

The Impact of Orienteering Sports in Universities on the Psychological Cognition of College Students

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Abstract: Orienteering, as an emerging sport, has developed rapidly in China. In addition to the continuous emergence of a large number of orienteering clubs, major universities across the country are also gradually popularizing and offering this course. Through research, it has been found that the mental health status of contemporary college students is not optimistic, especially for some students whose cognitive abilities such as attention, perception, and thinking need to be improved. Orienteering can effectively improve the attention ability of college students, with a significant promoting effect on attention allocation, attention breadth, and attention stability. Orienteering is beneficial for the development of sensory perception ability among college students, with significant improvements and improvements in time perception, distance perception, and height perception.

Keywords: Directional Off-road; College Students; Psychological Cognition.

1. Introduction

Contemporary college students are the future of our country, the hope of our nation, and shoulder the heavy responsibility of social development. Therefore, more and more experts and scholars have begun to explore the impact and significance of physical exercise on the physical and mental health of college students. However, from relevant literature searches, it was found that most of the research on orienteering is focused on the current situation and feasibility implementation of orienteering in universities, followed by related studies on orienteering competitions and athlete training for college students. However, there is still a lack of exploration on the impact of orienteering on cognitive abilities of college students. Therefore, in the implementation of orienteering courses in universities, college students can further enhance their research on the impact on mental health by participating in orienteering training.

The orienteering course, as an extension of physical education teaching in universities, is in line with the development trend of modern curriculum reform and also meets the needs of the physical and mental development of college students. In directional off-road sports, students need to be clever and brave in determining a safe, fast moving, and low physical energy consumption route, always believe in themselves. Based on different terrain, landforms, and other conditions, through observation, thinking, analysis, and judgment, they can reach the finish line and complete the task. Therefore, during the process of movement, students not only need to master the ability to recognize maps and use compasses, but also need to have concentrated attention and strong memory. In order to ensure the successful search for landmarks, the brain's operational thinking ability and the ability to perceive the direction of movement also play a crucial role. So orienteering is not only a struggle against physical strength, but also a competition against self-awareness.

It can be seen that orienteering is closely related to the cognitive abilities of college students. This article starts with the impact of orienteering on the psychological cognitive ability of college students, explores the impact of this

emerging sports project on psychological indicators such as attention, perception, and thinking of college students, and analyzes the differences between participating and not participating in the sport. Based on the research results, targeted suggestions are given to provide theoretical and practical basis for schools to better carry out and popularize orienteering, and scientific reference for orienteering teaching and training, as well as athlete selection.

2. Defining the Concepts of Orienteering and Cognitive Ability

2.1. Directional Off Road

Orienteering, also known as orienteering, can be traced back to the 18th century and has a history of over a hundred years. At that time, orienteering was mainly focused on outdoor activities, and by the 1930s, it gradually established itself in cities such as Finland, Norway, Sweden, and Denmark. In 1961, the International Federation of Targeted Organizations (IOF) was established in Copenhagen, with 63 member countries to date. The actual competition was held in Stockholm, Sweden and Oslo, Norway in 1895, marking orienteering as a sports event. Early orienteering was mainly a means that people were forced to adopt for their own survival, and with the increasing improvement of living conditions, orienteering has truly become a leisure sport in modern people's lives. Orienteering, as an emerging sports activity, refers to athletes using the compass and map to find the positions of various points marked on the blueprint, and reaching all the points in the shortest possible time to achieve victory. It is not only an entertainment activity, but also a competitive sport, and adding orienteering training requires no special equipment besides bringing a map and a compass. There are also very few restrictions on participants, making it a relatively economical sport.

2.2. Cognitive Ability

Cognitive ability is defined in the field of cognitive psychology as the ability of the human brain to process, store, and extract information, including psychological processes such as perception, attention, memory, thinking, and

imagination. However, based on the characteristics and intrinsic value of orienteering, attention, perception, and thinking play a crucial role in its movement process. Therefore, the following will summarize and introduce the three cognitive and psychological indicators involved in this study:

2.2.1. Attention

Attention is the selective direction and concentration of human perception, consciousness, and thinking towards certain objects. Psychological activity is always accompanied by a psychological process of perceptual memory and imaginative thinking towards a certain object or focus, so attention is not an independent psychological process, but a characteristic manifested in multiple psychological phenomena. Directional concentration refers to the concentration of multiple stimuli that occur simultaneously, and are reflected in a specific point or thing through interference inhibition. Attention has four quality characteristics, which are currently the main factors for measuring and evaluating attention, namely attention allocation, attention breadth, attention stability, and attention transfer. The allocation of attention, also known as "one mind, two minds", refers to the ability of an individual's psychological activities to timely point to different goals and objects; The breadth of attention, also known as the scope of attention, refers to a person's ability to clearly grasp the number of objects at the same time; The stability of attention refers to the psychological quality of an individual's long-term fixation in a specific activity or object, while the opposite quality of attention is the dispersion of attention; Attention transfer means that an individual actively moves from one thing to another based on new instructions.

2.2.2. Sensory Perception

Sensation is the process by which receptors and corresponding nervous systems receive and represent internal and external stimuli, reflecting individual attributes of things. Perception is the process of organizing and interpreting sensory information, reflecting the overall characteristics of things. In theory, although there is such an essential difference between sensation and perception, in daily activities, sensation and perception are a unified process. There is no perception without sensation, nor is there a feeling without sensation. It is precisely because sensation and perception always occur simultaneously and are inseparable that they are commonly referred to as sensory perception [4]. Sensory perception ability refers to a superpower that perceives an object through sensory organs that cannot be directly observed by the naked eye, and can describe its perceived shape or motion state. In sports, specialized sports perception is an important aspect of evaluating the level of athlete perception ability. It is a refined and comprehensive athlete perception ability formed through long-term specialized training and practical experience. It can make sharp and accurate cognition and awareness of sports and environmental clues such as machinery, field, and sports media materials. However, not everyone has this ability and it needs to be improved through practice the day after tomorrow. Specialized motion perception has three characteristics: firstly, comprehensiveness, as specialized perception relies on the simultaneous operation of various analyzers; Secondly, it is specialized, as different analyzers have multiple functions and play different roles in different professional knowledge; The third specialized sense of motion perception is the main factor in all sports activities.

2.2.3. Thinking

Thinking is the indirect reflection of objective things through verbal imagery and practical actions. The generalizations, judgments, and reasoning we often refer to are manifestations of general thinking. Whether it is the learning activities of students or all human inventions and creations, they will not leave thinking, which can also be said to be an important factor in various learning abilities. The indirectness of thinking is manifested in its ability to act as a medium that directly affects sensory organs. For objective things that do not directly affect the sensory organs (such as measuring changes in students' pulse and blood pressure before and after exercise to determine whether their physiological load is appropriate), it is even impossible to directly perceive and react to objective things. It also manifests in people's ability to foresee events that have not occurred (such as analyzing the opponent's abilities before a table tennis match, predicting potential problems that may arise during the match, and being able to come up with solutions). The generalization of thinking is manifested in its ability to extract the common attributes of a class of things, forming a generalized understanding. Agility in operational thinking is a significant characteristic reflecting thinking ability, which refers to the reaction speed and proficiency of thinking activities, reflected in making decisions quickly and accurately, and solving problems quickly and flexibly. But this ability requires education and cultivation after birth, and many research results show that the environment after birth has greatly changed people's thinking.

3. Analysis of the Impact of Two Directional Off road Sports on Various Abilities of College Students

3.1. Analysis of the Impact of Attention Ability

Directional off-road sports refer to the sport in which participants use the compass and ground map to independently search for landmarks in the order specified in the map, and complete the specified distance in the shortest possible time. It is a leisure and entertainment sport. Due to the fact that athletes need to determine the direction of their running based on the psychological image of the map while constantly running, the level of attention they pay to changes in the map and surrounding environment during the competition directly affects their performance. The following will analyze the impact of orienteering teaching experiments on the attention ability of college students, fully understanding the impact of orienteering sports on the attention characteristics of college students.

Based on the above results, directional off-road training can effectively improve the attention ability of college students. Due to the need for students to quickly recognize maps and have a broad understanding of the terrain during directional off-road training, they need to concentrate their attention and allocate it, and combine their own advantages to determine the tactics to be used; Moreover, orienteering has a longer distance and requires higher physical strength from students. Prolonged exercise can lead to fatigue and decreased attention, so paying attention to stability is one of the key factors affecting competition, especially in the later stages. Attention transfer is the process of transferring one activity to another without significant changes in that activity. Therefore, orienteering has a significant impact on the attention allocation, attention breadth, and attention stability of college

students, but has a relatively small impact on attention transfer.

3.2. Analysis of the Impact of Sensory Perception Ability

Orienteering requires athletes to have a quick and sensitive sense of perception and vision, to observe the changes in various terrain forms of the competition venue, and to maintain accurate judgment ability even when their physical energy is exhausted to the limit. Meanwhile, the transformation of sensory perception can directly reflect the quality of an athlete's psychological control ability, which is of great significance for the acquisition, mastery, application, and development of skills for orienteering athletes. However, will directional off-road sports have a significant impact on improving the perceptual ability of college students? The following is an analysis of the impact of directional off-road teaching experiments on the perceptual ability of college students, fully understanding the impact of directional off-road sports on various indicators of group perceptual ability of college students.

Overall, directional off-road training is beneficial for the development of sensory perception abilities among college students. Due to the fact that during orienteering training, students need to make their own efforts to make decisions on the direction of the route in the shortest possible time within a given range after receiving the site drawings before departure. At the same time, during the running process, students must constantly judge their own spatial characteristics such as orientation and distance. Therefore, orienteering sports have high requirements for mastering time and controlling spatial orientation perception. However, weight perception did not play an important role in movement. Therefore, the impact of orienteering on the perception of time, distance, and height of college students is relatively significant, while the impact on weight perception is relatively small.

3.3. Analysis of the Impact of Operational Thinking Ability

In directional off-road sports, whether it is map recognition, orientation judgment, or finding checkpoints, athletes are constantly maintaining their thinking in their minds while learning and practicing, so that they can quickly master the skills and methods of sports. Complete the competition task in the shortest possible time, thereby improving the level of

sports skills. So there is a very close relationship between operational thinking ability and orienteering. The following will analyze the impact of directional off-road teaching experiments on the operational thinking ability of college students, fully understanding the impact of directional off-road sports on the operational thinking ability of college students.

In summary, orienteering training can effectively improve the operational thinking ability of college students. Due to the need for agile thinking ability during orienteering training and competition, students need to actively and carefully consider the entire process of activities based on actual situations, quickly and accurately make judgments and reflections on terrain orientation, and thus successfully complete learning or competition tasks. From this, it can be seen that directional off-road training can have a great impact and help in improving the operational thinking ability of college students, especially for boys, the changes are more obvious and prominent. Therefore, in future teaching and training, emphasis should be placed on cultivating this aspect.

4. Conclusion

Orienteering can effectively improve the attention ability of college students, with a significant promoting effect on attention allocation, attention breadth, and attention stability. Orienteering is beneficial for the development of sensory perception ability among college students, with significant improvements and improvements in time perception, distance perception, and height perception. Directional off-road sports can effectively improve the operational thinking ability of college students, and the improvement of male students is more significant and prominent than that of female students.

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