Research on Influencing Factors of Basketball Players' Decision-making Speed and Accuracy Based on Sports Training Management

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Keywords: Basketball players; Decision-making ability; Influencing factors

Abstract: Basketball players'decision-making ability on the spot is the primary factor to win the game. Decision-making ability is one of the competitive abilities of basketball players. It is the ability of basketball players to participate in training and competition quickly and effectively. Under the guidance of sports decision-making training, the speed and accuracy of basketball players'decision-making play a key role in the fierce court. Under the guidance of decision-making, the speed and accuracy of decision-making are brought into full play. Sports decision-making is the whole process in which athletes perceive, judge, analyze and make instructions in sports situations. Understanding of sports decision-making will greatly improve the quality of sports training and the results of sports competitions, which is of great practical significance. Based on the management of sports training, starting from the research ideas of sports training and sports psychology, this paper analyzes the differences in basketball players' sports decision-making process, and finds out the influencing factors of basketball players' sports decision-making accuracy and speed differences at different sports levels.

1. Introduction

All skills and tactics of basketball players are accompanied by complicated thinking activities. In a sense, basketball players' on-the-spot decision-making ability is the primary factor to win the competition [1]. Decision-making ability is one of the competitive abilities of basketball players. It is the ability that basketball players have to participate in training and competition quickly and effectively. It is the organic synthesis of athletes' physical ability, skills, intelligence and psychological ability [2]. Basketball has gone through a period of perfect communication, popularization and development, overall improvement and innovation from its initial stage without clear competition rules, venues and number requirements [3]. In terms of resilience, basketball players have more than just technical responses. In accordance with the changing situation of the game, they need to constantly adjust their own status and situation, and use technology to respond promptly to technical attacks from opponents [4]. Motion decision-making is the whole process in which an athlete perceives, judges, analyzes and makes instructions in a sports situation. On the physical side, athletes are required to have better upper limb strength, lower limb explosive force and waist and abdomen strength, with rapid response speed, speed of movement and movement speed, and high flexibility and coordination [5].

The United States can be said to represent the top level of basketball. Players represented by world-class basketball stars such as Johnson and Jordan have made basketball performances more perfect and tactical play more practical. The player's personal movements, reaction, movement and team's offensive, defensive and conversion speeds reflect the athletic ability of the players or the team from different aspects [6]. For a complex decision, good athletes should be able to code the game information more quickly and retrieve the appropriate response action [7]. The problem of sports decision-making is an important issue in sports. The understanding of sports decision-making will greatly improve the quality of sports training and the results of sports competitions, which has very practical significance [8]. The technical and tactical actions of basketball players are accompanied by complex thinking processes. Through the guidance of sports decision-making training, the effect of basketball players' decision-making speed and accuracy improvement is an important research direction in basketball research. This paper analyzes the differences of eye

  DOI: 10.25236/ismeem.2019.032

movement indicators in the decision-making process of basketball players at different levels, and summarizes the essence of the difference in speed and speed of basketball players' decision-making.

2. Factors Affecting Decision-making Ability

In basketball, sports decision-making is a very complicated process. At present, it is still in a perfect stage in theory. In the process of forming a complete system, it needs to be continuously explored and practiced. According to the scientific content and principles of sports training, decision-making ability is the focus of basketball players' special ability, which directly depends on the level of athletes' skills and tactics. Every decision made by an athlete in a game requires the use of stored knowledge in the mind. The form in which this knowledge is stored in the mind is called the psychological representation of knowledge. The direction, rhythm, angle and location of the technical movement are closely related to the action rate. Mastering correct and reasonable technology, being good at easily and harmoniously completing the movements, without the extra muscle tension, can fully exert the existing rapid level [9]. The accuracy and speed of decision-making of high-level basketball players are significantly better than that of middle-level basketball players, and the difference is very significant compared with that of elementary basketball players.

Motion decision-making contains two different decision-making tasks: cognitive decision-making and intuitive decision-making. There should be similarities and differences between the two decisions in the same category. Reasonably arrange the contents of preparatory activities, and link up the general preparatory activities with the special preparatory activities. Make preparatory activities and basketball special technical action requirements similar to prevent the occurrence of sports accidents in basketball special training. The structure of basketball special sports training is shown in Fig. 1.

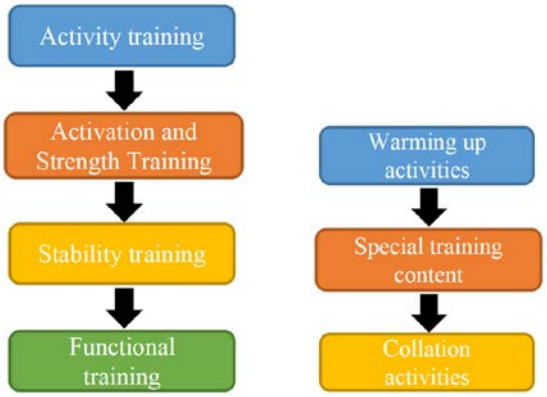

Fig. 1 Basketball special sports training architecture

Taking a reasonable speed can not only improve the success rate of offense and defense, but also control the pace of the game, so as to master the initiative of the game. Only the correct mode of action will produce the correct motion technique. Conversely, the correct motion technique will also help athletes learn the correct mode of action. The test results of each mechanical index before and after training were statistically analyzed. The experimental results are shown in Fig. 2.

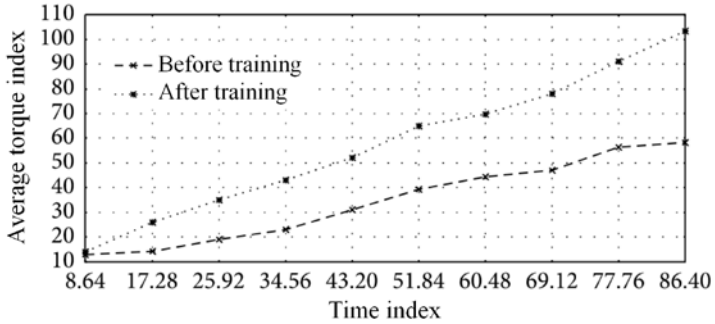

Fig. 2 Comparison of average muscle strength between knees before and after training

High-level basketball players in the accuracy and speed of sports decision-making is significant, showing a positive correlation trend at the level of sports, but also reflects the level of sports and the level of sports decision-making speed and accuracy of the relationship. The performance of the team should be the overall speed of attack and defense and offense and defense conversion. In basketball, we need to pay attention. In the whole process of information processing, all kinds of information can be perceived by the subject. It is difficult for athletes to fully grasp all the details of the field when they are moving in the fast changing conditions. Every decision made by athletes in the competition must use the knowledge stored in their minds. The form of knowledge stored in their minds or the way it is presented in their minds is called the psychological representation of knowledge. Whether it is cognitive decision or intuitive decision, the biggest goal pursued is to achieve as high a hit rate as possible in a limited time. According to the different conditions faced by the decision-making task, the decision-making types adopted are different in different sports situations.

3. Analysis of Decision Speed and Accuracy of Athletes

According to the viewpoint of information theory, in the process of information processing, with the increase of information quantity, the disorder of information processing increases, which makes the information processing process more complex and makes decision-making more difficult. Now in basketball games, fast break is a prominent representative of the decision-making ability to fully demonstrate the advantages. The number of fast breaks and the success rate are often the key to the success of the game. With the increase of the difficulty of scene pictures, the accuracy of decision-making of middle-level basketball players and elementary-level basketball players decreased significantly, while the accuracy of decision-making of high-level basketball players did not change significantly. In the process of information processing, basketball players make professional prediction of important prompting information, summarize experientially the changeable sports scenes, and grasp the distinctive characteristics of different information scenes. If athletes choose the right information and process it effectively, the decision-making effect will be good. Some studies have shown that visual selective attention processing ability is an important psychological quality of athletes, and selective attention is an important guarantee for athletes to achieve excellent results in competitions.

Cognitive decision-making is to make the optimal decision in relatively ample time, while intuitive decision-making is to make the optimal decision on the premise of ensuring a certain time [10]. Training is a continuous and gradual process. For example, Table 1 is the statistics of the reasons that affect the speed and accuracy of athletes' decision-making.

Table 1 Statistics on the causes of sports injuries of basketball players

Influencing factor	Number of people
Insufficient preparation activities	5
Technical movements are not standardized	5
Poor self-protection	3
Injury training	22
Poor mental state	1
Partial burden	12
Poor confrontation	2

In addition to team spirit training in basketball, athletes' own skills and tactics are more important to cultivate content. The thinking ability of decision-making requires basketball players to have a coping strategy. For training practice, the difference in maximum isometric force and maximum centrifugal force measurement can make a preliminary evaluation of the autonomous excitability of the corresponding muscle mobilized in the test. In the ankle joint, there is only one peak of muscle torque during the support period. The ankle joint plantar moment during the acceleration phase is less than the maximum speed phase. The bending moments of different joints

at different time points are compared as shown in Fig. 3.

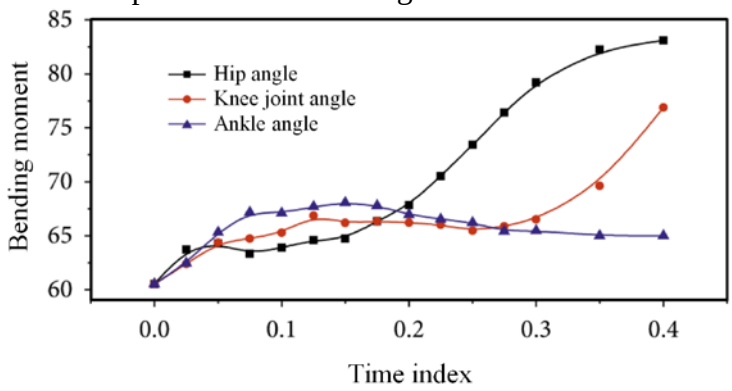

Fig. 3 Comparison of flexural moments in different joints at different time points

According to the viewpoint of information theory, in the process of information processing, with the increase of information quantity, the disorder of information processing increases, which makes the information processing process more complex and makes decision-making more difficult. If the information chosen by athletes is appropriate and processed effectively, the effect of decision-making will be good. In intuitive decision-making, the clues provided by the contest situation are limited and the time is relatively tight, so there is no more time to search for other clues. There is no significant difference in the video frequency of basketball players of different levels, but there is significant difference in the gaze frequency of basketball players of the same level in different difficult scenes. Decision-making teaching and training have no significant effect on improving the accuracy and speed of decision-making of basketball players in the elementary level group, but have significant effect on improving the accuracy and speed of decision-making of basketball players in the high level group and the middle level group. If the information chosen by athletes is appropriate and processed effectively, the effect of decision-making will be good.

4. Conclusion

From the perspective of the development of basketball, no matter how the rules of the game are changed, the important theme of maintaining the continuity of the game and the confrontation in fast sports has not changed. Sports decision-making teaching and training is in addition to normal technical and tactical, psychological training, low-level basketball players have gradually become the focus of training high-level basketball players. Sports is essentially a process of physical and mental training. Basketball players'life values formed in their long basketball career view society and life from the unique professional perspective of basketball. Sports level shows a consistent trend in decision-making speed and accuracy, and basketball players of high-level group are significantly better than basketball players of elementary level. In the process of improving the speed and accuracy of decision-making, basketball players will consolidate and summarize the theory and practice of tactics and apply them to basketball, which will have a more significant improvement effect. There is a high correlation between cognitive decision-making and intuitive decision-making tasks in the same index, while the self-confidence level of individuals in cognitive decision-making tasks is higher than that in intuitive decision-making tasks. In training, one should integrate one's decision-making ability into the team's decision-making ability according to the characteristics of the team and its members.

Acknowledgements

Ningxia normal university “west first class” discipline project number NXYLXK2017B11

Ningxia Philosophy and Social Science Planning Project: Research on Reconstruction of Teaching Content of “Sports and Health” Course in Hui Nationality Middle School (Project No. 15NXJB09)

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