, também traz riscos. A necessidade de agradar a um público online e de atender a padrões estéticos e comportamentais pode gerar sentimentos de inadequação e baixa autoestima. Conforme apontado por Boyd (2014), os adolescentes frequentemente enfrentam a pressão de criar uma persona que seja amplamente aceitável, resultando em uma identidade construída mais para os outros do que para si mesmos.

Outro ponto importante é a influência das redes na comparação social. A curadoria das postagens — em que as pessoas mostram apenas os aspectos positivos de suas vidas — pode levar os adolescentes a se sentirem inferiores ao

comparar suas realidades com essas versões idealizadas. Essa dinâmica contribui para o aumento de problemas como ansiedade e depressão, especialmente entre aqueles que internalizam essas comparações como falhas pessoais (Twenge, 2017). Além disso, o uso contínuo das redes sociais também afeta a autenticidade das interações interpessoais, um elemento essencial na formação da identidade. Para os adolescentes, interagir por meio de plataformas digitais frequentemente significa se engajar em conversas superficiais, limitando o espaço para discussões mais profundas e autênticas. Como argumenta Turkle (2015), a comunicação online pode reduzir a empatia e a capacidade de escuta ativa, habilidades fundamentais para o desenvolvimento emocional.

A exposição constante a validações digitais, como curtidas e comentários, também molda o processo de autoconhecimento. Essas validações externas podem se tornar o principal critério para a avaliação de si mesmo, deslocando o foco do que é genuinamente importante para o indivíduo. Isso é especialmente problemático durante a adolescência, uma fase em que o jovem deveria estar desenvolvendo uma identidade baseada em valores internos e não em aprovações externas (Przybylski, 2013).

Ademais, a criação de "identidades artificiais" pode impactar negativamente a saúde mental dos adolescentes. Sentir-se forçado a manter uma aparência ou personalidade idealizada nas redes pode gerar estresse e esgotamento emocional. Esses jovens frequentemente precisam lidar com a ansiedade de não corresponder às expectativas que eles próprios criaram, resultando em ciclos de insatisfação e frustração (Aboujaoude, 2011).

Por outro lado, é importante reconhecer que as redes sociais não são exclusivamente prejudiciais. Elas podem atuar como plataformas para expressão e engajamento social, permitindo que os adolescentes encontrem comunidades que compartilhem interesses e valores semelhantes. Essa conexão pode ser particularmente valiosa para aqueles que se sentem marginalizados ou isolados em seus ambientes físicos.

Finalmente, é essencial que pais, educadores e profissionais da saúde mental orientem os adolescentes no uso saudável das redes sociais. A promoção da consciência crítica em relação ao conteúdo consumido e compartilhado online, bem como a valorização das interações presenciais, são passos importantes para minimizar os impactos negativos das interações virtuais na formação da identidade.

Ao equilibrar esses dois mundos, os adolescentes podem desenvolver uma identidade mais autêntica e resiliente.

2.3 Esportes individuais e o isolamento social

Atletas de esportes individuais enfrentam desafios particulares em termos de isolamento social e pressão psicológica (Silva; Araújo, 2018). Esses desafios decorrem do fato de que, ao contrário de esportes coletivos, onde há interação constante com colegas de equipe, os esportes individuais exigem dedicação solitária aos treinos e competições. Quando combinado com a predominância das interações virtuais, esse isolamento pode ser ampliado, uma vez que a interação face a face, que é fundamental para a construção de laços significativos, é frequentemente substituída por relações superficiais mediadas por telas.

Além disso, as características emocionais exigidas nos esportes individuais, como autocontrole e resiliência, podem se tornar fatores de risco para o bem-estar psicológico. O isolamento vivenciado pelos atletas frequentemente os coloca em situações em que é difícil compartilhar suas vulnerabilidades ou buscar apoio. Turkle (2015) ressalta que a dependência de interações digitais pode intensificar a solidão, já que a troca emocional profunda, essencial para a conexão humana, é muitas vezes negligenciada em ambientes virtuais.

A presença digital, embora ofereça oportunidades de conexão, também impõe demandas emocionais. Atletas que utilizam redes sociais para compartilhar conquistas ou para construir uma imagem pública podem experimentar uma pressão adicional. Essa necessidade de validação virtual pode desencadear um ciclo de ansiedade, particularmente se a resposta de seus seguidores não corresponder às expectativas. Nesse sentido, Przybylski (2013) destaca que a busca constante por aprovação online pode diminuir a capacidade de um indivíduo se autorregular emocionalmente.

Outro aspecto a ser considerado é como a comparação social nas redes digitais impacta os atletas de esportes individuais. Esses jovens frequentemente se comparam a outros atletas que aparentam alcançar um nível superior de sucesso ou reconhecimento, de acordo com Desmurget (2024). Essa exposição a padrões idealizados pode gerar sentimentos de inadequação e insegurança, minando a confiança necessária para enfrentar os desafios de competições individuais. Esse



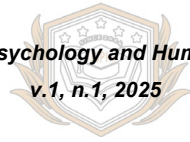
fenômeno é particularmente prejudicial para adolescentes, cuja formação da identidade ainda está em desenvolvimento.

Ademais, os esportes individuais requerem uma rotina disciplinada que, muitas vezes, restringe a possibilidade de interações sociais espontâneas e presenciais. Quando essas lacunas são preenchidas apenas por contatos digitais, há uma perda de aspectos fundamentais da comunicação interpessoal, como expressões não verbais e contato visual. Carr (2015) argumenta que essa transição para um mundo mediado digitalmente prejudica o desenvolvimento de habilidades sociais essenciais, tornando mais difícil para os adolescentes lidarem com desafios emocionais no esporte e na vida cotidiana.

Por outro lado, as redes sociais também podem ser vistas como ferramentas valiosas para reduzir o isolamento, permitindo que atletas compartilhem experiências e criem redes de apoio, mesmo que virtualmente. Elas podem conectar jovens atletas a comunidades globais que entendem seus desafios, criando espaços onde se sintam compreendidos. No entanto, é essencial que essas interações digitais sejam complementadas por relacionamentos reais e interações presenciais significativas, fundamentais para o bem-estar emocional.

Os treinadores, familiares e profissionais de saúde mental têm um papel crucial em ajudar os adolescentes a navegar por esses desafios. Promover o equilíbrio entre o uso saudável das tecnologias digitais e a valorização das conexões humanas pode ajudar a reduzir o impacto do isolamento nos esportes individuais. Além disso, ensinar estratégias de autorregulação emocional e resiliência pode equipar os atletas para lidar com as pressões tanto do esporte quanto do mundo virtual.

Desta forma, é essencial que as discussões sobre o isolamento social e o impacto das interações digitais nos esportes individuais sejam ampliadas, não apenas no âmbito acadêmico, mas também nas práticas esportivas. Esse debate deve incluir o desenvolvimento de programas que integrem o fortalecimento emocional e social dos atletas, considerando o equilíbrio entre as demandas esportivas e as necessidades humanas de conexão. Assim, será possível promover tanto o desempenho esportivo quanto o bem-estar integral dos jovens.



3 PROCEDIMENTO METODOLÓGICO

A pesquisa adotará uma abordagem qualitativa e exploratória, fundamentada na pesquisa participante. A amostra será composta por 189 adolescentes do sexo masculino, com idades entre 16 e 18 anos, praticantes de esportes individuais. A coleta de dados ocorrerá por meio de questionários estruturados e entrevistas semiestruturadas, aplicadas em ambientes esportivos e escolares.

Os questionários abordarão aspectos como tempo médio gasto em interações virtuais, qualidade das interações presenciais, percepção dos adolescentes sobre a influência das redes sociais em sua vida emocional e esportiva. As entrevistas semiestruturadas permitirão uma compreensão mais profunda dos sentimentos e experiências desses jovens, explorando temas como solidão, apoio social e percepção de conexão com seus pares.

Os dados serão analisados utilizando a técnica de análise de conteúdo, conforme proposta de Bardin (2011). As informações obtidas serão categorizadas em temas emergentes, possibilitando uma discussão aprofundada sobre os impactos das interações virtuais no bem-estar e no desenvolvimento social dos adolescentes atletas. Para desenvolver a discussão sobre as "Interações humanas amputadas: realidades de um mundo virtual", podemos explorar vários aspectos que se referem às transformações nas interações humanas em contextos mediados por tecnologias digitais.

A análise de conteúdo será aplicada para interpretar as respostas obtidas nos questionários e entrevistas. A técnica envolverá as seguintes etapas:

- Codificação: Identificação de unidades de significado nos dados coletados (respostas a perguntas, frases-chave nas entrevistas) que podem ser agrupadas em categorias.
- Categorização: As unidades codificadas serão organizadas em categorias temáticas, como "solidão", "apoio social", "influência das redes sociais no esporte", "qualidade das interações sociais", etc.
- Interpretação: A partir das categorias, será feita uma análise crítica sobre os impactos das interações virtuais na vida emocional e no desenvolvimento social dos adolescentes, com base nas evidências qualitativas coletadas.

Esses dados e categorias irão proporcionar uma compreensão abrangente do impacto das interações virtuais no bem-estar e no desenvolvimento social dos adolescentes atletas.

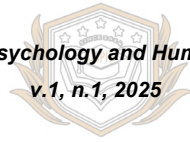
3.1 Dados coletados

A pesquisa foi conduzida com 189 adolescentes do sexo masculino, com idades entre 16 e 18 anos, praticantes de esportes individuais, com o objetivo de investigar os impactos das interações virtuais no bem-estar emocional e no desenvolvimento social desses jovens atletas. A coleta de dados foi realizada por meio de dois instrumentos principais: questionários estruturados e entrevistas semiestruturadas.

Esses dados coletados fornecem uma base sólida para a análise dos impactos das interações virtuais no bem-estar e no desenvolvimento social dos adolescentes praticantes de esportes individuais, possibilitando uma discussão aprofundada sobre como a tecnologia molda suas experiências emocionais e sociais.

1. O impacto das tecnologias na comunicação interpessoal: com o avanço das tecnologias digitais, especialmente as redes sociais e aplicativos de mensagens, as interações humanas foram transformadas profundamente. Embora esses meios proporcionem facilidade e rapidez na comunicação, eles também impõem limitações nas conexões emocionais. A comunicação online, muitas vezes, carece de elementos essenciais como a expressão facial, o tom de voz e a linguagem corporal, criando uma forma "amputada" de interação. A ausência desses elementos pode afetar a empatia e a compreensão entre os indivíduos, resultando em uma sensação de desconexão, mesmo que fisicamente próximos.

2. A superficialidade das relações virtuais: as interações em plataformas digitais frequentemente priorizam a velocidade e a praticidade em detrimento da profundidade e da intimidade. O comportamento online, muitas vezes, é marcado por mensagens curtas, reações rápidas e uma ênfase na imagem pública. Isso cria uma superficialidade nas relações, onde as pessoas compartilham aspectos de suas vidas de maneira fragmentada, com foco em destacar momentos de felicidade ou sucesso. Essa superficialidade pode ser interpretada como uma amputação das interações autênticas, em que os indivíduos não se expõem plenamente e a vulnerabilidade é muitas vezes evitada.



3. A desconexão emocional na era digital: a presença constante nas redes sociais e a interatividade virtual podem criar uma falsa sensação de conexão. Estudos mostram que, apesar da alta frequência de interações virtuais, muitas pessoas experimentam uma maior sensação de solidão. A comunicação digital não permite que os participantes realmente se sintam conectados, uma vez que não há o contato físico que, segundo a psicologia, é essencial para o estabelecimento de laços profundos e empáticos. Essa desconexão emocional gera uma diminuição na qualidade das relações interpessoais, afetando a saúde mental e o bem-estar das pessoas.

4. A construção da identidade no espaço virtual: no mundo virtual, a identidade de cada indivíduo é muitas vezes cuidadosamente construída e gerenciada, o que pode resultar em uma representação distorcida do "eu". As plataformas digitais permitem a criação de personas ideais, editadas e curadas, longe da realidade crua. Este fenômeno altera a maneira como nos relacionamos com os outros, pois as interações ocorrem com base em versões filtradas de quem realmente somos. Essa dinâmica contribui para a ampliação das lacunas nas relações humanas, pois os outros não interagem com o "eu" genuíno, mas com uma versão idealizada ou distorcida dessa identidade.

5. As consequências para a saúde mental: o uso excessivo de plataformas digitais também está associado a impactos negativos na saúde mental, como ansiedade, depressão e estresse. A constante comparação com as imagens "perfeitas" apresentadas por outros pode gerar sentimentos de inadequação e inferioridade. Além disso, a dependência de interações digitais pode levar à incapacidade de lidar com as emoções e os desafios em interações face a face, o que amplifica o isolamento social. A substituição das relações presenciais por virtuais implica numa redução da capacidade de lidar com o real e de estabelecer vínculos humanos genuínos.

6. A interação desumanizada nas redes sociais: as interações nas redes sociais, embora eficazes para disseminação de informações e para a construção de redes profissionais, podem frequentemente se tornar desumanizadas. A distância proporcionada pela tela diminui a sensação de responsabilidade pelas palavras e ações, levando a comportamentos como o cyberbullying, a polarização ideológica e o discurso de ódio. Esse distanciamento cria um ambiente onde a empatia e o respeito



pelas diferenças ficam comprometidos, resultando em interações que não reconhecem o outro como um ser humano com emoções e complexidades.

7. O paradoxo da conectividade: a conectividade proporcionada pela internet gerou um paradoxo: ao mesmo tempo em que temos a capacidade de manter contato com pessoas ao redor do mundo, experimentamos uma sensação crescente de isolamento. Isso ocorre porque as interações virtuais não substituem completamente as experiências emocionais que vivenciamos em interações presenciais. Em um mundo onde a conectividade é constantemente celebrada, a desconexão emocional se torna ainda mais evidente, mostrando as limitações do ambiente virtual para cultivar verdadeiras relações humanas.

8. O papel das redes sociais na formação de laços fracos: de acordo com o sociólogo Mark Granovetter, as redes sociais tendem a fortalecer "laços fracos", ou seja, relações de baixo compromisso, mas que são altamente eficazes para a disseminação de informações e para o contato esporádico. Esses laços fracos, embora úteis em muitos aspectos, não oferecem o suporte emocional e a profundidade de conexão dos laços fortes, típicos das relações face a face. Em um ambiente onde as interações online predominam, os laços fortes tendem a ser negligenciados, o que resulta em uma rede social com menos profundidade e mais volatilidade.

9. O futuro das interações humanas no metaverso e novas tecnologias: o metaverso e outras tecnologias emergentes, como a realidade aumentada (AR) e a realidade virtual (VR), prometem transformar ainda mais as interações humanas, criando novos espaços onde as pessoas podem "interagir" em ambientes virtuais imersivos. No entanto, essas novas realidades também levantam questões sobre a autenticidade e a profundidade das conexões. Embora a tecnologia ofereça novas formas de conexão, ela pode acentuar a amputação das relações humanas ao substituir experiências sensoriais e emocionais reais por representações digitais. A reflexão sobre o futuro das interações humanas exige um equilíbrio cuidadoso entre as possibilidades tecnológicas e a preservação da autenticidade dos vínculos interpessoais.

4 DISCUSSÃO

Os dados preliminares indicam que a maioria dos adolescentes utiliza as redes sociais como principal meio de comunicação, muitas vezes em detrimento das interações presenciais. Os relatos coletados nas entrevistas sugerem que muitos desses jovens enfrentam dificuldades para estabelecer conexões emocionais profundas, corroborando os estudos de Carr (2015) e Castells (2010), que apontam para a perda de habilidades interpessoais decorrente da substituição da comunicação presencial pela digital.

Outro aspecto relevante identificado na pesquisa é a influência das redes sociais no desempenho esportivo. Muitos adolescentes relataram que a pressão para manter uma presença ativa nas plataformas digitais gera ansiedade e pode afetar sua concentração durante os treinos e competições. Esse achado reforça as preocupações levantadas por Silva e Araújo (2018) e Desmurget (2024) sobre o isolamento social e a pressão psicológica experimentada por atletas de esportes individuais.

A ampliação da discussão proposta envolve não apenas a análise dos impactos das redes sociais na comunicação e no desempenho esportivo, mas também uma reflexão mais abrangente sobre os efeitos psicológicos, sociais e comportamentais nos adolescentes contemporâneos. A seguir, oito parágrafos robustos e coerentes aprofundam o tema com base em autores relevantes e contribuições interdisciplinares.

A imersão constante dos adolescentes nas redes sociais pode ser compreendida como parte de um fenômeno sociotécnico mais amplo, em que a tecnologia molda não apenas comportamentos, mas também subjetividades. Conforme Bauman (2003), a modernidade líquida favorece relações frágeis, efêmeras e utilitárias, o que se intensifica com as interações digitais. Os adolescentes, ao buscarem conexão em ambientes virtuais, acabam por internalizar uma lógica relacional marcada pela instantaneidade e superficialidade, o que compromete o desenvolvimento de vínculos afetivos mais sólidos e duradouros.

Além disso, a dependência de validação social por meio de curtidas, comentários e compartilhamentos tem provocado um aumento nos níveis de ansiedade e baixa autoestima entre os jovens. A pesquisa de Twenge (2017) aponta que adolescentes com maior tempo de exposição a redes sociais apresentam maior tendência a sintomas depressivos e sentimentos de inadequação. Isso ocorre porque



o ambiente virtual promove comparações constantes com padrões de vida, beleza e desempenho muitas vezes inalcançáveis, reforçando sentimentos de fracasso e insuficiência.

No campo esportivo, esse cenário adquire contornos ainda mais complexos. Atletas adolescentes, ao se sentirem pressionados a manter uma imagem pública idealizada, acabam direcionando parte significativa de sua energia psíquica para a gestão de sua persona digital. Essa sobrecarga emocional compromete aspectos fundamentais do rendimento esportivo, como a concentração, a resiliência e a autoconfiança, conforme discutido por Weinberg e Gould (2017) na psicologia do esporte. O foco se desloca da prática em si para a performance social, alterando profundamente a motivação intrínseca dos jovens atletas.

Outro ponto relevante diz respeito ao enfraquecimento dos laços de equipe e da coesão grupal em esportes coletivos. A priorização das redes sociais em detrimento da convivência presencial afeta a construção de vínculos interpessoais entre os membros das equipes. Segundo Carron, Hausenblas e Eys (2005), a coesão grupal é um dos principais preditores de sucesso esportivo coletivo. Quando os atletas não compartilham experiências fora do ambiente virtual, perdem oportunidades essenciais de construção de confiança, empatia e comunicação assertiva.

A cultura da exposição constante nas redes também influencia negativamente a percepção que os adolescentes têm de si mesmos enquanto atletas. A performance esportiva passa a ser constantemente comparada à de outros jovens, muitas vezes profissionais, criando um ambiente de competição desleal e gerador de frustrações. Para Sibilia (2008), a hiperexposição digital redefine os contornos da individualidade, que passa a existir apenas na medida em que é vista e reconhecida pelos outros. Isso gera uma crise de identidade nos jovens atletas, que deixam de valorizar seus próprios processos e trajetórias.

No que diz respeito à formação da identidade na adolescência, Erikson (1976) já alertava para a importância das interações sociais autênticas e das experiências vividas no mundo real. O excesso de tempo nas redes sociais reduz o repertório vivencial dos adolescentes, limitando suas possibilidades de experimentação e construção identitária. A presença constante em ambientes digitais atua como uma espécie de amortecedor da realidade, dificultando o enfrentamento de conflitos e a maturação emocional necessária para o crescimento pessoal.

A ausência de momentos de silêncio, introspecção e desconexão também é prejudicial. A todo instante estimulados por notificações, vídeos curtos e interações superficiais, os adolescentes não têm espaço para desenvolver a autorregulação emocional e a capacidade de lidar com frustrações. Segundo Damásio (2012), as emoções são fundamentais para a tomada de decisões e o desenvolvimento do pensamento racional. A constante distração digital mina essas capacidades, o que pode afetar tanto o desempenho esportivo quanto o desenvolvimento pessoal dos jovens.

Por fim, é fundamental destacar o papel da mediação adulta nesse processo. Pais, educadores e treinadores precisam estar atentos ao impacto das redes sociais na saúde mental dos adolescentes, promovendo espaços de diálogo, limites claros e incentivo à convivência presencial. Intervenções que promovam o uso consciente da tecnologia, aliadas a práticas esportivas que priorizem o bem-estar emocional, podem ser eficazes para reverter esse cenário. A promoção da saúde psíquica dos jovens atletas passa necessariamente pela compreensão de que seu desenvolvimento integral está ameaçado por uma lógica digital que, se não for criticamente analisada, continuará gerando prejuízos silenciosos, mas profundos.

5 CONCLUSÃO

Os resultados esperados desta pesquisa devem evidenciar como as interações digitais afetam o desenvolvimento social e emocional de adolescentes atletas, demonstrando de que maneira a predominância das interações virtuais pode comprometer ou, eventualmente, beneficiar suas relações interpessoais. A análise crítica das respostas obtidas permitirá uma melhor compreensão sobre a profundidade dos vínculos formados nesses ambientes e como esses jovens percebem a qualidade de suas interações sociais.

A pesquisa também poderá contribuir para debates sobre a necessidade de um uso equilibrado das tecnologias digitais, sugerindo estratégias para minimizar impactos negativos e maximizar as potencialidades das ferramentas virtuais. Dessa forma, espera-se oferecer subsídios para treinadores, educadores e famílias desenvolverem intervenções que favoreçam tanto a performance esportiva quanto o bem-estar emocional dos adolescentes.

Por fim, ao analisar as dinâmicas entre interação virtual e presencial no contexto esportivo, este estudo busca ampliar as discussões sobre o impacto das tecnologias na sociedade contemporânea, ressaltando a importância da presença física e do contato humano para a formação integral do indivíduo.

Além disso, a pesquisa poderá fornecer evidências relevantes para a formulação de políticas públicas e projetos educativos voltados à promoção da saúde mental dos jovens atletas, especialmente em contextos escolares e esportivos. Compreender as necessidades emocionais dessa população e os desafios impostos pela hiperconectividade é essencial para a construção de ambientes mais acolhedores, equilibrados e saudáveis. Assim, a tecnologia deixa de ser vista como uma ameaça em si e passa a ser compreendida como uma ferramenta que exige mediação e criticidade.

Outro desdobramento possível diz respeito à formação continuada de profissionais que lidam diretamente com adolescentes, como psicólogos, pedagogos, professores de educação física e técnicos esportivos. Ao tomarem consciência dos impactos da comunicação digital nas competências socioemocionais, esses profissionais estarão mais bem preparados para lidar com conflitos relacionais, desmotivação, ansiedade de desempenho e outros fenômenos cada vez mais comuns no cotidiano esportivo juvenil.

Em última instância, espera-se que este estudo contribua para uma visão mais ampla, ética e sensível sobre o desenvolvimento humano na era digital. A valorização das relações presenciais, aliada ao uso consciente das tecnologias, representa um caminho promissor para que adolescentes atletas possam não apenas atingir o desempenho esperado em suas modalidades, mas também crescer como indivíduos íntegros, resilientes e emocionalmente equilibrados em um mundo em constante transformação.

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AN ECOLOGICAL APPROACH TO SOURCES OF ENJOYMENT IN YOUNG FEMALE ATHLETES

UMA ABORDAGEM ECOLÓGICA ÀS FONTES DE PRAZER EM JOVENS ATLETAS DO SEXO FEMININO

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Abstract

The present study used a bioecological approach to investigate the factors influencing enjoyment sources among young female athletes. It focused on personal characteristics (maturity status), process (accumulated deliberate practice), and contextual factors (age group, competition level, sport type, and state), as well as the dynamic interactions of time with personal characteristics and process. The study included 243 young female athletes, with repeated measures collected from a sub-sample of 84 athletes across competitive seasons. We modeled the responses to the Sources of Enjoyment in Youth Sports Questionnaire (SEYSQ) using Bayesian hierarchical modeling. The results indicated that, in general, the young female athletes agreed with the statements in the SEYSQ. When considering cross-sectional data, there was no variation in the responses to SEYSQ factors associated with process, person, and context. When aligning chronological age, menarche age, and accumulated sport-specific deliberate practice, the sport context emerged as an important in shaping changes in sources of enjoyment across the development of young Brazilian female athletes between 12 and 18 years. The study highlights the importance of incorporating time in ecological approaches to youth sport research through a repeated-measures design to operationalize the bioecological approach

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properly. The findings do not support the argument that early specialization may lead to low enjoyment and a compromise in commitment and sustained participation in youth sport programs.

Keywords: Youth sport; Talent development; Adolescence; Bioecological theory; Bayesian multilevel modeling.

Resumo

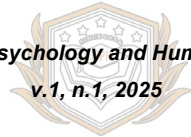
O presente estudo utilizou uma abordagem bioecológica para investigar os fatores que influenciam as fontes de prazer entre jovens atletas. Concentrou-se em características pessoais (estado de maturidade), processo (prática deliberada acumulada) e fatores contextuais (faixa etária, nível de competição, tipo de esporte e estado), bem como nas interações dinâmicas do tempo com características pessoais e processo. O estudo incluiu 243 jovens atletas, com medidas repetidas coletadas de uma subamostra de 84 atletas ao longo de temporadas competitivas. Modelamos as respostas ao Questionário de Fontes de Prazer em Esportes Juvenis (SEYSQ) usando modelagem hierárquica bayesiana. Os resultados indicaram que, em geral, as jovens atletas concordaram com as afirmações do SEYSQ. Ao considerar dados transversais, não houve variação nas respostas aos fatores do SEYSQ associados a processo, pessoa e contexto. Ao alinhar a idade cronológica, a idade da menarca e a prática deliberada acumulada específica do esporte, o contexto esportivo emergiu como um fator importante na formação de mudanças nas fontes de prazer ao longo do desenvolvimento de jovens atletas brasileiras entre 12 e 18 anos. O estudo destaca a importância de incorporar o tempo em abordagens ecológicas para a pesquisa esportiva juvenil por meio de um delineamento de medidas repetidas para operacionalizar adequadamente a abordagem bioecológica. Os resultados não corroboram o argumento de que a especialização precoce pode levar a um baixo prazer e a um comprometimento do comprometimento e da participação sustentada em programas esportivos juvenis.

Palavras-chave: Esporte juvenil; Desenvolvimento de talentos; Adolescência; Teoria bioecológica; Modelagem multinível bayesiana.

1 INTRODUCTION

Organized youth sport programs tend to prioritize performance development, aiming to enhance athletes' competence in their path into adulthood and athletic maturity (Carvalho et al., 2023; Kalén et al., 2021). From a developmental perspective, there is a consensus among stakeholders that sport expertise is positively correlated with extensive exposure to sport-specific deliberate practice (Bruin et al., 2008; Ericsson et al., 1993; Güllich, 2018). Often, early specialization at pre-adolescent ages may be attractive to many national governing bodies, clubs, coaches, parents, and children who aspire to attain sport expertise and reach an elite level.

Recent studies have raised concerns about the potential negative impacts of early specialization on physical, psychological, and social development (Baker et al.,

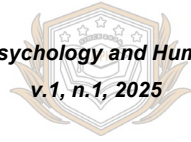


2009; Bell et al., 2018; Brenner, 2016; DiSanti; Erickson, 2019; Fabricant et al., 2016; Jayanthi et al., 2019; Moseid et al., 2019; Myer et al., 2015; Post et al., 2020; A. D. Smith et al., 2017). Early specialization has been associated with negative psychosocial outcomes, which may result in a decrease in enjoyment, burnout, or even dropping out of sport (Boyd; Yin, 1996; Fraser-Thomas et al., 2008; Larson et al., 2019). However, the available data on the link between psychological characteristics and individual, contextual, and social aspects of sport specialization is inconsistent and limited (DiSanti; Erickson, 2019). In this study, we examine three key issues when interpreting these links.

First, the complexity of factors and interactions involved in youth sport settings requires a stronger theoretical foundation (DiSanti; Erickson, 2021; Moulds et al., 2022). To this end, the bioecological framework (Bronfenbrenner; Ceci, 1994; Bronfenbrenner; Morris, 2007) is particularly appealing as it considers how an individual interacts with their environment in shaping the dynamics of development. It is important to note that this theory emphasizes the consideration of biological aspects in the modeling process. The bioecological theory focuses on four aspects of development: *person*, *process*, *context*, and *time* (also referred to as the PPCT model). In the domain of youth sport research, it is possible to consider that *person* refers to the individual and their characteristics, such as sex, age, biological maturation, social relations and psychological characteristics such as motivation and enjoyment.

Process refers to the dynamic interaction between an individual and the environment through which development occurs (Bronfenbrenner; Ceci, 1994; Bronfenbrenner; Morris, 2007). In young athletes' environment, this can be observed through their interactions with peers, coaches, and team members during training and competition over time. Given the complexity of assessing and measuring such interactions, deliberate practice can serve as a heuristic mediator and a proxy for *process* in young athletes.

In the PPCT model, *context* is described by four types or levels of systems that are considered influential to an individual's development: (i) *microsystem*, which represents the immediate environment surrounding the individual, that can be represented by the age-group team, specifically the teammates and coach; (ii) *mesosystem*, which describes interactions between two or more microsystems, that may be represented by the interaction of age-group teams from different competitive levels; (iii) *exosystem*, which encompasses contexts in which individuals are not



directly involved, but they are still influenced; (iv) *macrosystem*, which considers broad social influences, such as state sport governing bodies like sport federations.

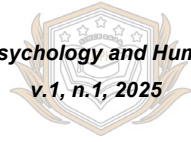
The concept of *time* was a late addition to the bioecological framework (Bronfenbrenner; Morris, 2007), referring to the varying temporal stages of development, including the progression of time over which development occurs, such as the chronological age of an individual. Individuals, institutions, and social relations are not static and follow a non-linear path of development. From this point of view, it is important to consider biological time, as there are considerable differences in the timing and timing of pubertal development among individuals, which can have an impact on physical function, performance and behavior.

Secondly, enjoyment is considered a key psychological outcome in youth sport (Scanlan; Lewthwaite, 1986). This is because it is widely recognized as a primary reason for starting and continuing involvement in sport (MacDonald et al., 2011; McCarthy et al., 2008; Scanlan et al., 1989; Wiersma, 2001). Enjoyment is a significant construct in several sport motivation theories, such as achievement goal theory (Nicholls, 1989), competence motivation theory (Harter, 1978), and the sport commitment model (Scanlan et al., 1993) that encompass the various facets of youth sport participation, including the evaluation of performance and success.

In youth sport research, enjoyment is commonly defined as a positive affective response to the sport experience, reflecting feelings of pleasure, liking, and fun (Scanlan et al., 1993). The sport commitment model, which has consistent empirical support (Scanlan et al., 1993; Scanlan; Lewthwaite, 1986), suggests that sport enjoyment can arise from both intrinsic sources, such as perceptions of competence and control, and extrinsic aspects of competition, such as social recognition.

Enjoyment can result from both achievement, such as goal attainment, and non-achievement, such as social influences from parents or peers (Scanlan; Lewthwaite, 1986). It is important to note that enjoyment is a complex concept that can be perceived differently by athletes, who experience the environment, and coaches, who play a role in shaping it. While there is substantial theoretical consensus on enjoyment, other conceptualizations should also be considered (Kimiecik; Harris, 1996).

Third, when studying the influence of person, process, and context characteristics on young athletes' enjoyment within an ecological framework, it is important to carefully consider the analytical approach. The theoretical approach and observed data present crossed or nested levels, where effects may vary between



subgroups (Judd et al., 2017). Therefore, traditional single-level analyses, such as analysis of variance, are often inappropriate (Diez-Roux, 1998). To address this issue, hierarchical/multilevel modeling approach allows for appropriate analysis of nested or crossed data (Gelman et al., 2012; Gelman; Hill, 2007).

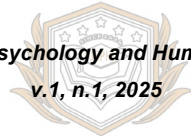
Bayesian hierarchical regression models enable the modeling of constructs of interest as a function of individual, process, or contextual covariates in the context of youth sport. This provides aggregated estimates of a target population and significantly improves estimations of small and sparse group data, and capture dynamic changes overtime (Gelman et al., 2013; Gelman; Hill, 2007).

Given the previous observations, the objectives of the present study were to: (i) examine the influence of person (maturity status), process (deliberate practice accumulated), and contextual factors (including age group, competition level, sport type, and state) on the variation of enjoyment sources among young female athletes; (ii) examine the effect of the dynamic interactions of time with person characteristics (chronological age and biological age), process (years of deliberate practice accumulated in a specific sport), and context on the sources of enjoyment in sport for young female athletes. Specifically, we tested the validity of the assumption that early specialization has a negative association with enjoyment, particularly a decrease in enjoyment in young athletes (Boyd; Yin, 1996; Fraser-Thomas et al., 2008; Larson et al., 2019). Finally, we focused on young female athletes because most of the available information on youth sport is based on male athletes, despite the widespread participation of girls in organized sport (Johnston et al., 2018).

2 MATERIALS AND METHODS

2.1 Study design and participants

Ethical approval was obtained from the author's institutional ethics committee. Participants were informed about the nature of the study, that participation was voluntary, and that they could withdraw from the study at any time. Players and their parents or legal guardians provided written informed consent.



2.2 Cross-sectional data

To gather the data, we started by conducting a cross-sectional survey followed by an analysis of repeated measurements using a mixed-longitudinal design with a sub-sample from the larger survey. Throughout the study, all players involved were engaged in regular training (approximately 300-400 minutes per week) during the competitive season, which typically runs from February/March to November/December in Brazil. The cross-sectional data was based on a survey from 2015 to 2022. We considered a total sample of 243 young female basketball and volleyball players aged, on average, 15.0 (2.1) years, ranging between 10.1 to 19.7 years.

2.3 Repeated measures data

From the total cross-sectional sample, we retained data with repeated measures collected from competitive seasons across the survey period. The sub-sample consisted of 83 young athletes aged, on average, 14.0 years (ranging from 11.5 to 18.1 years) at baseline, with 41 playing basketball and 42 playing volleyball. Observations were made pre-season (February/March), mid-season (July/August), and end-season (November/ December) for each of the competitive seasons, and the players were measured and tested within a week of each observation period. To be included in the analysis of repeated measures, the players had to have at least two measurements across the period of observation. The distribution of measurements per player was as follows: two measurements, $n=28$; three measurements, $n=19$; four measurements, $n=19$; five measurements, $n=10$; six measurements, $n=7$).

2.4 Measures

2.4.1 Outcomes Variable

Participants were asked to complete the Portuguese-translated version (Santos; Gonçalves, 2012) of the Sources of Enjoyment in Youth Sport Questionnaire (SEYSQ) (Wiersma, 2001) before practice sessions. The SEYSQ was developed to assess young athletes' perceptions of enjoyment (Wiersma, 2001), based on the on the sport commitment model (Scanlan et al., 1993; Scanlan; Lewthwaite, 1986). The

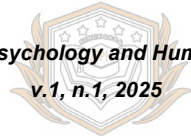


SEYSQ consists of six dimensions or themes: (i) Self-referenced competency pertains to the athlete's comparison of their current and past performances; (ii) Other-referenced competency and recognition (ORCR) involve being better than other athletes of the same age or in the same sport, and a sense of uniqueness and recognition from others for athletic participation; (iii) Competitive excitement pertains to the challenges and uncertainty of competition and the related emotional reactions; (iv) Effort expenditure involves playing and training hard during practice and competition; (v) Affiliation with peers pertains to forming friendships and connections with teammates in the team and sport; (vi) Positive parental involvement pertains to receiving support from the athlete's parent(s) for participating in sport.

The six dimensions of the SEYSQ have been tested and interpreted in light of the two-dimensional model of sport enjoyment, where sources of enjoyment can be located along an extrinsic/intrinsic and achievement/non-achievement continuum (Scanlan; Lewthwaite, 1986; Wiersma, 2001). The achievement-intrinsic quadrant encompasses self-referenced competency; the achievement-extrinsic quadrant includes ORCR; the non-achievement-intrinsic quadrant encompasses effort expenditure and competitive excitement (Wiersma, 2001).

Social influences, such as affiliations with peers and positive parental involvement in sport, are encompassed in the non-achievement-extrinsic quadrant (Wiersma, 2001). There has been consistent data contributing to the understanding of the construct of enjoyment in youth sport (MacDonald et al., 2011; McCarthy et al., 2008; Scanlan et al., 1989; Wiersma, 2001). However, little attention has been given to testing the dimensional model of sport enjoyment and dimensions in the SEYSQ, taking into account patterns of specialization in youth sport.

The Portuguese version of the SEYSQ has 28 items, which are rated on a 5-point Likert-like scale ranging from 1 (not at all) to 5 (very much). We initially examined the fit of the original factorial structure in the Brazilian youth sport context by conducting a confirmatory factor analysis using a fully Bayesian framework. The results of this analysis and the details of modeling are available in the supplementary material. The analysis confirmed the original factorial structure of the SEYSQ, which consists of six dimensions, although five items from the original scale were removed. For computational convenience, we considered the response $i = 1, \dots, n$ nested by dimension $j = 1, \dots, n = 6$.



2.5 Person outcomes

2.5.1 Chronological age

Chronological age was calculated to the nearest 0.1 year by determining the difference between the birth date and the date of observation.

2.5.2 Age at menarche and menarcheal status

Age at menarche was obtained through self-reported via interviews performed by the coaches (female coaches in all cases). Distance to age at menarche was calculated to the nearest 0.1 years by subtracting the menarche date from the date of observation. Players were classified as having early, average, or late maturation based on their age at menarche being minus or plus one year from the mean age at menarche for the Brazilian population.

The reference age at menarche (mean = 12.9 years, 95% CI: 12.7 to 13.1 years) was based on a meta-analysis of data from five studies in the Brazilian population, summarizing data recorded from 1972 to 1992 (Duarte, 1993). Caution with the interpretation of menarche status is warranted and the issue is discussed elsewhere (Soares et al., 2020). Hence, players were grouped into three groups of menarcheal status: early (cross-sectional sample, n=100; repeated measures sample, n=38), average (cross-sectional data, n=109; repeated measures sample, n=41), and late (cross-sectional sample, n=18; repeated measures sample, n=4). For cases where the age of menarche could not be determined or was not attained at the time of observation, the players were classified as unknown (cross-sectional sample, n=16; repeated measures sample, n=1).

2.6 Process outcomes

2.6.1 Sport-specific onset of specialization and accumulated deliberate practice

We considered the accumulated deliberate practice, or training experience, as the difference between the self-reported age when players started formal training and competition in their respective sport, referred to as the age of sport-specific onset of

specialization (Mendes et al., 2018), and their chronological age at each observation. The sport-specific onset of specialization was interpreted considering biological maturation milestones (Lima et al., 2020; Mendes et al., 2021). The biological maturation milestones considered were the age of initiation of the pubertal growth spurt and the age at peak height velocity. Information on how the biological maturation milestones were estimated using data from a meta-analysis of growth studies is available elsewhere (Lima et al., 2020; Mendes et al., 2021).

The reference age of initiation of the pubertal growth spurt was 9.4 (95% CI 9.0 to 9.8) years, and the reference age at peak height velocity was 11.9 (95% CI 11.8 to 12.0) years. Players who had an onset of specialization before the reference age of initiation of the pubertal growth spurt were categorized as pre-puberty specialization, i.e., early specialization (cross-sectional sample, $n=59$; repeated measures sample, $n=9$). Players whose onset of specialization was between the reference age of initiation of the pubertal growth spurt and the age at PHV were categorized as mid-puberty specialization (cross-sectional sample, $n=122$; repeated measures sample, $n=48$).

Those whose onset of specialization was after the reference age at PHV were classified as late-puberty specialization, i.e., late specialization (cross-sectional sample, $n=59$; repeated measures sample, $n=26$). In cases where the onset of specialization could not be determined, the players were classified as unknown (cross-sectional sample, $n=3$; repeated measures sample, $n=1$).

2.7 Context outcomes

2.7.1 Microsystem and mesosystem variables

Considering variation by sport in competitive age grouping in Brazil, we assumed a two-year range, the most common competitive age groups in Brazilian youth sport and international South American youth competitions. For the cross-sectional sample, athletes were considered as under 11 (age up to 11.9 years, $n=20$), under 13 (age between 12.0 to 13.9 years, $n=68$), under 15 (age between 14.0 to 15.9 years, $n=69$), under 17 (age between 16.0 to 17.9 years, $n=68$), and under 19 (age between 18.0 to 19.9 years, $n=18$).

The athletes selected to represent state-level teams were classified as state-level (cross-sectional sample, $n=57$; repeated measures sample, $n=14$), and the

remaining were classified as club-level (cross-sectional sample, $n=186$; repeated measures sample, $n=70$).

2.7.2 Exosystem and macrosystem variables

The participants were young female players from basketball (cross-sectional sample, $n=171$, repeated measures sample, $n=41$) and volleyball (cross-sectional sample, $n=72$; repeated measures sample, $n=42$). All players were engaged in clubs and competitions supervised by the respective sport state federation [Paraná (cross-sectional sample, $n=72$), Santa Catarina (cross-sectional sample, $n=130$), and São Paulo (cross-sectional sample, $n=41$)].

2.8 Data analysis

2.8.1 Models specification

We used Bayesian hierarchical models to model the responses of the players in each item of the SEYSQ. We assume that our outcome of interest y , the probability of response each player p response in dimension j in the SEYSQ, is five ordinal categories ($k \in \{1,2,3,4,5\}$). To model the relative probability of each ordinal category, we stated that the relative probabilities of the ordinal categories are conditional on a set of thresholds τ_k ($k \in \{1,2,3,4\}$). We used a standard cumulative distribution function Φ to allow us to map the cumulative probabilities onto an unbounded parameter space divided up by the thresholds τ_k .

The parameters for Φ were fixed with a mean $\mu = 0$ and a standard deviation $\sigma = 1$ for identification. In our cross-sectional dataset, $\mu_{p[j]}$ is given as function of nesting by each player (captured by $\alpha_{p[j]}^{player}$), and person (i.e. maturity status, $\alpha_m^{menarche}$), process (i.e., specialization, $\alpha_s^{specialization}$) and context (i.e., age group, α_a^{age} ; competitive level, β_l^{level} ; sport, β_n^{sport} ; and state, α_r^{state}) characteristics. We considered competitive level (β_l^{level}) and sport (β_n^{sport}) as a population-level effect (also referred to as fixed effect), given the difficulty of estimating the between-group variation when the number of groups is small (Gelman; Hill, 2007). The predictors included in the models as discrete factors allow us to account for cross-classified nesting in the

outcome of interest. Hence, the Bayesian hierarchical model allows us to incorporate person-, process-, and context-level factors to advance to our understanding of young athletes' enjoyment. The association of these discrete factors and y were captured by a series of varying intercepts:

$$\begin{aligned}
 p(y = k | \mu_{p[j]}, \tau_k, \tau_{k-1}) &\sim \Phi(\tau_k - \mu_{p[j]}) - \Phi(\tau_{k-1} - \mu_{p[j]}) \\
 \mu_{p[j]} &= \alpha_{p[j]}^{player} + \beta_l^{level} + \beta_n^{sport} + \alpha_a^{age} + \alpha_m^{menarche} + \alpha_s^{specialization} + \alpha_r^{state}, \text{ for } j \\
 &= 1, \dots, J \\
 \alpha_p^{player} &= \text{Normal}(0, \sigma_p), \text{ for } p = 1, \dots, P \\
 \beta_l^{level}, \beta_n^{sport} &\sim \text{Normal}(0, 1), \text{ for } l, n = 1, 2 \\
 \alpha_a^{age} &\sim \text{Normal}(0, \sigma_{age}), \text{ for } a = 1, 2, 3, 4 \\
 \alpha_s^{specialization} &\sim \text{Normal}(0, \sigma_{specialization}), \text{ for } s = 1, 2, 3 \\
 \alpha_r^{state} &\sim \text{Normal}(0, \sigma_{state}), \text{ for } r = 1, 2, 3 \\
 \tau_k &\sim \text{student} - t(3, 0, 2.5) \\
 \sigma_p, \sigma_{age}, \sigma_{specialization}, \sigma_{state} &\sim \text{Exponential}(1)
 \end{aligned}$$

For the repeated-measures data, we assumed that our $t = 1, \dots, n_t$ observations were nested within $j = 1, \dots, n_j$ dimensions, nested within $p = 1, \dots, n_p$ players:

$$p(y = k | \mu_{p[tj]}, \tau_k, \tau_{k-1}) \sim \Phi(\tau_k - \mu_{p[tj]}) - \Phi(\tau_{k-1} - \mu_{p[tj]})$$

We explicitly considered in our model time (Bronfenbrenner; Morris, 2007) as mesotime, considering the joint influence of chronological age, distance to menarche (pubertal growth milestone), and accumulated years of sport-specific deliberate practice. For computational efficiency, the continuous outcomes were standardized by subtracting the mean and dividing by two standard deviations (Gelman; Hill, 2007).

In our model, $\mu_{p[tj]}$ is given by the intercept $\alpha_{p[jt]}^{player}$, the slope terms $\beta_{p[jt]}^{age}$ (for chronological age), $\beta_{p[jt]}^{menarche}$ (for distance to menarche), and $\beta_{p[jt]}^{practice}$ (for

accumulated sport-specific deliberate practice), indicating that each dimension for each player is given a unique intercept and slopes are issued from a normal distribution centered, respectively on α , β^{age} , $\beta^{menarche}$, and $\beta^{practice}$, the grand intercept and slopes, meaning that there might be different mean scores for each player.

The correlation between the varying intercepts and the varying slopes was estimated by modeling $\alpha_{p[tj]}^{player}$, the slope terms $\beta_{p[tj]}^{age}$, $\beta_{p[tj]}^{menarche}$, and $\beta_{p[tj]}^{practice}$, as issued from the same multivariate normal distribution (a multivariate normal distribution is a generalization of the usual normal distribution to more than one dimension), centered on 0 and with some covariance matrix S . Lastly, we included context-level variables in the model by considering the cross-classified nesting of sport and competitive level. Hence, the joint association of time-varying outcomes, discrete context factors, and y were captured by a series of varying intercepts and varying slopes:

$$\mu_{p[tj]} = \alpha_{p[tj]}^{player} + \beta_{p[tj]}^{age} + \beta_{p[tj]}^{menarche} + \beta_{p[tj]}^{practice} + \beta_l^{level} + \beta_n^{sport}$$

$$\begin{bmatrix} \alpha_{p[tj]}^{player} \\ \beta_{p[tj]}^{age} \\ \beta_{p[tj]}^{menarche} \\ \beta_{p[tj]}^{practice} \end{bmatrix} \sim MVNormal\left(\begin{bmatrix} 0 \\ 0 \\ 0 \\ 0 \end{bmatrix}, S\right)$$

$$S = \begin{bmatrix} \sigma_\alpha^2 & \sigma_\alpha \sigma_{\beta^{age}} \rho & \sigma_\alpha \sigma_{\beta^{menarche}} \rho & \sigma_\alpha \sigma_{\beta^{practice}} \rho \\ \sigma_\alpha \sigma_{\beta^{age}} \rho & \sigma_{\beta^{age}}^2 & \sigma_{\beta^{age}} \sigma_{\beta^{menarche}} \rho & \sigma_{\beta^{age}} \sigma_{\beta^{practice}} \rho \\ \sigma_\alpha \sigma_{\beta^{menarche}} \rho & \sigma_{\beta^{age}} \sigma_{\beta^{menarche}} \rho & \sigma_{\beta^{menarche}}^2 & \sigma_{\beta^{menarche}} \sigma_{\beta^{practice}} \rho \\ \sigma_\alpha \sigma_{\beta^{practice}} \rho & \sigma_{\beta^{age}} \sigma_{\beta^{practice}} \rho & \sigma_{\beta^{menarche}} \sigma_{\beta^{practice}} \rho & \sigma_{\beta^{practice}}^2 \end{bmatrix}$$

$$\alpha, \beta^{age}, \beta^{menarche}, \beta^{practice} = Normal(0,5)$$

$$\sigma_\alpha, \sigma_{\beta^{age}}, \sigma_{\beta^{menarche}}, \sigma_{\beta^{practice}} = Normal(0,1)$$

$$\beta_l^{level}, \beta_n^{sport} \sim Normal(0,1), \text{ for } l, n = 1, 2$$

$$\tau_k \sim \text{student} - t(3,0,2.5)$$

$$R = LKJcorr(2)$$

Where R is the correlation matrix $R = \begin{bmatrix} 1 & \rho & \rho & \rho \\ \rho & 1 & \rho & \rho \\ \rho & \rho & 1 & \rho \\ \rho & \rho & \rho & 1 \end{bmatrix}$, ρ is the correlation

between intercepts and slopes used for the computation of the covariance matrix S .

Prior distributions. For the priors of τ_k , we regularized the estimates using a student-t(3, 0, 2.5) prior. We used a weakly regularizing prior for the binary population-level parameters, normal(0,1) prior. For continuous variables included as population-level effects we used a normal(0,5) prior.

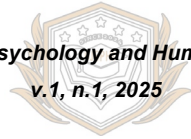
We used an exponential(1) prior for the varying intercept parameters. In the model with repeated measures, we expect the prior distribution to peak around a zero correlation by using the LKJ(2) prior to the parameter that controls the strength of the correlation matrices.

Posterior predictive checks and computation. We used posterior predictive checks to inspect our models (Gabry et al., 2019; Vehtari et al., 2017). For each model, we run four chains for 3,000 iterations with a warm-up length of 1,000 iterations. The number and length of the chains and warm-up were sufficient to achieve convergence and obtain a reasonable effective sample size, given the computation time.

Bayesian estimations were implemented via R statistical language (R Core Team, 2018) with the “brms” package (Bürkner, 2017), which call Stan (Stan Development Team, 2020). The data and model predictions were visualized using the “ggplot2” package (Wickham, 2016). A repository containing the data and code allowing to recreate the analyses and figures is available at <https://osf.io/mj6rh/>.

3 RESULTS

The age at menarche in the present sample of young female athletes was, on average, 12.1 (90%CI 11.1 to 13.0) years. The young female basketball and volleyball players in the present analysis were, on average, on time in maturity status. The distribution of onset of specialization in the sample was balanced, with about 50% of the players classified as pre-puberty or late-puberty specialization, and the remaining half sample classified as mid-puberty specialization.



Except for one player, all players categorized as pre-puberty specialization were basketball players, which represents about 34% of the basketball sample. In contrast, about 57% of the volleyball sample (40 out of 70 players) were classified as late-puberty specialization. On average, the young female basketball players had an earlier onset of deliberate practice compared to volleyball.

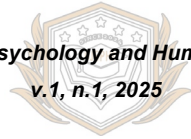
Our hierarchical ordinal model estimate the probability of young female players' response in each factor of the SEYSQ, given the athletes' specialization onset, menarcheal status, menarcheal status, sport, competitive level and state, considering the cross-sectional sample. Estimated probabilities of response varied by age group, specialization onset, menarcheal status, sport, competitive level, and state are provided as supplementary material. In Figure 1 is displayed the estimated response probabilities in the factors of the SEYSQ for the cross-sectional sample adjusted for process, person and context characteristics.

The posterior predictions of the probability of responses for the SEYSQ factors in young Brazilian athletes are displayed in Figure 1. The estimated parameters in the Bayesian hierarchical ordinal model for the cross-sectional sample are summarized in Supplementary table 2. In general, the young female athletes mainly agreed (response 5 in the Likert-like scale) with the statements in each factor of the SEYSQ.

Notably, there was no variation in the responses by SEYSQ factors associated with process (onset of specialization), person (menarcheal status), and context (age group, sport, competitive level, and state). Estimated responses plotted by age group, specialization onset, menarcheal status, sport, competitive level, and state are provided as supplementary material.

The posterior predictions of the probability of longitudinal responses aligned by chronological age (upper panels), distance to menarche (middle panels), and accumulated years of deliberate practice (lower panels) in young Brazilian athletes grouped by sport are displayed in Figure 2 for Self-referenced competency, Figure 3 for ORCR, Figure 4 for Effort expenditure, Figure 5 for Competitive excitement, Figure 6 for Affiliation with peers, and Figure 7 for Positive parental involvement.

The estimated parameters in the Bayesian hierarchical ordinal model for the repeated-measures sample are summarized in Supplementary table 3. There was substantial variation between female basketball and volleyball players' longitudinal responses in all SEYSQ factors. There was a consistent trend in all SEYSQ factors showing that the young female volleyball players had higher response values



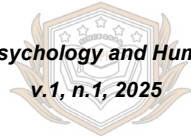
(response 5 in the Likert-like scale) than basketball players. On the other hand, there was no substantial influence of competitive level on longitudinal responses in all factors of the SEYSQ. There was a trend of an increase in the probability of response 5 on the Likert-like scale for all SEYSQ factors with chronological age, and a corresponding decrease in all other Likert-like scale responses. However, as the young female players were biologically older, there was a substantial decrease in the probability of response 5 on the Likert-like scale for all SEYSQ factors, particularly noticeable for the basketball players. The patterns in the probability of responses for all SEYSQ factors were stable with accumulated years of deliberate practice, although there was substantial variation between players and within factors (Supplementary table 2).

However, the probability of response 5 on the Likert-like scale in the basketball players was substantially lower than in volleyball players. Overall, the responses of biologically mature, older, and more experienced basketball players were more evenly distributed between the 1 to 5 responses in the Likert-like scale of the SEYSQ factors.

4 DISCUSSION

Enjoyment in youth sport plays a key role in understanding commitment and sustained participation (McCarthy et al., 2008; Scanlan et al., 1993; Wiersma, 2001). The current study sought to bring a bioecological approach to investigate changes in sources of enjoyment among young female athletes. This was accomplished through two steps: first, investigating whether sources of enjoyment variations could be explained by person, process, and context factors, and second, examining changes in sources of variation while considering the interactions of time with process (accumulated sport-specific deliberate practice) and person (chronological age and distance to a biological maturation milestone), while also allowing for the influence of context (sport and competitive level).

Youth sport programs that encourage year-round specialization in a single sport with an emphasis on those aspiring for elite status have become the norm (Bell et al., 2016; Buckley et al., 2017; DiSanti; Erickson, 2019; M. M. Smith, 2015). These programs are often assume that maximizing sport-specific, coaching-led deliberate practice would effectively lead to expert performance (Bruin et al., 2008; Ericsson et al., 1993; Güllich, 2018). Despite the interest in early specialization, there is limited available data explicitly studying the consequences of early specialization, in contrast



to the abundance of reviews, commentaries, or editorials (Mosher et al., 2020). The limited data suggested that early specialization may lead to low motivation and enjoyment, which can increase the risk of burnout and dropout (Fraser-Thomas et al., 2008; Larson et al., 2019).

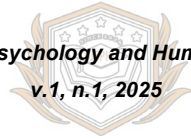
A key finding from the present study points to the lack of influence of the onset of specialization on the enjoyment of young female athletes in sport. On the other hand, we noted a large variation between players in the patterns of responses in the SEYSQ dimensions (both within- and between-dimensions responses) when aligned for accumulated sport-specific deliberate practice (see Supplementary Table 3), and a large variation between contexts (see Figures 2 to 7). The assumption of negative effects due to early specialization on enjoyment of female adolescent athletes was not confirmed in the present observations.

Our data do not support this argument, as evidence-based data on this topic is inconsistent and limited to draw strong causal inferences (DiSanti; Erickson, 2019). The young female athletes of our sample may be able to cope with the sport challenges they are facing, and to construct their own interpretations about the practice climate, pressure from peers, coaches and significant others.

The “rocky road” for sport success (Collins; MacNamara, 2012; Taylor; Collins, 2019) does not seem to affect the young female athletes’ beliefs and expectations. It is worth noting that our study has a narrow focus, as it only explores a limited range of youth sport training and competitive environments, all of which are focused on the development of athletes aspiring for elite status.

While concerns about potential negative impacts of early specialization are likely valid in high-performing environments of youth sport, the data available for such specific contexts are not yet sufficient. As far as we know, our data provide the first insights into enjoyment that need to be replicated in other cultures of youth sport to provide more consistent interpretations about youth sport specialization.

From an achievement goal theory perspective (Ames, 1995), our observations suggest that the development of the young female athletes in the sample appears to be influenced more by intrinsic sources, such as the need to improve oneself through personal effort, than by extrinsic factors such as recognition of competence by others. The high values of response 5 on the Likert-like scale for ORCR across time potentially reflect the direct competition with peers and performance-related feedback that are



ever-present and often serve as the basis for selection decisions made by coaches in youth sport environments.

Overall, the young female athletes consistently responded in the higher ordinal category (i.e., responses of 5 on the Likert-like scales) of the SEYSQ factors. When analyzing the cross-sectional survey data of young female basketball and volleyball players, the study did not find significant relationships between young female athletes' sources of enjoyment and person, process, and contextual factors.

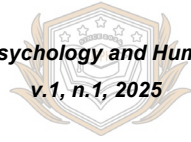
However, when incorporating time into the design and analysis, the study revealed deeper links between the influence of personal, process, and contextual factors on the developmental changes in the sources of enjoyment among the young female athletes. In particular, the longitudinal data displayed a clear pattern of variation in the responses by sport.

Volleyball players consistently responded in the higher ordinal category of the Likert-like scale of the SEYSQ factors, showing a trend of increasing the response for all factors of the SEYSQ with chronological age. On the other hand, the young female basketball players had a lower probability of response 5 on the Likert-like scales of the SEYSQ factors and a more pronounced decrease in these responses when considering the biological maturation age. Overall, these observations were consistent across the sample, even when considering the potential effect of the competitive level of the young athletes.

By aligning the three chronosystems, it is possible to identify that interpretations about the enjoyment of young female athletes across adolescence using only chronological age will be incomplete at best. The present data showed that as the young female players were becoming more mature, their perceptions of enjoyment changed notably, particularly among young Brazilian basketball players.

The present results need to be seen with more detail in order to refine the analysis and elaborate a more nuanced interpretation. The practice environments seem to be key to foster young athletes' positive development, increase their perceived self-competence, autonomy, and desire to improve themselves (MacDonald et al., 2011; Scanlan et al., 1989; Wiersma, 2001).

Our observations identified small variation associated with the sport context, highlighting the sport-specific cultures that potentially influence young athletes' perceptions. It may be reasonable also to consider that the varying structures of a sport-specific career, pedagogical approaches to training, and competition in different



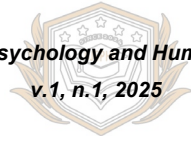
sport may influence players' perceptions. Hence, the results may be a consequence of contextual changes in the training process and competition (e.g., different coaching styles, parental involvement) or different offers and demands of competing activities in sport (e.g., nights out with friends, school results) in the period of the athlete's adolescence (Santos; Gonçalves, 2016).

In addition, these results may be tied to the fact that the observations are from high-performance-oriented environment. Nevertheless, the young athletes' enjoyment across the sport contexts mainly comes from perceptions of self-competence, and physical exertion, which represents for the athlete a sense of commitment and hard work in practice and games (Wiersma, 2001). Experiences in learning and improving skills and abilities, exerting effort, and excitement associated with competitive sport have also been consistently reported in research as being enjoyable to athletes (Bakker et al., 1993; Boyd; Yin, 1996).

Our analytical approach allowed us to map the trends of responses in each dimension of the SEYSQ, specifically considering how person (chronological age and age at menarche), process (represented by the accumulated exposure to sport-specific deliberate practice), and context (represented by different competitive levels across two team sport) mutually influence the young female athletes' enjoyment sources over time. The model fits were examined via posterior predictive checks (i.e., comparing data generated under each model with observed data), which showed that the models fit well (see Supplementary material).

Our observations add to the criticism of interpretations of ecological approaches when failing to accurately operationalize Bronfenbrenner's PPCT research model (Navarro et al., 2022; Tudge et al., 2009, 2016), particularly failing to consider time (Bronfenbrenner, 2005). In sport, it is important to emphasize that the influence of time is measured in years through a continuous commitment to training and competition. The present study assesses a path (or a process) rather than an episodic contact with one or multiple sports (Côté et al., 2020).

We must acknowledge that our research setting is complex, but not too complex to allow for an explanation. Without external influences and personal development, the ecosystem under scrutiny would remain static. The observed changes over time shed light on the constellation of variables that interact to shape individual trajectories regarding enjoyment in sport.

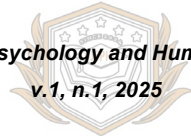


As we are dealing with social relationships, we must be cautious in interpreting the findings as a translation of the real world and not as mere theoretical elaborations. Our aim, when hypothesizing a model with its explanatory mechanisms, is always to discern the common forms and structures that are transversal to the diversity of bioecological settings.

Finally, caution should be exercised in generalizing the results of the present study. Although often overlooked in youth sport research, selection bias based on who was included in the datasets should be considered. In the present study, selection bias is a concern, more so in the basketball context (approximately 25% of the cross-sectional sample was available for repeated measures) than in the volleyball context (approximately 58% of the cross-sectional sample was available for repeated measures). Youth sport contexts present a challenging context for follow-up studies, with many factors contributing to attrition, including sport selection and injury (Kemper, 2007).

In summary, self-referenced competence, other-referenced competence and recognition, effort expenditure, affiliation with peers, and positive parental involvement are key sources of enjoyment for playing sport among young female athletes from basketball and volleyball, adjusting for age-group, the onset of specialization, competitive level, sport, and state. The results of the present study do not support the argument that early specialization may lead to low enjoyment, and consequent compromise in commitment and sustained participation in youth sport programs.

By aligning the three chronosystems (chronological age, menarche age, and accumulated sport-specific deliberate practice), it was possible to identify the importance of the sport context to the changes in the sources of enjoyment across the development of young Brazilian female athletes between 12 and 18 years. Overall, our findings underscore the necessity of incorporating time in ecological approaches to youth sport research through repeated-measures design to properly operationalize Bronfenbrenner's PPCT research model.



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6 FUNDING

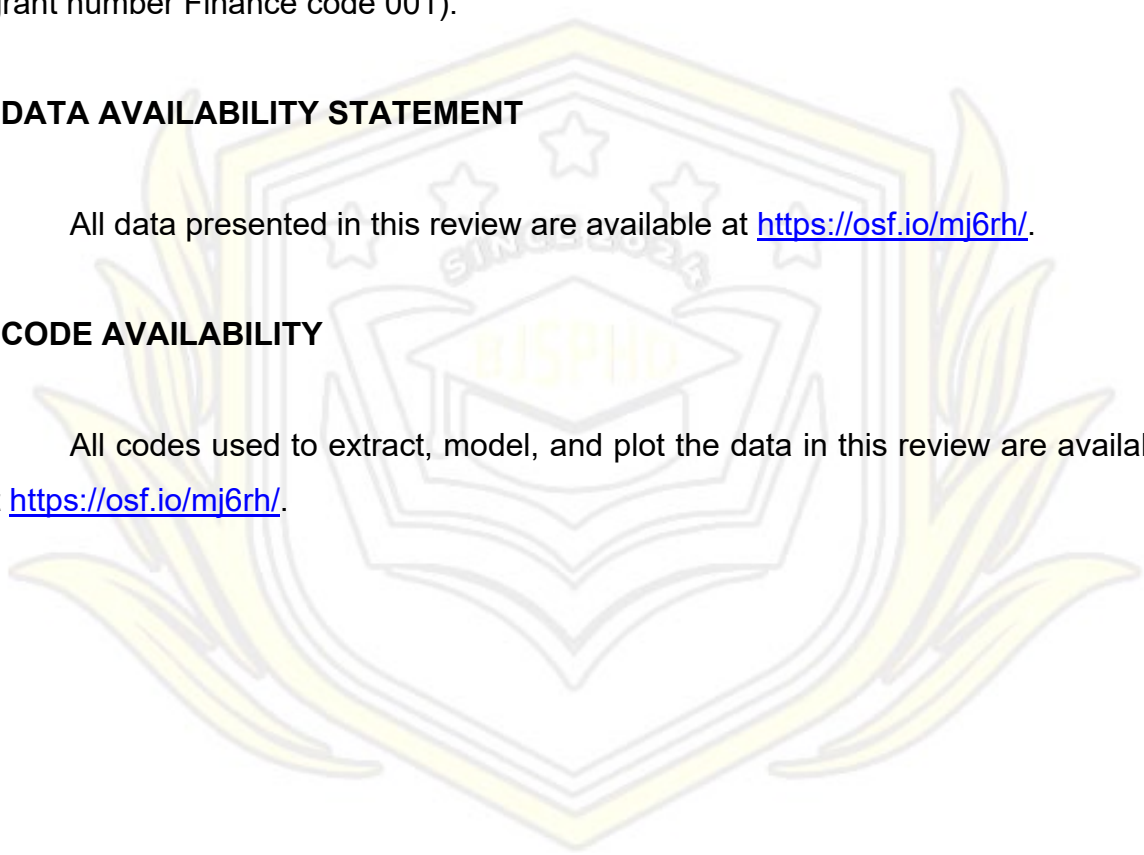
This work was supported by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior, Conselho Nacional de Desenvolvimento Científico e Tecnológico (grant number Finance code 001).

7 DATA AVAILABILITY STATEMENT

All data presented in this review are available at <https://osf.io/mj6rh/>.

8 CODE AVAILABILITY

All codes used to extract, model, and plot the data in this review are available at <https://osf.io/mj6rh/>.



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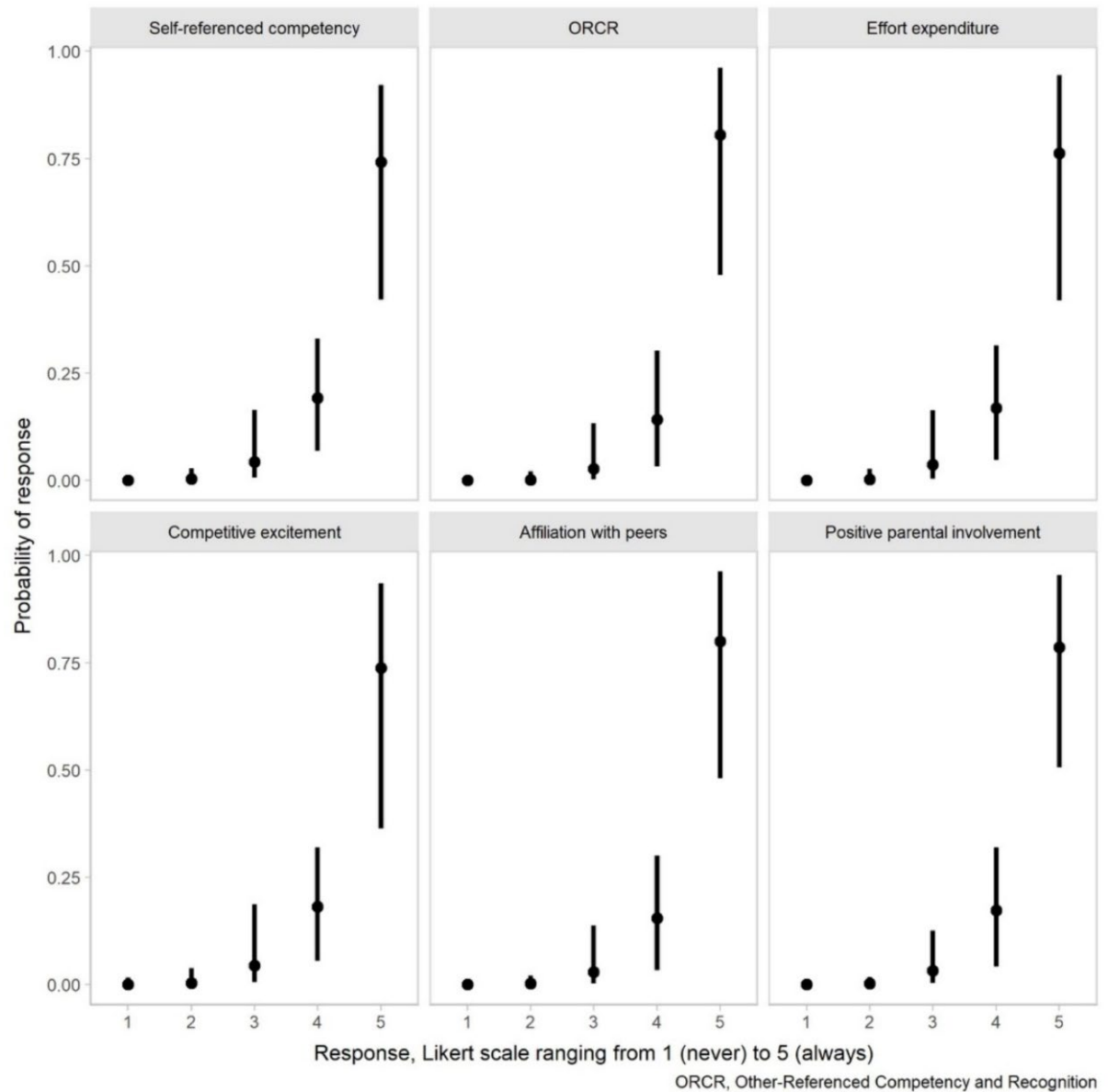
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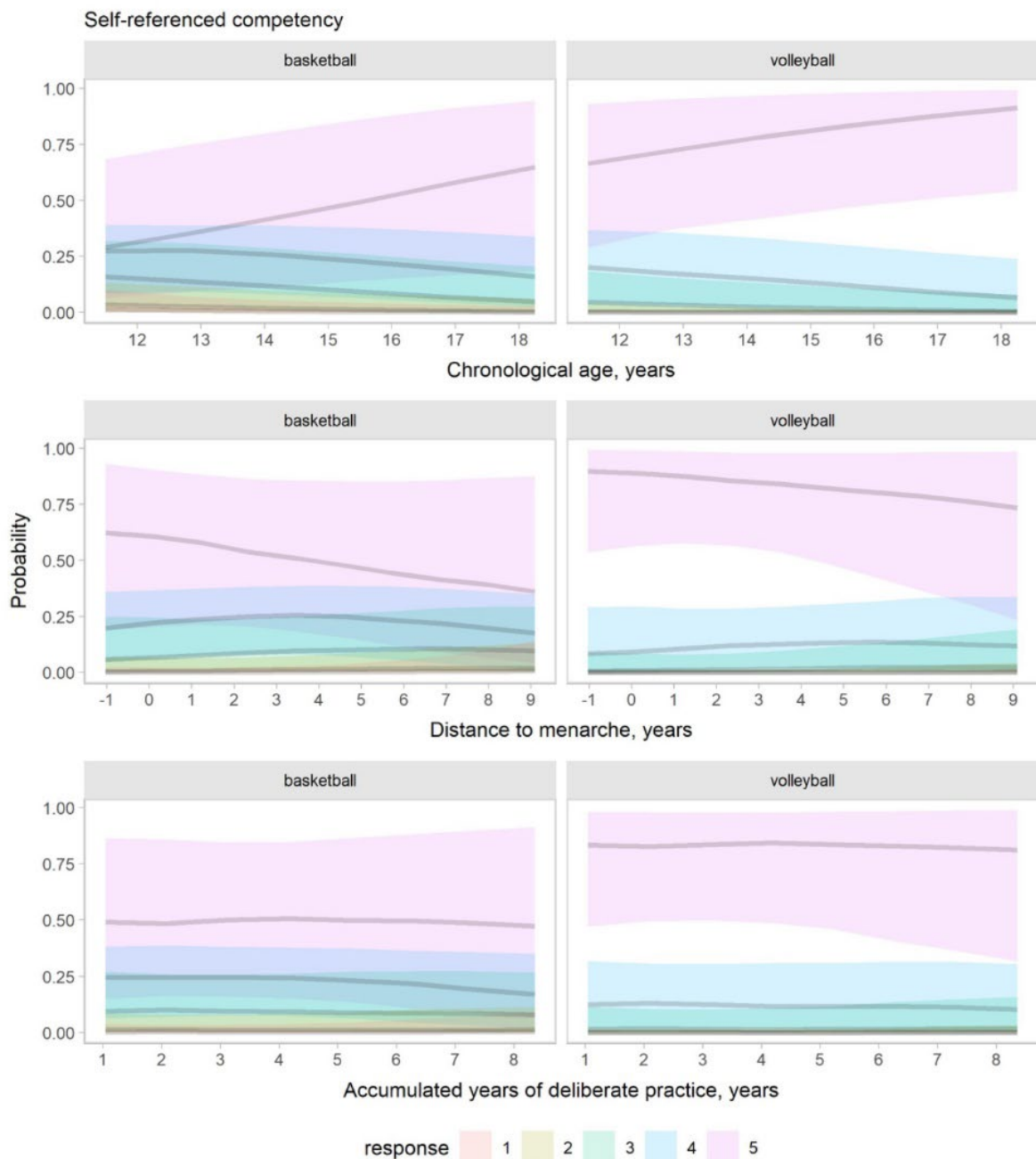
ANNEX I – FIGURES

Figure 1 - Posterior predictions of the probability of responses for the Source of enjoyment in youth sports questionnaire factors in young Brazilian athletes. Uncertainty estimates represent the 50% credible intervals



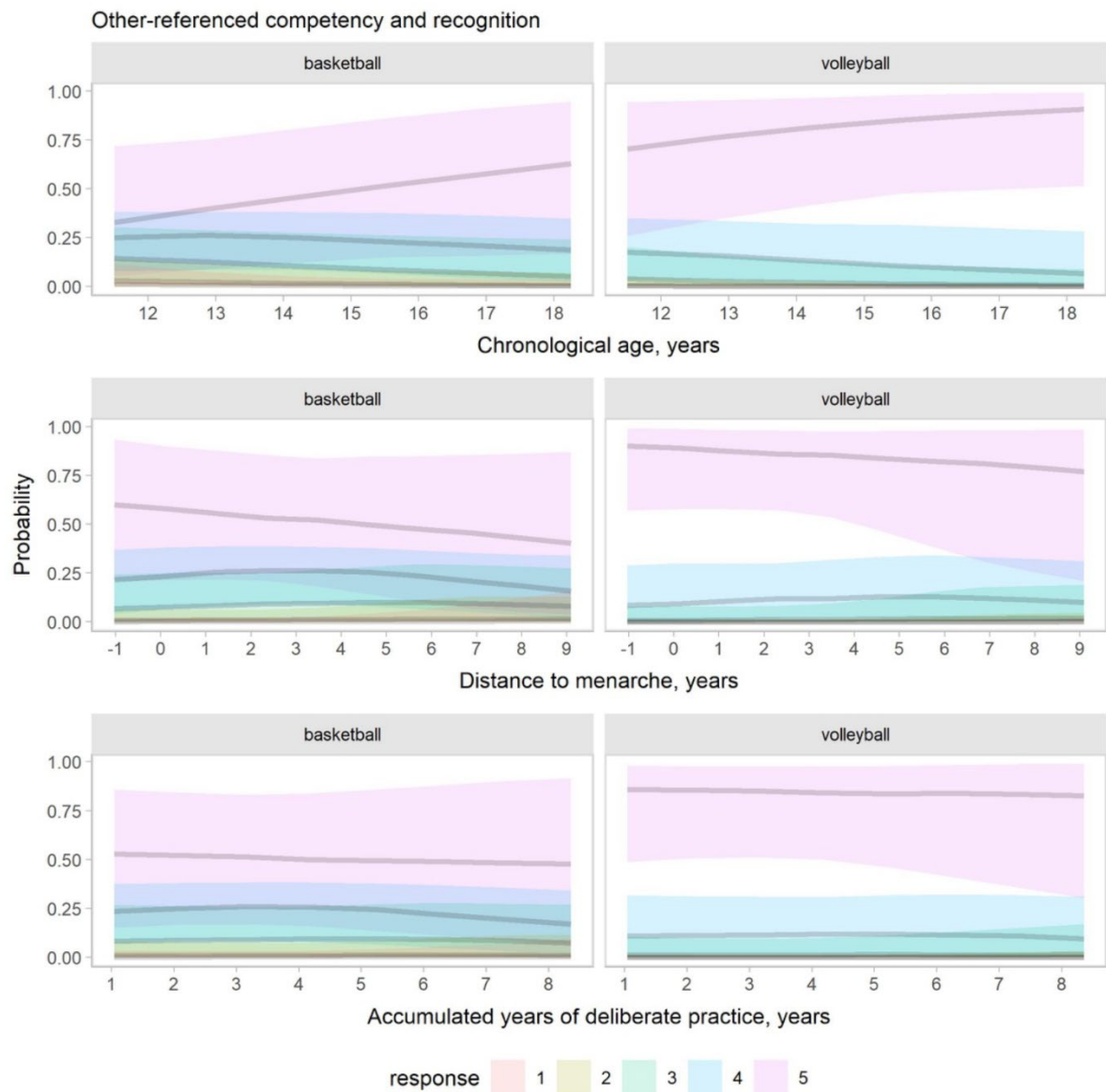
Source: prepared by the authors, 2025

Figure 2 – Posterior predictions of the probability of longitudinal responses for Self-referenced competency aligned by chronological age (upper panel), distance to menarche (middle panel), and accumulated years of deliberate practice (lower panel) in young Brazilian athletes grouped by sport. Uncertainty estimates represent the 50% credible intervals



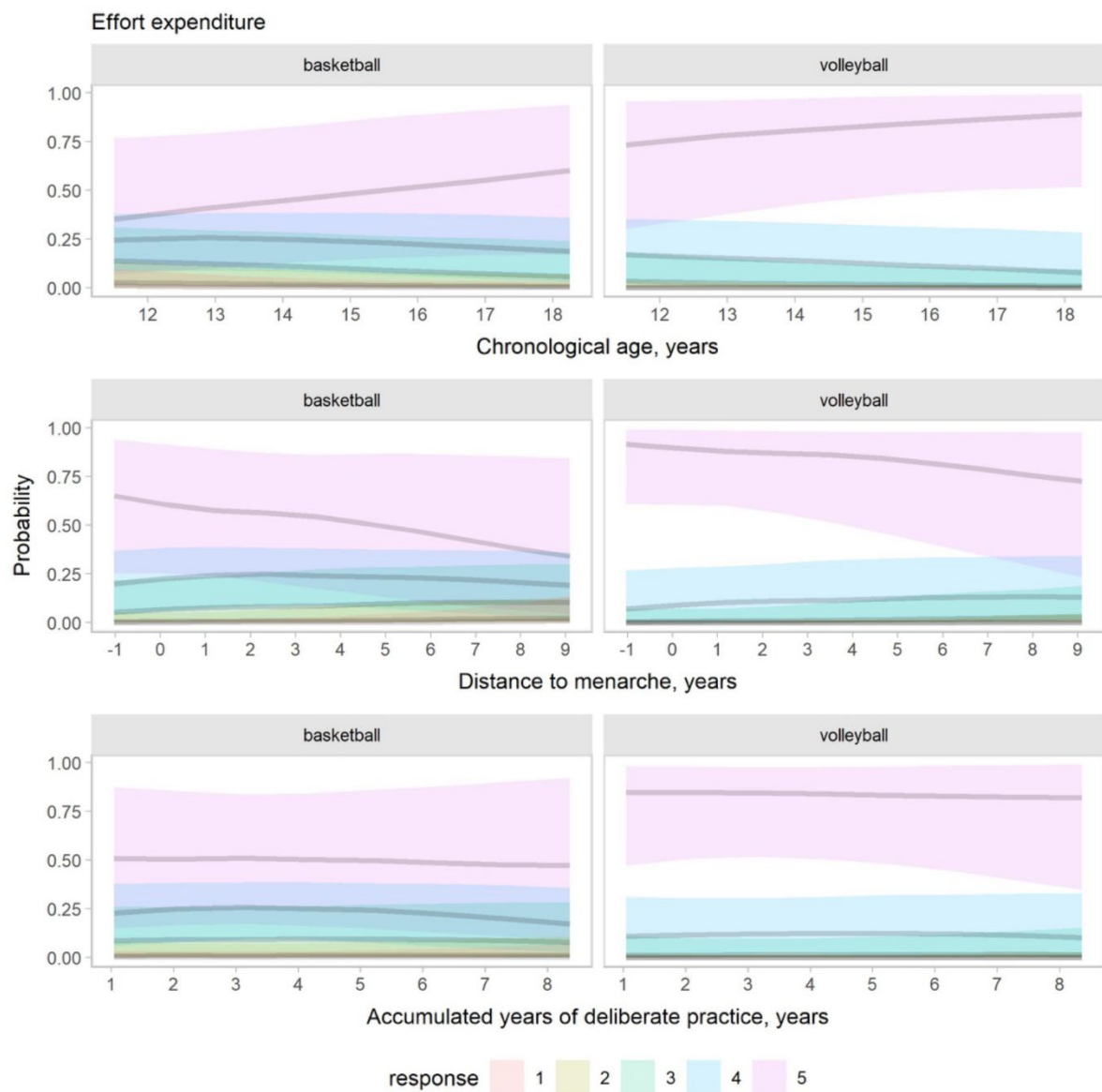
Source: prepared by the authors, 2025

Figure 3 – Posterior predictions of the probability of longitudinal responses for Other-referenced competency and recognition aligned by chronological age (upper panel), distance to menarche (middle panel), and accumulated years of deliberate practice (lower panel) in young Brazilian athletes grouped by sport. Uncertainty estimates represent the 50% credible intervals



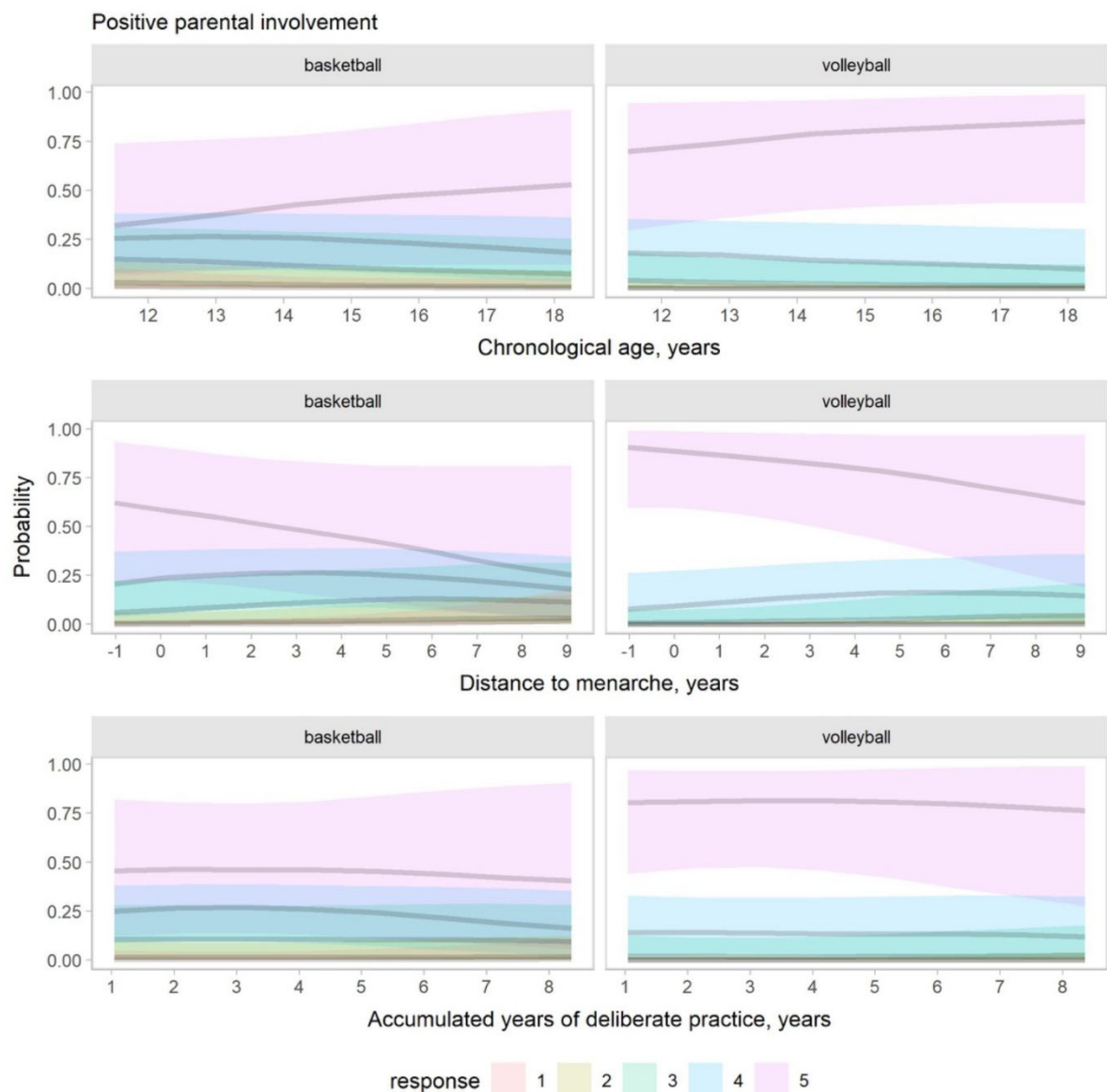
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Figure 4 – Posterior predictions of the probability of longitudinal responses for Effort expenditure aligned by chronological age (upper panel), distance to menarche (middle panel), and accumulated years of deliberate practice (lower panel) in young Brazilian athletes grouped by sport. Uncertainty estimates represent the 50% credible intervals



Source: prepared by the authors, 2025

Figure 5 – Posterior predictions of the probability of longitudinal responses for Competitive excitement aligned by chronological age (upper panel), distance to menarche (middle panel), and accumulated years of deliberate practice (lower panel) in young Brazilian athletes grouped by sport. Uncertainty estimates represent the 50% credible intervals



Source: prepared by the authors, 2025