

The home advantage effect in Volleyball: The coaches' perspective

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Abstract:

Background: The aim of the study was to explore the opinion of expert volleyball coaches in high-performance regarding the home advantage effect (playing at home or away) and differences in relation to player's gender (male/female).

Materials and Methods: Seven experienced coaches were interviewed analysing and discussing the content of the interviewees' speech. The interview information was coded, compared and grouped by similarity of meaning.

Results: According to the analysis of the coaches' interviews, there is a greater preference for games played as principals than as the visiting team, since at home there is a greater familiarity of the players with the reference points of the court, as well as the social context involved (among the most cited sleep quality, adequate food, family support, or fans' support).

Conclusion: Based on the results, important information regarding the context of game location was identified and can be implemented in the competition preparation.

Key Word: Sport; Athletic Trainer; Game location; Sports Performance; Result.

Date of Submission: 18-01-2023

Date of Acceptance: 02-02-2023

I. Introduction

The analysis of sports activities is an area of research that assumes an important and essential role in the development of individual and collective sports modalities (Moutinho, 2000; Lees, 2002; Duthie, Pyne, & Hooper, 2003) as a consequence of the fact that it is important to determine the relevant performance indicators in specific situations of games and competitions (Campos et al., 2014; Valhondo et al., 2018). The identification and interpretation of the predefined patterns of the sports performance are one of the main goals of the studies carried out in the area of sports sciences (Gréhaigne, Gobdout, & Bouthier, 1997; Hughes & Franks, 2004; Valhondo et al., 2018). In high-income competitions, several factors are involved in achieving a positive outcome. One of these factors is the well-known home advantage (HA) phenomenon. The HA is the expression used to represent the advantage of an athlete, team or team in competitions and matches played at home (Courneya & Carron, 1992). Some studies in the literature have identified possible causal factors of this phenomenon, such as the adverse effects of travel, familiarity with the local conditions of competition, rules that favor the home team and the possible effects of fans (Courneya & Carron, 1992; Bray, Widmeyer, 2000; Pollard, 2008).

A small number of studies at different competitive levels demonstrated the existence of HA in individual sports such as judo (Julio et al. 2013), tennis (Koning, 2011), boxing (Balmer, Nevill, & Lane, 2005) and in collective sports such as soccer (Goumas, 2014; Marek & Vávra, 2020, Pollard & Gómez, 2009), indoor soccer (futsal) (Campos et al., 2015, Leite & Almeida, 2018), rugby (Thomas, Reeves, & Bell, 2008) and volleyball (Marcelino et al., 2009a; Marcelino et al., 2010; Campos et al., 2014). This fact was studied by Marcelino et al. when the authors analyzed the likelihood of winning a men's volleyball match according to their location (home/away). The results of this study showed that the home team had better performance in the first, fourth and fifth sets. According to the authors, there were some explanations for these tendencies, mainly related to the familiarity and support of the fans. These authors emphasized the great relevance in the terminal actions, such as the attack and the block, related to the first and last set of the game (Marcelino et al., 2009a).

Volleyball is considered one of the three most widespread sports in the world, and in Brazil, the second most popular and practiced (Kasznar, 2002). The fact that it is a winning and medal-winning sport in major

international competitions and still widely publicised in the media has led millions of people to become directly or indirectly involved in this sport. Despite its popularity, there is still a great lack of research in this sport, unlike what happens with other sports such as football (Fothergill, Wolfson, Neave, 2017; Inan, 2018) or rugby (Woods, Sinclair, & Robertson, 2017). Thus, it seems natural that during the last years, the scientific interest in the study of the game of volleyball has increased considerably (Resser & Bahr, 2017; Stankovic et al., 2018; Valhondo et al., 2018).

Considering the scarcity of studies investigating the HA indicators in the Brazilian sports environment, mainly related to the volleyball modality, the theme of the present study is inserted as important in the context of the type of competition. In national volleyball championships, it is common to compete in two different phases: the regular season and the final stages (playoffs). During the regular season of the National Volleyball, all teams play a balanced schedule, once at home and once away against each opponent. The best-ranked teams in the first phase have the benefit of playing more home games in the playoffs. In this way, competitive volleyball teams must gather information about their opponents (technical, tactical and physical aspects) and be prepared for the possible adverse effects of acting as away.

Even with this importance, there are no studies investigating the opinion of expert coaches, referring to this phenomenon of study and the possible differences related to sex. Thus, the aim of the present study was to explore the opinion of expert trainers in the modality regarding this phenomenon according to the game location (home/away) and the differences in relation to gender (male/female). This research will allow to improve the knowledge of coaches' perception according to the main factors affecting when playing at home or away.

II. Material And Methods

The research was characterized as a qualitative study, with a group case study according to the classifications of Thomas and Nelson, because it sought to analyze the opinion of expert coaches under the object of the study (Thomas & Nelson, 2002). The present study was submitted to the local ethics committee for consideration, respecting the ethical aspects recommended for research with human beings in accordance with Resolution 466/12 of the National Health Council, Ministry of Health - Brazil.

Sample: In order to carry out the study, the competition was analyzed that concentrated a maximum number of active and successful volleyball coaches in the Brazilian scenario. In this context, professionals were selected to lead, as the main coaches (experts), the teams participating in the most important high-performance volleyball competition in Brazil, the National Volleyball Super League.

This selection was based on the analysis of the Brazilian coaches' careers, as well as the impressive results obtained throughout their sports careers such as regional, national, world and Olympic titles. The minimum level for participation in the present study was level IV of national coach, a course conducted by the Brazilian Volleyball Confederation. To preserve the confidentiality and privacy of participants, respondents were given fictitious names to facilitate each trainer's understanding and thinking. The average experience as a volleyball coach is 30.7 years

Data collection: A semi-structured and open response interview was used. The interview sought to understand more deeply how the object of study happens or manifests itself. Initially, a brief introduction was made that aimed to: (i) clarify the general purpose of the research, (ii) to invite clarification of any doubts; and (iii) to encourage the coaches to answer the questions. Then, additional information was requested (age, years of experience, major national and international titles). All participants were informed of the aims and procedures of the study, and were agreed to participate in the study signing an informed consent. The study protocol included an individual's decision to stop the research at any moment.

Organization and analysis of data: The interviews were recorded with the coaches and later transcribed. The content of the interviews was analyzed through Minayo's indications (Minayo, 2007). The analysis of content consisted of identifying the nuclei of meaning and the categories, favoring the social representation of the interviewees regarding the object under study. For the analysis of content, it was necessary to discover the sense nuclei that compose information in which the presence or frequency has meaning for the analytical objective, from a more interpretative form, instead of making only statistical inferences (Minayo, 2007; Pangastuti & Widi, 2017). Content analysis consisted of three stages: pre-analysis, material exploration, and treatment of results, inference, and interpretation (Minayo, 2007). After the transcription of the interviews, a pre-analysis was carried out, aiming to organize the structured speeches in specific sheets of each interviewee.

In this way, the interviews were separated by guiding question, followed by the transcriptions of the full speech, the identification of the sense nucleus, except from the interview, codification, subcategories and thematic categories. The exploration of the material was carried out with an exhaustive reading of the transcriptions. The sense nuclei (words or expressions that answered the guiding question) were identified. After this identification, some sections were highlighted, without losing the context, thus signaling the parts of the

interview that answered the question. The sense nuclei were categorized into expressions that represented them, grouping them into subcategories (basically aligned to the place of the game) and then into thematic categories (fundamentally aligned with the games as the principals and the games as away).

III. Results and discussion

According to the definition established by Corneya and Carron, HA is the condition in which a team, when participating in the same number of games at home and away from home, achieves a percentage of victories over 50% for games played at home (Corneya & Carron, 1992). HA is a worldwide phenomenon but varies considerably from country to country (Pollard, 2008). The peculiarities of each country and the characteristics of the sports are important elements that can interfere directly in a sports competition and in the game outcome (Da Silva et al., 2014).

One of the problems with HA analysis research is the fact that this phenomenon is influenced by many variables which interact with each other. This interaction is difficult and complicated to be investigated, isolated or even quantified as a whole. However, the factors that, according to the literature, seem to exert greater influence on this phenomenon will be considered.

The game location factors represent four main conditions that have an impact on the teams during the games: (a) fans' support; (b) familiarity with the place, since home-based teams are generally more familiar with the home court; (c) travel, as visiting teams generally have to travel from their home grounds; and (d) rules, so that in some sports the rules may favor the home-court team (Corneya & Carron, 1992). These factors influence the critical and behavioral psychological states of the main people involved in the result (coaches, athletes, and referees). This process is determined, in a decisive way, by the observation and analysis of the game played in order to decipher the variables that best can influence the sports performance of players and teams.

Familiarity with the location of the game

Regarding the context of the games, it was observed that coaches have the preference to play at home than away, although there are some factors related to the social context of the athletes and members of the technical committee that are important when the game is carried out in a distant location, as shown below:

(...) I always had the possibility to choose in a play-off, I always chose to play the first one at home. I see that inside your home you feel more at ease, the athlete feels safer because the spaces are already memorized in his head, the locals, people who sit in a certain place that he looks and seeks safety, then everything turned the emotional safety of the athlete and at the same time the security of the space he is used to as ball height and distance. This for me has a very great importance in the development and the result of the game (...) (Afonso).

According to the interviewee's speech, there is a preference for games played at home, because the players' familiarity with the competitive location as well as the athlete's emotional safety favors a better team performance. However, this observation was not unanimous among the coaches, since there are different groups of athletes and, depending on the group, there is a preference to play as away, as indicated in the speech of Cristiano:

(...) I already had groups that played better at home and had a relationship with the crowd in favor of a form, and with that, they managed to perform well, and I already had groups that played better away from home because they stayed in a hotel and slept better, ate better. So, I guess that it depends on the group you have in your hands, and the moment (...) (Cristiano).

Another important factor to explain the HA may be the familiarity with the game's court, a factor considered by the coaches as an important aspect in the context of the game. The knowledge of the home court can bring tactical, technical and different physical aspects implication, causing detriment in the performance of the visiting teams in volleyball.

The importance of benchmarks at the location was highlighted by coaches, especially the special features of sports facilities that can positively influence some positions more significantly than others:

(...) he (the players) has the points marked, we call it marked reference points, then the lifter has the reference of a point of the grandstand, the incidence of light, the incidence of artificial light and natural light, the distribution of the audience he is used to, whether it is ahead, right or behind him. So, in short, light, floor, benchmarks, public placement, and gym height, then this is for me is key to the home game being a big advantage for the home athlete (...) (Afonso).

(...) I think that playing at home has positive factors, which are, in the case of traveling teams, you can have a better sleeping night because you sleep in your own home, in the environment where you are used to do it; food, too, which is no different; this with regard to preparation, rest. And, during the game, you have your court references: the position of a draw, what you will do the whole look, the general, the environment is a favorable environment; you have your game references, the fans themselves in your favor (...) (Eduardo).

Some researchers say that familiarity with the local conditions of the game is a factor that can explain HA (Barnett & Hilditch, 1993; Clarke & Norman, 1995), an aspect considered by coaches and athletes as the most important of this advantage (Wolfson, Wakelin, & Lewis, 2005). According to Pollard, the familiarity aspect may reflect up to 24% of the HA (Pollard, 1986). The aspect of familiarity with the location allows greater spatial awareness of the athlete of the local team, which allows a better orientation in the technical-tactical actions of the games (Courneya & Carron, 1992; Nevill & Holder, 1999; Pollard, 2002).

The knowledge of specific conditions such as climate influence, brightness positions and acquired visual references can bring benefits when preparing and play close to the family environment (Pollard, 1986; Pollard & Pollard, 2005; Dosseville, 2007). In the context of volleyball, the visual references acquired seem to bring great benefits for home team, as it is observed by the coach Fernando when he emphasizes that:

(...) the familiarity of the athletes with the place of match influences the performance of the team, especially in the gyms' references, "also stating that" the larger gyms have few references and this implies the players' income", although of these factors to be present, "the skilled athletes technically adapt more quickly the references of the gyms (...) (Fernando).

In addition to these variables, there is consistent evidence in the literature that familiarity associated with local climatic conditions and altitude favors the domestic staff (Pollard, 2008; Seckin, & Pollard, 2008).

Social aspects involved with the game location

Sleeping nights in an out-of-home games are reduced when compared to home-made games (Erlacher, Schredl, & Lakus, 2009). The results showed a marked decrease in sleep quality and more awakenings during the night before the game in home games, so that the unknown location is associated with poor sleep quality in athletes during the night before the game than away. The greater frequency of nocturnal awakenings indicates that a partial restraint of sleep can occur before the play out. Thus, it seems plausible that poor sleep quality can interfere with performance during sports matches, and thus may contribute to poorer quality performance in away games compared to home games. Sleeping research in sports is preliminary in relation to HA, although this topic of study is interesting and of great relevance to researchers and professionals in sports psychology (Erlacher, Schredl, & Lakus, 2009). The answer from coach Afonso corroborates with this research cited.

(...) I think that playing at home has positive factors, which are, in the case of traveling teams you can have a better sleeping night because you sleep in your own home, in the environment in which you are used to do it; food, too, which is no different; this with regard to preparation, rest. (...) (Afonso).

(...) This rest is no longer in the place where you are used to, you have to lie in a bed that does not know your references ... if you go a day before or two, you travel, sleep, a sleeping night that sometimes is not well slept, there are athletes who feel uncomfortable in the neck because it is not the same pillow, it is not (...) this I think interferes enough. (...) (Eduardo).

Another aspect related to the social context involved in the games played away refers to the cohesion of the team. Pace and Carron reported that team's cohesion increased when athletes stayed longer together, resulting in improved team's performance and game results (Pace & Carron, 1992). The results of another study show that increased distance traveled had a positive effect on team's performance because athletes spent more time together before the game (Smith et al., 2000). Daniel also identifies this reality in his comments.

(...) in the general context, we have a culture of what a trip is always a good thing, it is not exhausting (...) it is always something that raises: to walk through the airports, to travel, to make contact with other people, people will see that you are part of a Super League team (...) (Daniel).

Analyzing Daniel's speech, it can be observed that the social issues involved in travel planning have greater influences in the female context when compared to the male:

(...) we saw that many things were not prepared and ended up influencing our actions. In the performance of the team, it lacks one detail or another that makes the difference, especially in women's volleyball, which is more sensitive in relation to this (...) (Daniel).

Thus, there are several social factors involved in the sporting process, when we analyze the variations involved in games in different places. Sports teams should be aware of these factors in order to maximise results at home and minimize possible adverse social effects when playing away.

Effect of the fans on the advantage of playing at home

The crowd can exert an important influence on the performance of the team and the athlete, at times acting as a motivating factor and, in others, as a stressor, depending on factors related to the individual and the situation. Schwartz and Barsky were one of the first investigators to investigate this effect and claim that, at that time of the study, the larger the audience of a game, the greater the chance of victory in favor of the local team. According to the authors, this advantage can improve team's performance by up to 12% (Schwartz & Barsky, 1977).

In the 1990s, some studies identified a greater influence of HA fans as the number of local supporters increased (Agnew & Carrow, 1994; Nevill, Newell, & Gale, 1996; Nevill & Holder, 1999). In general, the results of most of the available studies converge to the idea that public support for the domestic staff is a factor that positively influences the performance of these teams (Agnew & Carrow, 1994; Madrigal & James, 1999).

However, regarding the situations involving the public with the performance of the team, it was observed that there are divergences in the coaches' statements. While some report a positive influence on team's performance, others pointed out that, especially with youth players, emotional instability can occur, especially in teams with the same technical level and also in times when the team is behind on the scoreboard.

(...) the more vulnerable the emotional part is the team, the more the crowd has influenced. The home crowd often disrupts the home team, when they have a big charge over a result. When you create an expectation of a positive result over a certain opponent, the fans do not know that you have the variant and do not want to accept that you can lose. When the team starts failing to perform as expected, the supporters will react to pressure on players. So it is something that is worrisome and interferes a lot in the game (...) (Fernando).

(...) I think that some athletes always say that they like to play against the fans, "it stimulates me, I want to hit the point just to see the frustration of the fans", when the fans are very active (...) but always causes some reaction in the athlete, in my opinion. Those who know how to use this in their favor obviously perform well (...) (Breno).

Successful teams mention that a large number of stadium fans has a positive influence on their performance. Players are motivated when fans are excited by their moves and value the opportunity to show their skills to their fans (Gould et al., 1999). This fact was identified in the record of coach Daniel.

(...) Now, we already have a crowd that is already a little more loyal, and we notice that at home we have a greater consistency, although, last season, my team, in particular, feel enough to play at home, and we did the best outside. Now, in the previous seasons, in the previous two, especially after we set up a better team with our sponsor, and even had an organized crowd, had a cheerleader, it was very important to play at home. In most matches, so we surpassed expectations, that made a very big difference (...) (Daniel).

The crowd is an important external factor that has a significant influence when we consider that it can act both as a motivating factor and as a factor that disrupts the opponents' behaviours. Previous studies have emphasized the importance of the relationship between the fans and the outcome of the game (Nevill & Holder, 1999; Waters & Lovell, 2002). According to Nevill and Holder, factors involving public support appears to be the most obvious cause of HA (Nevill & Holder, 1999). Nevill et al. observed a significant advantage for the English-speaking constituency teams, especially in games with larger numbers of fans (Nevill, Newell, & Gale, 1996). Fan's support for the governing team can exert a strong influence on the predisposition of a good match according to English Premier League athletes (Waters & Lovell, 2002), as well as psychologically damaging the opposing team and also strong influence on the referee's decisions through the "pressure" and intimidation imposed by the crowd support.

Thus, the athletes are subjected to different types of pressure (crowd, search for results, collections by the coach and the family, among others) and, therefore, their performance is directly related to the capacity to overcome these situations (Noce & Samulski, 2002). The high-performance competitive sport provides athletes with different emotions according to the location of the game. One of the main emotions experienced in sports practice is anxiety, which may interfere directly or indirectly with athletes' performance (Noce & Samulski, 2002; Bueno & Di Bonifacio, 2007; Vieira et al., 2008; Ferreira, Leite, & Nascimento, 2010).

According to Machado, the audience can influence the emotions and performance of the athletes (Machado, 1997). Thus, fans can unbalance it to the point of interfering in their performance and lead to an anxiety capable of generating other strong tensions, totally losing the control of the situation you are going through. Then, it is possible to emphasise that the presence or absence of noise of the fans can have an effect on the performance of the athletes. For Weinberg and Gould, anxiety is an emotional state characterized by nervousness, worry, and apprehension in addition to being associated with activation or agitation of the body (Weinberg & Gould, 2001). They also point out that there is a component of thinking called cognitive anxiety (such as negative self-evaluation) and somatic anxiety corresponding to the degree of perceived physical activation (such as increased heart rate, breathing, sweating in the hands, muscle tension among others). Thus, volleyball athletes must be physical, technically and tactically well prepared, as well as having a good level of mental concentration (Weinberg & Gould, 2001).

Da Silva et al. points out that there was no oscillation of anxiety in home and away games because the levels of this anxiety were characterized as low (Da Silva et al., 2014). One of the possible reasons may be related to the level of the championship analyzed and the technical level of the team. Probably, the competition did not present a real threat to the extent of raising the anxiety levels of the athletes.

In this aspect, it is observed in the speech of the coach's elements related to different groups of athletes pointing out that some more experienced groups suffer less influence from the context of the place of the game when compared to the group of youth athletes, with less experience:

(...) there are players who feel motivated to play with fans against them, and there are players who shrink a little when

they come across this situation, so it depends a lot on the group you have. If you have a group of youth people, so little experienced and with a little maturity, the tendency of them to feel emotional out of home is much bigger than a more experienced team. So, I guess that it depends on the group that you have in your hands (...) (Cristiano).

(...) the younger the player, the easier he becomes susceptible to the crowd. He already has his doubts inside, and someone has been exposing this to him all the time, putting him in check in his own doubts and actions ... the older the player, the easier he deals with it because he has more conviction than he plays and what he is capable of doing, so it does not interfere (...) (Eduardo).

In situations in which the team is playing away with fans in favor of the main team, there is a possibility of occurrence in some athletes, especially the younger ones, a motivational decrease, which may cause a drop in performance, generating more tense situations and possible emotional imbalances as a result of less confidence in their own sports performance.

Regarding the state of anxiety, a recent study observed in indoor and outdoor competitions that there seems to be an effective influence of this psychological variable in the explanation of HA (Sampaio & Janeira, 2005). However, for some coaches, the fans do not exert any influence on the athletes during a game, as they are indifferent to the various types of demonstrations of the fans, either in favor of their team or contrary for taking a proposal to be focused on the actions of the inside. Thus, demonstrating great concentration and focus according to the following speech.

(...) I'll tell you one thing: I'm often too much of the game, so the player knows that he's playing in the local factor, I think reinforcing this kind of thing does not help much. I usually work as follows: focus much more on technical and tactical issues, because the game is made of actions, it is made of movements (...) focus much more on action and less on the issue (...) I am a little skeptical about it. I think it's lively, it's a party, it's cool, but it's a component that will add to the technical and strategic factors inside the court ... I think the twisted factor is very cool, you play inside your house, avoid a longer trip, play indoors, but the crowd is an additional component of the actions that will happen in the game; she does not play, she will not go on court, as I do as a coach (...) (Fernando).

The home crowd can exert a strong influence on the pre-disposition to perform a good game according to the professional players of the English football league (Waters & Lovell, 2002), and may adversely affect the opposing team psychologically, negatively influencing their performance (Bray & Widmeyer, 2000), also exerting a strong influence on the decisions of the referees through the "pressure" and intimidation imposed. Thus, the data of the present study, in consonance with previous studies analyzed, provide some evidence that the number of fans and the increase of the positive influence in the athletes influence the game outcome.

Effects of travel on the advantage of playing at home

Travel has an important aspect in the context of HA. Clarke and Norman found evidence that HA increased depending on the distance between teams playing with each other (Clarke & Norman, 1995). However, in Europe, some studies have shown that the influence of displacement did not explain HA in national competitions (Dowie, 1982; Pollard, 1986; Courneya & Carron, 1992), considering a large number of observations made.

Thus, improved communication and transportation modes have reduced players' travel fatigue. In the countries of continental Europe, which have well-developed transport infrastructure, travel clubs become faster, safer and more comfortable. These shorter trips cause less fatigue and can contribute to better perception and psychological state to face with during away games (Waters & Lovell, 2002; Renata & Dezsó, 2006). However,

as mentioned in some studies in football, continental competitions in which there may be large displacements. This fact can generate physical stress, causing the drop in yield as reported in recent studies (Pollard, 2008).

Although coaches generally considered home-made games important, there were some interesting notes regarding travels and their influence on sports performance. According to the reports, there is a greater concentration in games performed as away, mainly in relation to the psychological aspect of a union of the team members.

(...) the trip has a very important interference in the technical performance because, if you travel at an unaccompanied time, do not give the rest to the team, cannot afford a comfortable travel condition, it can greatly influence the team technically with a drop in technical yield. So, a bad trip, an inadequate diet, an inadequate rest will directly influence the technical performance of the team (...) (Afonso).

(...) it has some aspects, thus, positive and negative. It's all about the fact that airports in today's world are a bit chaotic, so the tendency is for people to leave early than we normally did before, precisely to minimize or even avoid mishaps, or unpleasant situations, and there you have a margin: a flight that is delayed, a flight that is canceled. The positive thing is that, somehow, when you travel, everyone stays in a hotel, everyone is eating the same food, for me, this is a positive side. Sometimes, speaking of the Brazilian team, we always have this structure formed, but in a club, for example, where you usually do not concentrate to play at home, (play) outside ends up being a concentration: you are closer, you feed better, rest better ... Some athletes, for example, may have small children at home and sleep less than they could sleep, and end up on the trip, having a better condition to rest, feed themselves and be with the team; then, in this aspect, the trips are good (...) (Breno).

(...) we plan the trips to rest and do all the programming so they are at the best time of the game ... It is always tiring a little the displacement, right? But we try to minimize the maximum that we can ... (Cristiano).

In a soccer study, Lago-Peñas et al. observed that the displacement distance of the players in the field can be explained by the game location factor (Lago-Peñas Lago-Ballesteros, & Rey, 2011). The home athletes have greater total displacement in the field during the games of the Spanish Championship in the season 2005-2006, demonstrating that the home factor can create some type of physical predisposition for the game location in soccer.

Thus, HA can characterize a competition and interfere in the competitive balance (Forrest et al., 2005), altering tactical behaviors in function of opponents who historically present the advantage when playing at home, regardless of the technical level of the team or even modifying routines in function of travel. Two reports analyzed the period of the competition and the sports performance of the team at the time of the games.

(...) depending on the team you have the first round and the second round: it has a lot of difference. When you're on a very promising first round, travel is much more profitable, from a results standpoint, and that's up to the second round. Now, when you do not have very good performance in the first round, the second round is usually more difficult because you already have the parameter you have played at home; if you did not get good results, it is more difficult. But in the general context, we have a culture of what a journey is always a good thing, it is not exhausting (...) (Daniel).

(...) this rest is no longer in the place where you are used to, you have to lie in a bed that does not know your legs; the food is not always what you want to eat before the game, sometimes at home the athlete already has his routine of what he eats before leaving (Eduardo).

Other situations involving travel-related issues refer to the more remote geographic locations that can stimulate a more offensive and hostile territorial defense (Pollard & Gómez, 2009), instinctively and organically, with higher levels of testosterone in home-grown teams (Neave & Wolfson, 2003). Specifically, in volleyball athletes, no study was found in the literature that aimed to analyze the possible adverse effects of the trips. Therefore, more knowledge is needed to determine whether travel affects the physical/ technical/tactical performance of athletes and, consequently, the outcome of matches. It is necessary to include situational variables such as the quality of the opposing team, territoriality, set number, type of competition and the expectation of performance in the future studies, analyzing the possible adverse effects of the trips.

Arbitrage and the advantage of playing at home

Previous studies (Lehman & Reifman, 1987; Nevill, Balmer, & Williams, 1999; Carmichael & Thomas, 2005) provide evidence that fans can positively influence HA. It is possible to suggest that the positive action of the fans can increase the performance of the main athletes or subconsciously influence the refereeing team to favor the main team (Nevill, Balmer, & Williams, 1999; Scoppa, 2021). These hypotheses come from reports that the referees take more subjective decisions favorable to the home team (Lehman & Reifman, 1987). In the late 1990s, Nevill et al. presented a study highlighting that there is strong evidence that the referee's criteria can be influenced by local team cheerleading (Nevill, Balmer, & Williams, 1999). Some studies that analyzed the frequency of disciplinary sanctions applied by referees in the major soccer leagues in Europe (Nevill, Newell, & Gale, 1996; Carmichael & Thomas, 2005; Unkelbach & Memmert, 2010; Scoppa, 2021) teams that play as away receive more disciplinary sanctions than local teams.

Although coaches believe that the location has no direct influence on the referee's bias, some contradictions have been observed in this regard. Another point raised was in relation to the line judges, who in the Brazilian Super League are from the same city of the teams, thus generating distrust in the referee's decision as a whole.

(...) I would like to believe that I was not (...) I am against neutral arbiter. Because I think that if the referee generates mistrust, he cannot whistle ... if the referee is good, he can be from that city and whistle the final of the world championship with his team playing and he will be impartial. So, I do not think the crowd pressures, fight, tries to influence, but I do not want to believe that a referee can be influenced and change markings by being there or being pressured (...) (Afonso).

(...) should not, right? But we know that there are referees ... Local, therefore, who tend to, in a doubt, a score for the local team. And others who are the opposite, but the ideal is that they were really neutral. But we know that there are some characteristics of the fans getting caught in the referee, can dissenter him, something like that (...) (Breno).

(...) I'll tell you those line judges are usually from the home. So, when you have a flag and a line judge, it's very difficult for you to rely entirely on that situation ... So, I think they try to take that care, and I do not see bad referees. I see mistakes, mistakes, but they happen on both sides (...) (Cristiano).

(...) I think it happens, it still happens a lot. I always talk about my history as a coach, and throughout my career, 30 years, I have eight yellow cards, but so, four yellow cards, the last ones I took in the same place, in the same city, and in the last edition of the Super League, for the first time in my life, I got kicked out of a set. So it's a lot of coincidence, playing outside,

being in the same place. But it happens, everyone complains, and such, where you are from the arbitration always be more homely (...) (Daniel).

(...) but I think that, depending on the fans, some referee may feel pressured, just as in the team someone can feel pressured, right? I think it might at some point tend to the home team, yes. A referee who has years of experience is less susceptible to this type of error, to this type of situation (...) (Eduardo).

It is important to emphasize, in the words of coach Eduardo, that more experienced referees are less susceptible to mistakes and misconceptions during a volleyball game. Experience can help alleviate the negative effects of stress on referees' decisions, corroborating the coach's speech. Thus, it is likely that more experienced referees will have greater control of their emotional states (Williams, Davids, & Williams, 1999). In volleyball, according to the researched literature, no studies were identified that analyzed the influence that referees may suffer according to the location of the game. In the case of soccer, there has been an increase in the number of fouls (Nevill, Balmer, & Williams, 2002) and penalties (Nevill, Newell, & Gale, 1996; Boyko, Boyko, & Boyko, 2007; Poulter, 2009), which may indicate an influence of the team of referees in favor of the home team.

Studies of these interferences in volleyball are necessary to corroborate or even reject this hypothesis that arbitration is biased and feasible to be influenced according to the place of the game as is speculated in other sports modalities, mainly in soccer (Nevill, Balmer, & Williams, 2002). In particular, in volleyball, few studies have analyzed the influence of this phenomenon in the male context with HA values are between 53% and 57% (Marcelino et al., 2009b; Gómez, Pollard, & Luis-Pascual, 2011). In women's volleyball, Campos et al. investigated the existence of HA in the Brazilian and Italian championships. The results showed that there was an HA effect in the Brazilian tournament and in the Italian tournament (58% and 56%, respectively) (Campos et al., 2014).

In Spain, Gómez et al. investigated nine sports and reported that volleyball is the one with the lowest HA value (55.7%) when compared to other sports, such as rugby (67.0%) (Gómez, Pollard, & Luis-Pascual, 2011). One of the hypotheses of the authors was that, in volleyball, there is no contact with opponents, as in rugby. Marcelino et al. investigated the world men's volleyball league (2005), finding the presence of HA (57.5%) (Marcelino et al., 2009a). Specifically, in volleyball, home-grown teams had a higher prevalence of victory in a set, a game, and even a point, except in the fifth set in which this advantage was not observed (Alexandros, Panagiotis, & Miltiades, 2012).

This information allows coaches and professionals involved in the teams to enhance the performance of the athlete and the team in search of a better sporting performance (Hughes & Franks, 2004). In this sense, with the information obtained from the analysis of the game, coaches and researchers seek to understand the characteristics and needs of improvement of players and teams in training and competitions and, thus, to maximize athletic performance (Garganta, 2001; O'donoghue, 2009). The development of new technologies in recent years has favored improved information during training and competitions.

Relatively to the sex of the athletes, some notes affirm that, in the female's context, there is a difference when compared with the males one, mainly in the emotional question. According to Afonso,

(...) I see that for the females to be a suit where the emotional is more ahead than the males, the fact to play at home and to get the factor of safety is very huge for the athlete, the advantage is greater in the female than in the male (...) (Afonso)

Cristiano emphasizes that the emotional factor of the women influences more in the matches, also affirming that it is more subject to the changes in the emotional level, regardless of the place of the match. According to Kountouris et al. there is important evidence stating that high-level volleyball is consistently different in men's games compared to female's matches in their distinct abilities (Kountouris et al., 2015). Specifically, male have nearly twice the number of service errors and, at the same time, better yields on successful attacks, which is also associated with blocking errors by the opposing team. Both differences are characteristic of the modality, in each of the genders corroborating with the studies analyzed in this investigation in which there is a greater number of female blocks and a greater number of errors of the opposing teams in the male, mainly related to the strength in the attack and blocking errors.

Regarding this case study, there were a great number of coaches' considerations regarding the preference of playing at home, mainly related to the familiarity of the game environment and the support of local supporters. However, when teams play away, there is a considerable number of considerations such as the social context, the importance of the team's cohesion, the disapproval of the home crowd and the main team in some moments of the game, thus favoring teams that play as away. In this scenario, new research is needed aiming to analyze the causal functions of this phenomenon, highlighting the factors affecting performance (such as, for example, adverse travel effects, sleep quality, referees bias in the competitive environment of the volleyball, or nutrition, among other possibilities) and, consequently, the final result of the game, regardless of game location.

IV. Conclusion

Regarding this case study, there were a great number of coaches' considerations regarding the preference of playing at home, mainly related to the familiarity of the game environment and the support of local supporters. However, when teams play away, there is a considerable number of considerations such as the social context, the importance of the team's cohesion, the disapproval of the home crowd and the main team in some moments of the game, thus favoring teams that play as away. In this scenario, new research is needed aiming to analyze the causal functions of this phenomenon, highlighting the factors affecting performance (such as, for example, adverse travel effects, sleep quality, referees bias in the competitive environment of the volleyball, or nutrition, among other possibilities) and, consequently, the final result of the game, regardless of game location.

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Fabio Angioluci Diniz Campos, et. al. "The home advantage effect in Volleyball: The coaches`perspective." *IOSR Journal of Sports and Physical Education (IOSR-JSPE)* 10(1), (2023): pp. 30-42.