

Analysis of social-sportive characteristics of Brazil women's national basketball team players

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ANALYSIS OF SOCIAL-SPORTIVE CHARACTERISTICS OF BRAZIL WOMEN'S NATIONAL BASKETBALL TEAM PLAYERS

KEYWORDS: Career in sports, women in sports, elite athletes.

ABSTRACT: The aim of the present study was to identify social-sportive characteristics of Brazilian female basketball players. Twenty-eight players called for Brazil women's national basketball team participated in the study, 14 athletes (18.36 ± 0.63) from under-19 team and 14 athletes (26.14 ± 4.69) from adult team. A structured questionnaire was conducted with 19 questions during pre-competition period. The questionnaire encompassed social-sportive characteristics: a) early sports development; b) initial sports results; and c) socioeconomic aspects at the beginning of the competition. Because it has quantitative and qualitative data, the analysis was carried out by two procedures: thematic analysis and descriptive statistics. Results demonstrate that the players started practicing late, had few diversified sports experience, little capacity of filling in at multiple positions, started participating in competitions earlier than recommended, received payment still in their adolescence, have intermediate level education, low financial status, and had family support during their career. It was concluded that social-sportive characteristics of Brazilian female basketball players were not sufficient for them to become elite basketball players, only near-elite players.

Sports development of athletes is a complex subject and researchers have examined factors influencing sport expertise acquisition and carrier (Baker and Horton, 2004; Stambulova, Alfermann, Statler and Côté, 2009; Jayanthi, Pinkham, Dugas, Patrick and Labella, 2013). Baker and Horton (2004) postulate primary and secondary influences on the development of expert or elite athletes. Primary influences are characterized by factors influencing performance gain directly, including all aspects intrinsic or that may contribute to the athlete's development, e.g., genetic factors, training, and psychological aspects. Whereas secondary influences are verified through the influence of primary factors on the development of expert performance, such as sociocultural factors, learning resources, contextual factors, family support, maturity in sport, and experience in competitions.

The main problem related to expertise in sports is represented by the difficulty in bringing together and organizing the various factors that influence or are part of the athlete's development process, because it is multidimensional and also because it is difficult to organize variables according to their relevance for the development of expertise in sport (Leite, 2008).

This is a long-term process where four stages are suggested for the athlete's development (Durand-Bush and Salmela, 2002; Côté and Vierimaa, 2014): "Sampling, Specializing, Investment, and Maintenance" years. The first stage, Sampling, is the first contact with the sport at an early age, often occurring freely during childhood; Specializing is a later stage when a single sport is chosen, targeting sport-specific training as a professional career possibility; Investment is the stage when young players commit

to develop performance in one sport; and Maintenance is characterized by sports achievements with consolidation of the athlete's career and when the best marks are obtained.

Exploratory studies have been reviewing sports experience since childhood, in view of the acknowledgement that expertise is related to the involvement with the sport (not to specialization) from a diversified practice starting at six or seven years old (Abbott and Collins, 2004; Bailey and Morley, 2006; Durand-Bush and Salmela, 2002; Leite, Baker and Sampaio, 2009; Leite and Sampaio, 2012). Therefore, the present study aims to understand the path of elite female players' development, considering the first two stages (sampling and specializing) which will be called early sports development.

More recent empirical studies carried out comparing elite athletes, defined by Moesch, Elbe, Hauge, and Wilkman (2011) as top 10 athletes at World Championships or Olympic Games, or those who won medals in important international tournaments (e.g., European Championship), with near-elite athletes, defined by the same authors as international athletes that do not meet the abovementioned criteria. The authors pointed out diversification as an alternative to specialization at early stages (Law and Côté; Ericsson, 2007; Gullich and Emrich, 2006; Moesch et al., 2011; Baker, Côté and Abernethy, 2003; Wall and Côté, 2007).

These studies demonstrated that diversify the sports practice before specialization, opposed to the practice of a single sport, enabled to improve the experience of those involved by providing multiple incentives, increasing the acquisition of gross motor skills, longevity in sports, and benefiting their social interactions.

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Nevertheless, Côté, Turnidge and Evans (2014) explain that it is not possible to confirm that individuals who do not practice more than one sport (diversification) during childhood will not achieve elite athletes' level of performance.

Studies published in English-language journals, which analyzed different variables that influence the development of expertise, have not considered the South American context (Bruner, Erickson, Brian and Côté, 2010). Most studies from Brazilian researchers have focused on individual sports and male athletes, especially Darido and Farinha (1995) on swimmers, Nascimento (2000) on athletics, Moreira (2003) on Karate, Schiavon (2009) on artistic gymnastics, and Cafruni, Marques, and Gaya (2006) on individual and collective sports (gymnastics, rhythmic gymnastics, swimming, tennis, volleyball, and futsal).

Empirical studies on collective sports also tend toward investigating male athletes: Paes (1992) and Folle, Collet, Salles and Nascimento (2016) on basketball; Santana and Ribeiro (2010) on futsal; Marques and Samulsky (2009) on football; Bojikian, Silva, Pires, Lima, and Bojikian (2007) and Marques, Lima, Moraes, Nunomura, and Simões (2014) on volleyball.

When we analyzed Brazilian studies, we noticed that most studies dealt only with male sports and they neither observe the different levels of competitiveness of the players nor their social statuses. It is important and necessary to better understand women sport in Brazil. So, this study is about Brazilian women's national basketball team, which had excellent results until early 2000s (Galatti, Paes, Machado and Monteiro, 2015a; Galatti, Paes, Machado and Monteiro, 2015b). Thus, the objective of this study was to identify the characteristics of early sports development, initial sports results, and the socioeconomic context at the beginning of the competition of players from Brazil women's national basketball team and under-19 national team.

Methodology

This is a descriptive and nonexperimental research (Ato, López and Benavente, 2013). It has been carried out from data collection of 28 players of Brazil women's basketball national team, 14 athletes (18.36 ± 0.63) from under-19 national team called for 2015 America's Cup and 14 athletes (26.14 ± 4.69) from the adult team called for Pan American Games in the same year.

We carried out a retrospective data collection (Côté, Ericsson and Law, 2005), using a structured questionnaire with 19 open questions for basketball adapted from Cafruni et al. (2006), Marques and Samulsky (2009), and Marques et al. (2014). Adaptation of the questionnaire was validated based on expert criteria method with the participation of 3 experienced researchers (two PhDs and one PhD candidate) with more than 10 years of experience in this kind of research and more than 20 years of experience in basketball.

The questionnaire could not have questions altered (Vergara, 2005) and have been answered in a quiet place after training, during the team's preparation. The questionnaire was used because the players were in pre-competition period, very close to the international competition, so the athletes were unavailable for longer periods at that time.

The questionnaire sought to apprehend the athletes' socio-sportive characteristics, including: a) Early sports development (sports initiation - age when began practicing, place and practice of other sports, age when started competing, place, competing in other sports, specialization of playing positions; b) Early results

(championships, payment, and call for national youth team); and c) Socioeconomic conditions (educational background, social status, and family support).

Data analysis

For comprising quantitative and qualitative data, data gathered have been analyzed using two distinct procedures, due to the nature of qualitative and quantitative answers. For nominal data ($n=12$) we used thematic analysis, which is characterized by meticulous organization through description of data collected, identifying, analyzing, and interpreting data patterns (Braun and Clarke, 2006) through five stages: Stage 1: Immersion; Stage 2: Set initial categories; Stage 3: Search and identify themes; Stage 4: Review topics; Stage 5: Define and name topics; Stage 6: Write report. For discrete quantitative answers ($n=7$) we used descriptive statistics (mean and standard deviation) and the data were presented in frequency (%).

Results

Early sports development

The school was where four players started practicing basketball; all the others started practicing basketball at clubs and/or public projects. The players started basketball practice late, between 6 and 14 years old (10.43 ± 2.27). Regarding early sports development, 17 players practiced only basketball during their sports initiation, six players practiced more than one sport besides basketball, and 5 players practiced more than two sports. They mentioned swimming, athletics, tennis, artistic gymnastics, gymnastics, volleyball, football, and handball.

At this stage the players practiced basketball for 5.87 ± 2.46 hours per week and nine players did not have sports initiation, starting in the specialization stage and competing in official tournaments.

They started competing at private clubs and public projects, only one athlete participated in official championships with the school. The group average age when started competing was 11.89 ± 1.46 years old.

Nine players had their first contact with basketball in the competition stage and only four players competed also in other sports. Another important fact is that 11 players played in the same position on a consistent basis, eight players mentioned they already played in two positions, and nine athletes played in all positions.

Initial Sports Results

The first results obtained by the players were first place in official championships between 11 and 17 years old (13.22 ± 1.55 years), they started receiving payment between 12 and 17 years old (15.22 ± 1.21 years), and were first called for Brazil women's basketball youth team between 12 and 17 years old (14.59 ± 1.16 years). At this period the players practiced basketball for 8.15 ± 2.26 hours per week.

Socioeconomic Aspects

One athlete has graduated only from elementary school and one has graduated from college, whereas the other 26 players have graduated from high school. From all the players, 14 attended public and private schools, six players attended only public schools, and eight attended only private schools. Most players who have attended private schools mentioned that they

received scholarship to play basketball.

Regarding financial conditions at the time they started competing, 23 players pointed out that their families had poor financial conditions (middle and/or lower class), only five had better conditions, and five pointed out that they had someone in their families (father, mother, and brothers) playing sports professionally.

Regarding family support, 22 players declared they had total support, three declared they did not receive financial support, and one declared she had family support, but they did not watch practices and games. Only two players declared they had no support from their families, but had support from friends.

Discussion

For 16 years Brazil women's national team does not have a place among world's elite basketball teams according to Moesch et al. (2011). To discuss sports initiation and first competitions of the current generation of adult and under-19 players may offer clues to increase the formation of new basketball players in Brazil and even in different contexts. From 28 athletes investigated, the vast majority started practicing basketball and competing in private clubs or social projects, and only four players started practicing at school. A similar result was observed by Marques and Samulsky (2009). In their study, only 1.1% of Brazil football players started practicing at school. Marques and Oliveira (2001) have already mentioned increasingly poor conditions of motor and sports experiences of children and adolescents at school, and the consequent decrease of these capabilities.

Regarding initiation to basketball (sampling), the players started at 10.43 ± 2.27 years old. Brazilian female players results are different from those from studies on elite athletes. In these studies elite athletes played different sports at an earlier age (Abbott and Collins, 2004; Bailey and Morley, 2006; Durand-Bush and Salmela, 2002; Leite et al., 2009; Leite and Sampaio, 2012). Players called for the Brazil national team were older than the ideal when they started practicing and this is a factor that may difficult personal commitment with sports practice and performance at a later age (Côté et al., 2014).

Analyzing the sports practiced by the athletes studied, 17 practiced only basketball in their sports initiation and six players practiced a different sport. These results demonstrating the sport monoculture of players from Brazil women's national basketball team was also observed by Marques and Samulsky (2009): 68% of professional football players have not practiced other sports. Marques et al. (2014), despite not analyzing the number of sports practiced at initial stage, demonstrated that 38.4% of the sample consisting of professional male volleyball players participated only in volleyball competitions, while 61.6% participated in more than one sport competition.

This sport monoculture observed in Brazilian players differs from results of studies on players from other countries (Côté, 1999; Abbot and Collins, 2004; Bailey and Morley, 2006; Durand-Bush and Salmela, 2002; Leite et al., 2009; Leite and Sampaio, 2012) that suggest the diversification through practice of different sports at six or seven years old. This factor determines the stages of sports participation and performance at long term (Baker et al., 2003; Baker, Côté and Deakin, 2005; Bridge and Toms, 2013; Hornig, Aust and Güllich, 2014; Moesch et al., 2011). However, Côté et al. (2014) point out that the diversity may also be achieved through practice of the same sport in different contexts, considering different levels of competition,

numerous opportunities to develop skills, besides the opportunity for social interaction with their friends and with adults.

Whereas regarding the age athletes started competing, Bojikian et al. (2007) studying 79 players in Brazil national under-17, under-21, and adult teams and three near-elite volleyball teams demonstrated that the overall mean age was 11.6 ± 2.43 years old. Considering only adult players from clubs, mean age was 11.2 ± 2.6 years old, and analyzing only Brazil national team players, the mean age was 13 ± 0.8 years old. Marques et al. (2014) observed in a study with 52 Brazilian male volleyball players that the age they started competing was 14.3 ± 2.1 years old. Players of Brazil women's national basketball team started practicing at an earlier age than stated in abovementioned studies (11.89 ± 1.46).

This evidence regarding ages Brazilian female basketball and volleyball players started competing may also be observed in Leite and Sampaio (2012), in a study carried out with 1,170 Portuguese basketball players (629 men and 514 women), divided in 4 groups. Although establishing age stages, the study demonstrates that in the high performance group named in the study as win group, 43.6% of male athletes started competing between 6 and 10 years old, and 46.5% started between 11 and 14 years old. Female athletes present similar data: 42.4% started competing between 6 and 10 years old and 48.8% started between 11 and 14 years old.

Regarding training volume of Brazilian female basketball players, similar results have been found by Serrano, Santos, Sampaio and Leite (2013) with elite, intermediate, and regional Portuguese futsal players. In the study, training volume of players between 6 and 10 years old, and 11 and 14 years old that had highest percentage comprised periods from 4 to 6 hours per week to all groups analyzed.

Leite and Sampaio (2012) found in their study with Portuguese basketball players from win group (high-performance) that most players between 6 and 10 years old had a training volume of 240-300 minutes per week, 40.8% of male players and 34.4% of female players. In the next stage, between 11 and 14 years old, the percentage of players training 240-300 minutes per week increased to 73.2% for men and 65.6% for women in the win group. Data related to training volume in hours per week are similar to those found for Brazilian female players in the present study.

Results obtained by female players were achieved in early stages of their sports career. Comparing with volleyball, Marques et al. (2014) observed that male players received their first payment when they were 16.4 ± 3.7 years old, later than female basketball players. The author also affirms that although remuneration is not a criterion to identify early specialization, it implies greater commitment to sport, because the athlete receives financial compensation and good results may thus be expected.

It is worth mentioning that Brazil national volleyball teams won many championships, while Brazil women's national basketball team lacks achievements since 2000, when the last Olympic medal was won (Galatti et al., 2015a; Gallati et al., 2015b), which may be related to the fact that basketball sports initiation is little diversified and high level competitions start at an early age. This evidence is reinforced if we consider that basketball players received their first payments at a lower mean age (15.22 ± 1.21) than volleyball players.

Similarly, winning competitions and calls for national team happened at an early age, 13.22 ± 1.55 and 14.59 ± 1.16 years

old respectively, suggesting an earlier specialization. Cafruni, et al. (2006), studying 165 players from different sports in Southern and Southeastern regions of Brazil, demonstrate that in volleyball (n=40) 32.5% of players have achieved high results (championships and calls for national or state teams) in the first stage of their sports career (11-14 years for men and 12-15 years for women) and 87.5% achieved high results in the second stage (15-16 years for men and 16-18 for women).

Brazilian female players have intermediate education level and data demonstrate that most players attended public schools. A part of the players attended private schools for some time, since they received scholarships to play in the school team, and eight players attended only private schools. Moreover, most players had low financial status when they started competing.

Family support seems to be very important to the development of the athletes' career (Côté, 1999; Ferreira and Morais, 2012; Folle et al., 2016).

The influence of social aspects in young players sports development, especially in South America, must be more carefully investigated, and Baker, Coble, Fraser-Thomas (2009) have already called attention to the importance of investigating this variable.

Sports initiation and first experience of competition are often seen as important moments in the athlete's career. Such important moments are related to keeping children and young people playing sports, their interest in a career in sports, aspiration for self-improvement, and many other factors related to the subject and his or her social context that directly affect the sports development of young players.

In the present study we pointed out that basketball players called for 2015 Pan American Games, as well as young players called for 2015 U-19 America's Cup, had few diversified sports experience, played in specific positions during their careers, started competing at an earlier age than recommended, and received payment still in their adolescence. We may conclude from the evidences that these social-sportive characteristics contributed to them to be called for Brazil U-19 national team and for America's Cup, but did not make adult players advance to higher levels of international competition (only four of 28 athletes studied are in the 2016 Olympic team).

Our data reinforce initial periods of the career as an important source of information for understanding performance in adult players, even though retrospective data being limited because they depend on the players' memories. Brazilian female basketball players sports initiation and participation in their first competitions were not enough to make them elite athletes, only near-elite.

In practical terms, we suggest further studies to evaluate the development of young female basketball players between 10 and 14 years old to determine if inadequacies observed in U-19 and adult players will recur, in such a way to avoid them in the future. We suggest, also, based on these evidences, further studies on different sports and generations of Brazilian players to identify which part of sports initiation and introduction to competitions has favored the development of successful careers in sports and what must be avoided to foster the development of children and young adults through sports, as well as to develop more elite athletes.

ANÁLISIS DE LAS CARACTERÍSTICAS SOCIO-DEPORTIVAS DE LAS JUGADORAS DEL EQUIPO NACIONAL FEMENINO DE BRASIL

PALABRAS CLAVE: Carrera deportiva, mujeres en deportes, atletas de élite.

RESUMEN: El objetivo de la investigación estudio fue identificar las características socio-deportivas de las jugadoras brasileñas de baloncesto. Participaron en el estudio veintiocho jugadoras del equipo femenino brasileño de baloncesto, 14 atletas ($18,36 \pm 0,63$) del equipo sub-19 y 14 atletas ($26,14 \pm 4,69$) del equipo adulto. Se realizó un cuestionario estructurado con 19 preguntas durante el período previo a la competición. El cuestionario abarcó las siguientes características socio-deportivas: a) desarrollo deportivo en la infancia; B) resultados deportivos iniciales; Y c) aspectos socioeconómicos cuando iniciaron en las competiciones. Por tener datos cuantitativos y cualitativos, el análisis se llevó a cabo mediante dos procedimientos: análisis temático y estadística descriptiva. Los resultados demuestran que las jugadoras comenzaron a practicar tarde, tenían poca experiencia deportiva diversificada, poca capacidad de juego en distintas posiciones, comenzaron a participar en competiciones antes de lo recomendado, recibieron pagos aún en su adolescencia, tienen educación intermedia, situación financiera baja y tenían apoyo familiar durante su carrera. Se concluye que las características socio-deportivas de las jugadoras brasileñas de baloncesto no eran las más recomendables para convertirse en jugadores de élite de baloncesto.

Referencias

- Abbot, A. and Collins, D. (2004). Eliminating the dichotomy between theory and practice in talent identification and development: considering the role of psychology. *Journal of Sports Sciences*, 22(5), 395-408.
- Ato, M., López, J. J. and Benavente, A. (2013). Un sistema de clasificación de los diseños de investigación en psicología. *Anales de psicología*, 29(3), 1038-1059.
- Bailey, R. P. and Morley, D. (2006) Towards a model of talent development in physical education. *Sport, Education and Society*, 11(3), 211-230.
- Baker, J., Coble, S. and Thomas-Fraser, J. (2009). What do we know about early sport specialization? Not much! *European Council for High Ability*, 20(1), 77-89.

- Baker, J., Côté, J. and Abernethy, B. (2003) Sport-specific practice and the development of expert decision-making in team ball sports. *Journal of Applied Sport Psychology*, 15, 12–25.
- Baker, J., Côté, J. and Deakin, J. (2005). Expertise in ultra-endurance triathletes early sport involvement, training structure, and the theory of deliberate practice. *Journal of Applied Sport Psychology*, 17, 64-78.
- Baker, J. and Horton, S. (2004). A review of primary e secondary influences on sports expertise. *Journal of Sports Science & Medicine*, 2(1), 1-9
- Bojikian, J. C. M., Silva, A. V. O., Pires, L. C., Lima, D. A. and Bojikian, L. P. (2007). Talento esportivo no voleibol feminino do Brasil: maturação e iniciação esportiva. *Revista Mackenzie de Educação Física e Esporte*, 6(3), 179-187.
- Bridge, M. W. and Toms, M. R. (2013). The specializing or sampling debate: A retrospective analysis of adolescent sports participation in the UK. *Journal of Sports Sciences*, 31, 87-96.
- Bruner, M. W., Erickson, K., Brian W. and Côté J. (2010). An appraisal of athlete development models through citation network analysis. *Psychology of Sport and Exercise*, 11(2), 133-139.
- Cafruni, C., Marques, A. and Gaya, A. (2006). Análise da carreira desportiva de atletas das regiões sul e sudeste do Brasil. Estudo dos resultados desportivos nas etapas de formação. *Revista Portuguesa de Ciência do Desporto*, 6(1), 55-64.
- Côté, J. (1999). The influence of the family in the development of talent in sport. *The Sport Psychologist*, 13, 395-417.
- Côté, J. and Vierimaa, M. (2014). The developmental model of sport participation: 15 years after its first conceptualization. *Science & Sports*, 29, S63-S69.
- Côté, J., Ericsson, A. and Law, M. (2005). Tracing the development of athletes using retrospective interview methods: a proposed interview and validation procedure for reported information. *Journal of Applied Sport Psychology*, 17(1), 1-9.
- Côté, J., Turnidge, J. and Evans, M. B. (2014). The dynamic process of development through sport. *Kinesiology Slovenica*, 20(3), 14–26.
- Darido, S. C. and Farinha, F. K. (1995). Especialização Precoce na Natação e seus efeitos na Idade Adulta. *Motriz*, 1(1), 59-70.
- Durand-Bush, N. and Salmela, J. H. (2002). The development and maintenance of expert athletic performance: perceptions of world and olympic champions. *Journal of Applied Sport Psychology*, 14, 154-171.
- Ferreira, R. M. and Moraes, L. C. (2012). Influência da família na primeira fase de desenvolvimento da carreira de nadadores medalhistas olímpicos brasileiros. *Motricidade*, 8(2), 42-51.
- Folle, A., Collet, C., Salles, W. D. N. and Nascimento, J. V. D. (2016). Transitions in the process of female basketball players' development. *Revista Brasileira de Educação Física e Esporte*, 30(2), 477-490.
- Galatti, L. R., Paes, R. R., Machado, G. V., Gonçalves, C. B. and Montero, A. S. (2015a). Determinantes de excelência no basquetebol feminino: as conquistas da seleção Brasileira na perspectiva das atletas. *Revista da Educação Física*, 26, 621-632.
- Galatti, L. R., Paes, R. R., Machado, G. V., Gonçalves, C. B. and Montero, A. S. (2015b). Campeonas del Mundo de Baloncesto: factores determinantes para el rendimiento de excelencia. *Cuadernos de Psicología del Deporte*, 15, 187-192.
- Gullich, A. and Emrich, E. (2006). Evaluation of the support of young athletes in the elite sports system. *European Journal for Sport and Society* 3, 85-108 .
- Hornig, M., Aust, F. and Güllich, A. (2014). Practice and play in the development of German toplevel professional football players. *European Journal of Sport Science*, 16(1), 96-105
- Jayanthi N., Pinkham C., Dugas L., Patrick B. and Labela C. (2013). Sports specialization in young athletes: Evidence based recommendations. *Sports Health: A Mutli-disciplinary Approach*, 5, 251-257.
- Law, M., Côté, J. and Ericsson, K.A. (2007). Characteristics of expert development in rhythmic gymnastics: a retrospective study. *International Journal of Sport and Exercise Psychology*, 5(1), 82-103.
- Leite, N. (2008). *Treino Desportivo em Basquetebol – Caracterização do processo de preparação desportiva a longo prazo em Portugal*. Vila Real. Dissertação de Doutorado apresentado a Universidade Trás-os-Montes e Alto Douro.
- Leite, N., Baker J. and Sampaio, J. (2009). Paths to expertise in Portuguese national team athletes. *Journal of Sports Science and Medicine*, 8, 560-566.
- Leite, N. and Sampaio, J. E. (2012). Long-Term Athletic Development Across Different Age Groups and Gender from Portuguese Basketball Players. *International Journal of Sports Science & Coaching*, 7(2), 285-300.
- Marques, A. T. and Oliveira, J. M. (2001). O treino dos jovens desportistas. Atualização de alguns temas que fazem a agenda do debate sobre a preparação dos mais jovens. *Revista Portuguesa de Ciências do Desporto*, 1(1), 130-137.
- Marques, R. F. R., Lima, C. P., Moraes, C., Nunomura, M. and Simões, E. C. (2014). Formação de jogadores profissionais de voleibol: relações entre atletas de elite e a especialização precoce. *Revista Brasileira de Educação Física e Esporte*, 28(2), 293-304.
- Marques, M. P. and Samulsky, D. M. (2009). Análise da carreira esportiva de jovens atletas de futebol na transição da fase amadora para a fase profissional: escolaridade, iniciação, contexto sócio-familiar e planeamento da carreira. *Revista Brasileira de Educação Física e Esporte*, 23(2), 103-119.
- Moesch, K., Elbe, A. M., Hauge, M. L. and Wilkman, J. M. (2011). Late specialization: the key to success in centimeters, grams, or seconds (cgs) sports. *Scandinavian journal of medicine & science in sports*, 21(6), 282-290.
- Morreira, S. M. (2003). *Pedagogia do Esporte e o Karatê-dô: considerações acerca da iniciação e da especialização esportiva precoce*. (Dissertação de Mestrado, Faculdade de Educação Física da Universidade Estadual de Campinas).
- Nascimento, A. C. S. L. (2000). *Pedagogia do esporte e o atletismo: considerações acerca da iniciação e da especialização esportiva precoce*. (Dissertação de Mestrado, Faculdade de Educação Física da Universidade Estadual de Campinas).
- Paes, R. R. (1992). *Aprendizagem e competição precoce: o caso do basquetebol*. Campinas: Editora da UNICAMP.
- Santana, W. C. and Ribeiro, D. A. (2010). Idades de início de atletas de futsal de alto rendimento na prática sistêmica e em competições federada da modalidade. *Pensar a Prática*, 13(2), 1-17.
- Serrano, J. M. P. R., Santos, S. D. L., Sampaio, J. E. and Leite, N. M. C. (2013). Iniciação desportiva, actividades prévias e especialização no treino de futsal em Portugal. *Motriz*, 19(1), 99-113.
- Schiavon, L. M. (2009). *Ginástica artística feminina e história oral: a formação desportiva de ginastas brasileiras participantes de jogos olímpicos (1980-2004)*. (Tese de Doutorado, Faculdade de Educação Física da Universidade Estadual de Campinas).
- Stambulova, N., Alfermann, D., Statler, T. and Côté, J. (2009). ISSP position stand: Career development and transitions of athletes. *International journal of sport and exercise psychology*, 7(4), 395-412.
- Vergara S. C. (2005). *Métodos de pesquisa em administração*. São Paulo: Atlas.
- Wall, M. and Côté, J. (2007). Developmental activities that lead to dropout and investment in sport. *Physical education and sport pedagogy*, 12, 77-87.