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Personal attributes of female basketball athletes in training

Atributos pessoais de atletas de basquetebol feminino em formação

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Abstract – This study, based on the Bioecological Theory of Human Development, was aimed at examining the personal attributes of athletes belonging to a prominent club in the field of developing female basketball athletes. Participants were 31 athletes and two coaches who participate in youth sports divisions. Data were collected through semi-structured interviews, guided by the following main themes: personal characteristics, motivation for sports, best moments of the sporting career (athletes), sports talent identification process (coaches). Participants' interviews were analyzed using the content analysis technique, through the categorical type. The information found highlighted the presence of the three dimensions emphasized in the Bioecological Theory of Human Development. Height is presented as an important measure for the detection of athletes (positive demand). Interpersonal relationships stood out as motivating factors for entry in basketball practice, while psychological skills reinforced engagement and maintaining the sports career (generating provisions). Passive features, as well as incompatibilities between mesosystem of athletes' participation and negative affective interpersonal relationships stood out in terms of favoring disruptive provisions of the temporary withdrawal or feelings of sport abandonment. Finally, positive moments (active resources) exceeded negative moments (passive resources) when it comes to important moments in sports history. The results found suggest that personal attributes of athletes, in addition to the training process occurred in the sporting environment, have enabled the experience of competence results in the process of development of female basketball athletes.

Key words: Athletes; Basketball; Sports.

Resumo - O presente estudo, delineado pela Teoria Bioecológica do Desenvolvimento Humano, objetivou examinar os atributos pessoais de atletas pertencentes a um clube de destaque na formação de atletas do basquetebol feminino. Participaram da pesquisa 31 atletas e dois treinadores pertences às categorias de base. Na coleta de dados, foram realizadas entrevistas semiestruturadas, pautadas nos seguintes temas geradores: características pessoais; motivação para a prática esportiva; momentos marcantes da carreira esportiva (atletas); processo de identificação de talentos esportivos (treinadores). As narrativas dos participantes foram analisadas por meio da técnica de análise de conteúdo, do tipo categorial. As informações encontradas realçaram a presença das três dimensões da pessoa enfatizadas na Teoria Biecológica do Desenvolvimento Humano. A estatura se apresentou como medida importante para a detecção das atletas ('demandas positivas'). As relações interpessoais se destacaram como fatores motivacionais para o ingresso na prática do basquetebol, enquanto as competências psicológicas reforçaram o engajamento e a manutenção na carreira esportiva ('disposições geradoras'). Os recursos passivos, as incompatibilidades entre os mesossistemas de participação das atletas e as relações interpessoais afetivas negativas se sobressaíram em termos de 'disposições disruptivas' favorecedoras do afastamento temporário ou de sentimentos de abandono da modalidade. Finalmente, os momentos positivos ('recursos ativos') se sobressaíram aos negativos ('recursos passivos') no que se refere aos momentos marcantes da trajetória esportiva. As evidências encontradas permitem concluir que os atributos pessoais das atletas, somados ao processo formativo ocorrido no ambiente esportivo, têm possibilitado a vivência de resultados de competência no processo de desenvolvimento de atletas do basquetebol feminino.

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Palavras-chave: Atletas; Basquetebol; Esportes.

INTRODUCTION

Every sports season increases the number of children and adolescents who start and leave the sport practice early. This finding reflects the importance of constant research on the characteristics and experiences that contribute for selection, commitment or withdrawal in the competitive sports scenario, since many athletes, from their personal attributes, search to be recognized as a talent in their modalities. However, to reach the talent of status, athletes need to go through various detection, selection and promotion processes¹.

The process of sporting talent detection refers to measures and means used to find a significant number of children and adolescents able to be admitted in sporting programs, while sport selection highlights the means that determine athletes who have conditions to progress to higher competitive levels. Finally, sports promotion emphasizes proper training and competition conditions, being held by skilled coaches to promote the process of development of young talents². In this context and considering that the development of a talent is a combination of numerous factors that interact with each other to form a successful athlete, elite performance is understood as the result of combination of personal and environmental factors³.

In this case, the physical and anthropometric characteristics of children and adolescents have served as criteria to identify a biotope suitable for competitive sports practice, as well as physical skills and expertise of the sport ranging from the technical skills to tactical notions of future athletes⁴. On the other hand, commitment in the sporting context is understood as a psychological state that represents the desire or the will to continue sports participation, and this state is the motivational force for continued engagement and an important basis of its psychological persistence^{5,6}.

In the Bioecological Theory of Human Development, the attributes of the developing person are analyzed from the bio-psychological characteristics and interaction of these with the social environment, referring both to the characteristics genetically inherited as characteristics developed over the person's lifecycle⁷. In this regard, three types of characteristics of the person are distinguished as the most influential in shaping the direction of future development due to their ability to influence the direction of the proximal process during the life cycle⁸: provisions (active proximal processes in a particular area of development, sustaining its operation); resources (experience, knowledge and skills required for the effective functioning of proximal processes); demands (invite or discourage reactions of the social context that promote or interrupt the course of developmental processes). Thus, these three forms explain the differences in the direction and strength of processes with effect of competence or dysfunction in human development.

When considering the athlete as the main actor of the sporting context, studies guided by the bioecological paradigm seek to elucidate the physical, biological and psychological characteristics interacting with the environment in which the athlete is inserted, clarifying the existing combination between them and taking into account their power to influence, direct and strengthen the sports development⁹. In this case, the use of the bioecological model in the sporting context is characterized as an attempt to develop a theoretical framework that enables the creation of new paths for research in the process of development of the sports talent¹⁰. However, there are only a few studies in the context of high-performance sport focused on the analysis of these characteristics, in particular, to clarify such properties from the perspective of the Bioecological Theory of Human Development.

In this sense, there is need for research initiatives highlighting the personal attributes of elite athletes and / or training athletes, as this initiative is presented as a tough challenge for those seeking for understanding how bio-psychological characteristics can inhibit or promote the development of a sporting career⁹. Thus, in order to contribute to advances in the reflection on this issue to the light of the bioecological paradigm, the present investigation sought to examine the personal attributes of athletes belonging to a prominent club in the field of developing female basketball athletes.

METHODOLOGICAL PROCEDURES

Study Characterization

This descriptive research with qualitative data approach was conducted based on the Bioecological Theory of Human Development⁸, prioritizing the presentation of the personal attributes of basketball athletes training in a prominent club in the field of developing female basketball athletes of Santa Catarina – SC.

Sample

Overall, 31 athletes from youth sports divisions aged 11-18 years (12 under-15, 2 under-16, 9 under-17 and 8 under-18), which participated in youth competitions sponsored by the Santa Catarina Federation of Basketball (FCB) and Santa Catarina Foundation of Sports (FESPORTE). In order to extend the information, 2 coaches who ran the club teams at the time of data collection contributed to the study: male coach of under-15, under-16 and under-17 categories, and female coach of the under-18 category.

Procedures

Data collection occurred through semi-structured interviews. The interview procedure was designed under the assumption that when athletes answer questions based on the recall of their experiences, they tend to be more accurate and reliable than when they are forced to deduce and rebuild answers to general questions¹¹. All interviews were conducted by the same researcher, being carried out individually, recorded and transcribed in full, with subsequent approval from respondents (description validity). In the case of female athletes, interviews were held in the training site (gyms, fitness centers), before or after activities or, whenever necessary, due to time mismatch, at the home of some of them (in the case of those residing

outside the municipality investigated). In the case of coaches, interviews were held in the department of municipal sports and training gym. The interview with athletes was focused on the following themes: personal characteristics; motivation for sports; best moments of the sporting career. The testimony of coaches had information related to the sports talent identification process.

Data analysis

Data were analyzed using the QSR NVivo software, version 9.2, through the categorical content analysis technique¹². It was emphasized that, in the content analysis technique, the analyst aims to 'categorize the text units', by applying to them a representative expression¹³. Furthermore, it is emphasized that the QSR NVivo software is characterized as an important tool for qualitative research, assisting in the operation and grouping of common features found in narratives¹⁴. In this context, it is emphasized that the categories of analysis established for the present investigation accounted for: athlete identification (anthropometric, physical, psychological, psychosocial, tactical, technical aspects); motivation for sports practice (adherence, stay, temporary interruption, abandonment desire); best moments of the sporting career (positive, negative).

Ethical concerns

The research project was approved by the Ethics Committee for Research with Human Beings of the Federal University of Santa Catarina (process No. 1170/2010). The participation of subjects in the research was made possible after signing the Informed Consent Form (coaches, athletes aged 18 years or older and parents or guardians of underage athletes).

RESULTS

Sports talent identification factors

The information found in this investigation revealed that coaches of the Basketball Club under study do not have a structured process for detecting sports talents, and do not express concern in the early selection of athletes. However, they have guidelines focused on the promotion of talent based on the teaching-learning-training process occurred in small schools and competitive teams. Without a process of initial detection, the strategy adopted is the training of future players, which will later pass through a selection process to compose the club's youth teams.

Coaches and athletes investigated recognize that the anthropometric characteristics, in particular height, become important factors for them to invite children and adolescents to be inserted in basketball practice. The investigation found, however, that the selection of athletes after entry into the sports training process is carried out from the observation of features considered important for sports and shown by players throughout their training (Figure 1).

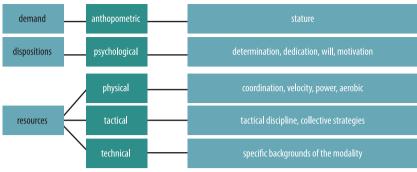
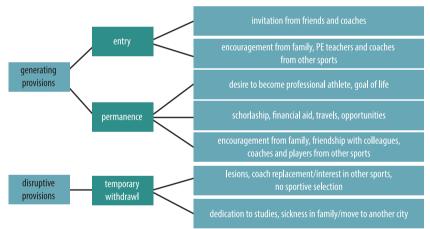


Figure 1. Factors considered in the identification of basketball players.

The results found revealed that the detection of basketball athletes is based on positive demands (biotype), while the selection of these prioritize the demonstration of both active resources (physical, technical and tactical skills) and generating provisions (motivation, determination).

Motivation for basketball practice

The information reported by athletes revealed that social influences were decisive for entry in basketball practice, while personal reasons were decisive for their permanence, development and growth in the sport. In addition, sports issues and other spheres of personal life accounted for temporary withdrawal (Figure 2).





The information presented in relation to the generating and disruptive provisions around basketball practice revealed that affective interpersonal relationships (positive and negative) are critical for engagement, withdrawal and return of athletes to their sports careers. In addition, transitions into other spheres of life (study, social life, family) strongly contribute to the withdrawal process of their sporting careers.

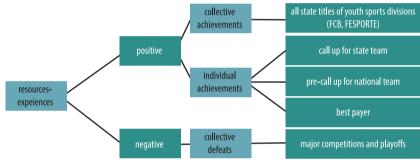
Memorable moments of the sporting career

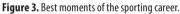
The best moments of the sporting career of athletes corresponded to lived experiences and competitions (Table 1), as well as individual and collective achievements (Figure 3).

Table 1. Sporting experience of basketball players.

Time of basketball experience	n	Level of competitions	n	Selection	n
Up to 03 years	10	State	14	Call up for state team	13
03-06 years	12	National	06	Pre-call up for national team	03
07-09 years	09	International	11	Pre-call up for national team	03

Although the best moments were most frequently cited by athletes compared with the worst moments of their sporting careers, it is emphasized that the latter corresponded to defeats experienced in major competitions and playoffs. In this perspective, the analysis of the best moments of the sporting career reinforces the importance of active resources (experiences) for the competence process experienced by players with regard to participation in high-level competitions in youth sports divisions with important individual and collective achievements in these competitions.





The personal attributes of female basketball players in this study revealed the presence of three dimensions of the person influencing the direction of proximal processes in a life cycle, as follows⁸:

- Provisions: they put proximal processes in motion in a specific area of development and continue to sustain its operation (in this study, the proximal process is characterized as the sports development and the de-motivation provisions with the sports practice);
- Resources: skills, experience and knowledge necessary for the effective operation of the proximal processes in a given stage of development (in this study, the sports talent identification factors, the capabilities, skills and sporting experiences);
- Demands: they have the power to invite or discourage reactions of the social context that promote or interrupt the operation of proximal processes (in this study, the biotype of athletes involving selection, the perception of coaches for a given sport).

Figure 4 shows the main demands, provisions and bio-ecological resources of basketball players belonging to the Basketball Club of Santa Catarina-SC.

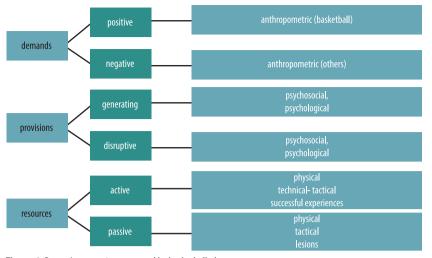


Figure 4. Person's properties presented by basketball players.

DISCUSSION

The results initially revealed that, in the sports talent identification process, positive demands (biotype) are the only person's property cited by coaches as decisive for the initial detection of basketball players. However, the same demand that was positive for this modality was characterized as negative for an athlete interested in soccer, for example. Demands can be either favoring as disturbing for the sports development, in this case, a very tall person may have positive physical attributes to be selected for a basketball team, but negative to be selected for other sports such as, for example, gymnastics¹⁵. Thus, demands are evaluated according to their potential to make a person to be accepted or rejected by others in his immediate environment¹⁰.

Positive demands are characterized by stimulating positive reactions of the social environment (from others), favoring the establishment of proximal processes, while negative demands prevent these reactions by inhibiting the development of proximal processes⁸. In this context, physical quality (biotype) really seems to manifest as a characteristic of people who encourages children and adolescents to engage in different types of sports^{16,17}. However, coaches, technical staff and sports managers should be aware that selecting players based on their anthropometric characteristics can exclude potentially talented players, but during the talent identification process, they are presented as smaller and lighter. Thus, other factors such as psychological and specific skills of modalities should also be considered when selecting young athletes¹⁸.

Active resources related to general physical abilities and specific technical-tactical skills, as well as the demonstration of generating provisions (psychological) and positive affective interpersonal relationships (psychosocial) seem to be decisive for the selection of these athletes throughout their sports careers. It is concluded that the anthropometric characteristics, physical qualities and technical and tactical skills are of prime importance in the sports context, being crucial in the selection of talented athletes¹⁹. Therefore, in the sporting environment, sporting talent resources correspond to physical fitness, coordination, intelligence and provisions as factors in favor of engagement, permanence and reorganization of actions¹⁰.

It is important to point out that physical qualities and technical and tactical skills can be recognized both as a form of resource that involves knowledge and experience acquired by the person and as demands that can arouse the attention of others, leading to criticism and evaluations and generating a consequent approach or withdrawal from them²⁰.

However, it is emphasized that although anthropometric characteristics and physical fitness are recognized by coaches as positive demands and important active resources to be demonstrated by athletes for their development, technical and tactical factors were considered as both active and passive resources, depending on what is demonstrated by athletes throughout their training process. Similarly, psychosocial and psychological issues were often mentioned as generating and disruptive provisions in the eyes of coaches, characterized as crucial for individual and collective success of competitive teams of the Basketball Club. So, when an athlete presents greater proportion of disruptive provisions compared to generating provisions, the sports micro system should create opportunities for molar activities (activities with temporal persistence and meaning for subjects under development) and interpersonal structures to assist them to shift from a developmentally disturbing feature to a developmentally generating feature¹¹.

According to coaches, disruptive provisions related to the absence of psychological skills presented by basketball players end up by contaminating the collective effort while negatively affecting the sports outcomes, even if the team shows higher technical, tactical and physical quality in relation to opponents.

Social influences in terms of invitations from colleagues and coaches and encouragement from family stood out among generating provisions for entry in the basketball practice. In addition, psychological skills, affective interpersonal relationships with coaches and teammates and rewards coming from this practice reinforce the engagement and maintenance of these in the sport. Investigations in various sporting environments have revealed results similar to those found in this study, corroborating that the encouragement from significant people (parents, siblings, guardians) and invitation from friends or colleagues are key to entry in this sport^{9,16,21-25}.

In this perspective, it was found that when at least one family member is part of the sports microsystem, there is a more favorable transition into this environment. In addition, the role of friends and colleagues is crucial as significant people in the mediation process, demonstrating the importance of positive emotional ties in the dyadic relationship for the entry in the sport.

The reasons for engagement in sports are guided by intrinsic issues such as pleasure in practicing certain sport, desire to become a professional athlete and psychological skills were also observed in studies conducted with athletics^{16,17}, tennis⁹ and futsal²³ talents. Similarly, extrinsic motivation based on the encouragement from family and friends, pleasure of being with teammates and rewards that come from its practice, often appears in reports of practitioners of different sports and different competitive levels^{9,22, 23,26}.

In addition to factors found in this study, studies conducted in the Brazilian sporting scenario have found other important influences on maintenance of sports practice such as physiological and psychological needs, free time fulfillment, health, aesthetic and / or control of stress^{9,22,26,27}.

On the other hand, passive resources, some incompatibilities among mesosystems and interpersonal relationships stood out as disruptive provisions linked to both temporary withdrawal and desired or permanent abandonment of basketball practice. Such withdrawal from the sports environment has also been observed in investigations about the feeling of abandonment or permanent withdrawal from sports of many athletes^{25,28-30}.

The results on the incompatibility between the practice of sports and other spheres of life reflect a concern about the sporting orientation to the possible deprivation of typical youth activities, which may result in damage to family, social and educational life of children and adolescents. Therefore, it should be given to young athletes enough time for rest, leisure and social life²².

In terms of active resources, it is emphasized that the athletes investigated had excellent sporting experience, which has helped them obtaining competence results in the development of their sporting careers, reaching important individual and collective achievements in the course of their careers. In this perspective, the experiences and the results presented by athletes during the sports development reveal that personal attributes and training opportunities in the sports microsystem studied enabled the predominance of competence results, although some reports of dysfunction results were observed in the process of development of female basketball athletes.

In this case, the competence results over human development are characterized by the acquisition and improvement of knowledge and intellectual, physical and social-emotional skills, while dysfunction refers to recurrent signs of difficulties by the person under development to maintain control and behavior integration through experienced situations⁸.

CONCLUSION

Despite the limitations of investigations based on the Bioecological Theory of Human Development, especially regarding the scope of all elements of the process-person-context-time model and mild distinctions in regard to attributes demand, provisions and resources of the person under development, the results have important implications for understanding the bio-psychological characteristics of developing athletes, in particular, the influence of these to engage in the sports practice. Such information may help managers, coaches, family and others involved in the athlete training process in the search for strategies of physical, technical, tactical and psychological training to avoid the early temporary or definitive withdrawal from the sports practice.

The information found relating to the identification of female basketball talents revealed that the detection of athletes of this sport is based on pos-

itive demands, while the selection of these is based on the demonstration of both active resources and generating provisions.

Regarding the motivation to sports practice, the results showed that interpersonal relationships stood out among generating provisions for entry in basketball practice, while psychological skills (motivation), interpersonal relationships (affective) and rewards resulting from this practice reinforced engagement and maintenance in the sports career.

Analysis of disruptive provisions that favor the temporary withdrawal or feelings of abandonment from the sports practice revealed that passive resources, incompatibilities among mesosystems and negative affective interpersonal relationships stand out in terms of dysfunction results in the development of sport talents.

Finally, the study showed that the best moments of the sporting career of basketball players exceeded the worst moments. In addition, the study pointed out the high level of sporting experiences (active resources) that athletes have in the practice of basketball, which added to other personal attributes and the training process occurred in the sports environment have enabled the experience of competence results in the process of development of female basketball talents.

Further studies on the personal attributes of athletes based on the Bioecological Theory of Human Development for different Brazilian states and regions as well as for different sports should be carried out. In addition, it is suggested that expanding the dimensions of studies aiming at the joint analysis of the four elements of this investigative model (person-process-context-time) would allow a more robust analysis of the sports development process and the influence of this process on the development of the personal characteristics of training athletes.

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