How to Protect Collegiate Students from the Risk of Sport Activities in CHINA based on the Risk INVESTIGATION

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Abstract

In this study, the issue of the decline of college students’ physical fitness and the risks involved in sports activities have been discussed. The Chinese government and colleges encourage students to participate in sports to resolve health problems; however, there is a worry arising from possible occurrence of injuries due to sports activities. The risks of injuries and accidents hang over the heads of college students like the sword of Damocles. As a result, the Chinese government as well as colleges have paid much attention to the prevention of risks in college students’ sports activities. There is extensive research and discussion on risk identification of the same. However, there are still shortcomings in this area. This paper uses the literature research method to reorganize the major studies in recent years to analyze the existing research on problems in college sports activities and proposes solutions for the problem.

The results show that current research has three primary inadequacies: 1) Methods of risk perception are ambiguous. Being the most used method, the risk questionnaire does not have a common compilation standard. Therefore, the quality and content of data vary, and this may lead to the omission or misjudgment of some risk factors. 2) Risk induction methods need to be improved. The use of risk induction methods in some studies is not rigorous enough, and this may cause deviation in the results. 3) Risk identification results are limited. China has a vast territory and has varied geographical, natural and human environmental conditions in different regions; as a result, most of the data gathered are from designated areas, and research results have geographical restrictions.

The risks faced by college students in sports activities are unavoidable, so there is a need for further study on the issue. The problems of research in this area mainly manifest as unclear risk perception methods, incomplete risk induction methods and limited risk identification results, further affected by regional limitations. Suggestions have been proposed with an aim to resolve existing problems as well as to address the limitations of this study. It is hoped that further study will result in the development of safety of college students’ sports activities and prompt further research on the risks in relation to college sports activities.

This study recommends the following solutions: First, design a questionnaire for a survey on basic risks to improve the accuracy of statistics in subsequent studies. Second, form the criteria for risk induction to ensure the precision of the classification. Third, build a national platform for cooperation and identification of risks, summarization of data from different regions and elimination of regional restrictions while laying the foundation for further research on the subject.

[Keywords] Chinese Collegiate Students, Sports Activity, Risk Identification, Safety Security, Risk Management
1. Introduction

The physical and mental health of university students has long been a foremost concern of the Chinese government and its education department[1]. To improve the health issues of university students, including myopia, obesity, depression and physical decline, the government has urged higher education institutions to raise awareness on the importance of physical and mental health among university students and the improvement of their physical fitness. Further, the government has attempted to make these institutions consider carrying out more physical activities, such as the Sunny Sports Campaign, as one of the top priorities[2]. Although various physical activities have significantly improved the physical and mental health of Chinese university students, these activities have also exposed students to risks of bodily injury and harm.

According to incomplete statistics, every region in China has reported cases of physical-activity-related injuries among university students, and there have even been cases of disabilities or sudden death[3]. Frequent physical activity related injuries have impeded the development of physical activities, and colleges and universities have had to face public criticism and questions from the parents about the safety system; some colleges and universities were even sued. Therefore, the ways of managing risks of physical activities of Chinese university students have become a focus in academic circles.

Risk identification, risk assessment and risk response are the main processes of risk management[4]. As risk identification is the basis of risk management, many scholars and experts have conducted research on this subject. According to relevant literature, in recent years, over 100 studies on the matter of risk identification of physical activity of Chinese university students have been accomplished and more studies are nearing completion. Although existing research has achieved certain success, various problems continue to exist. For instance, some studies have regional limitations, while some still remain in the introduction phase. Therefore, research on this topic needs further improvement.

To this end, this paper first reviews and then organizes existing studies in recent years and identifies the problems in them. Finally, the paper proposes corresponding solutions with a view on improving the safety of physical activities for current and future university students, assisting the sound progress of physical activities in Chinese universities and colleges and providing a reference for further research on risk management on college/university physical activities.

2. The Overview of Risk Identification of Sports Activity of Chinese College Student

Risk identification is the first and also the most basic and difficult task in the risk management process. Other tasks are completed on the basis of risk identification. The accuracy of risk identification determines whether the whole process of risk management will be successful. It is mainly divided into two stages, namely, perceived risk identification and risk analysis[5].

2.1. Risk perception

Risk perception is the basis of risk identification and the process of identifying risks via investigation and understanding[5]. Through the literature, it is found that sports activities in Chinese universities and colleges face various types of risks. Risks exist in not only physical education but also extracurricular sport activities[6]. However, the differences between the needs, content and intensity of two kinds of sports activities lead to different risk sources in those activities. Field investigation is necessary for accurate and objective risk perception. As a result, Chinese researchers mostly use questionnaires to determine risk perceptions in sports activities of Chinese colleges. In previous studies, the researchers usually acquired data by distributing expert and student questionnaires. Expert questionnaires are used to prejudge which factors
may cause accidental injury and evaluate existing scales based on professional knowledge and rich experience. The researchers modify the scale to get a more precise result according to the expert advice. Student questionnaires are the main mode of data collection, usually randomly distributed to college students in research areas. Data is acquired through the questionnaire recycle and sorting process. The questionnaires are generally named after risk scales, mostly adopting 5-point or 7-point Likert scales compiled subjectively by researchers.

The research adopting risk investigation scale mostly exist two characteristics; 1) there are differences in risk survey quality, content, etc. for example: Wang Jianglong distributed the teacher and student questionnaire after several rounds of modification basing on expert advice for accuracy. The research took college students in Gansu as object to study mechanism of risk prevention and control[7]. 2)The research has regional characteristics, such as Duan Ruirui analyzed the risk of campus football in 2018[8]. Sun Liya studied risk identification and avoidance to sports safety of college students in Jiangsu[9]. Zhao Yana took senior school students as object to study risk management in Shanxi[10].

Risk questionnaire mainly includes two ways: the first way is to take college students' sports activity as a whole. Risk questionnaire should aim at the entire activity. Such as: Zhu Guangqiu considered the college student sports activity as a whole to in the research of risk identification of college sport injury in Kunming in 2017[11]. The second way is that college students' sports activities should be carried out in accordance with the event classification. The famous scholar in Sports risk management Shi Yan think that college students participate in different sports activities, which means risks are also different. The risk source should be identified by different events[12]. It considers the result can be more precise classified by events.

This view is approved by many scholars, taken as an example in different parts of China for the study of risk identification. The main characteristic of this method is that college students' sports activities are classified, which are considered making the result of risk identification to be more accurate after sophisticated category. The sports activities are divided by standard into ball games, track and field, swimming, martial arts and gymnastics class project, sports games, which acquire more recognition. Track and field included 100 meters, long jump, high jump and so on. Swimming refers to water sports. Martial arts and gymnastics, included boxing, Chinese traditional martial arts, aerobics, sports dance, artistic gymnastics, etc. Sports game refers to rope skipping and so on. It finds that this way of classification is reached by different classification standard in some research by literature review, but there is no significant difference.

In addition, there are also some scholars make further study on the basis of existing study. This type of study is used to introduce the effect of risk identification, such as the research on suggestion and risk management target of sports event of Wang Dengke[13].

### 2.2. Risk analysis

Risk analysis is the key to risk identification, mainly through the classified analysis to grasp the nature, reasons and conditions of risk[15]. It is the second phase of risk identification, after risk perception. Risk analysis mainly includes two parts, induction and analysis. Induction refers to the classification of the source dimension after perception through dimensions. Analysis refers to analysis of the reasons and conditions of risk and risk character. Some Chinese researchers choose factor analysis method to induct similar risk sources and name them. Several others continue to use other researchers' classified; some researchers will classify the risk source subjectively or objectively and subjectively at the same time. Such as: Liu Nana employed factor analysis to study risk identification of college students' extracurricular sports activity in Taiyuan[14]. Xiao Wei also applied factor analysis to study influence factors in college sports risk management in Heilongjiang without attribution foundation[15].
Through literature it finds that universal risk factors are categorized as: human factors, environmental factors, venues and other factors. Human factors include the students themselves, teachers and others; Environmental factors include the natural environment and social environment factors (media, culture, and custom, etc.). The site factors include venue site condition, sports equipment and other factors; Other factors mainly refer to the sudden and uncontrollable factors. Although this induction is widely accepted, some researchers still make some adjustment, such as professor of Liaoning normal university, Yu Duo reiterated the risk identification classification of college students’ sports injury accident in 2017. He points out the playground factors and environmental factors are in the same risk source classification [16]. Yang Xiaojun thinks there are three risk sources of students’ injury accident: internal factors (students’), external factors (teachers and schools) and three kinds of comprehensive factors in the research of college physical education [17]. Ji Yuelong divides factors into three aspects: college students leading cognitive, college objective conditions of sports and college sports risk management mechanism in studying college sports risk management model [18]. There are still adjustments like this, although the name is different, but not much difference.

Risk analysis is the process in which researchers particularly analyze the risk factors after induction. Chen Ping divided risk factors into previous activity risk, mid activity risk and later activity risk in the research of college students’ sports activities safety. The probability of a risk occurring in a previous activity risk may be a result of preventable factors, such as incomplete school safety management. The probability of a risk happening in the middle of an activity is caused by preventable factors, mostly by people, such as students, teachers’ improper behavior. The risk arising in the later activity would be caused by students themselves as they engage in the main duty [19]. Researchers make subjective decisions based on their respect for the objective facts when analyzing risk.

Different researchers’ ideas cannot be compared uniformly for the different viewpoints, so this subject would not be discussed here.

3. Problems in Risk Identification of China’s College Student Sports Activity

3.1. Inaccurate way of risk perception

According to research findings, questionnaires on risks are the most frequently used methods of perceiving risks among all existing studies; they are usually made by researchers either subjectively or objectively and subjectively at the same time. Different researchers are at different theoretical and practical levels, so the questionnaires on risks that they make vary dramatically in terms of quality, content and many other aspects. Without scientific and objective questionnaires, the accuracy of the perception of risks cannot be guaranteed as there is a possibility of omission or misjudgment. Besides, there is a lack of standards for applying the questionnaires. In some studies, college students’ sports activity is treated as a whole with a uniform identification, whereas in other studies, the college students’ sports activity is divided into different items with separate identification. Both ways can help obtain specific results, thus making it difficult to precisely determine which is better. However, it is necessary to establish uniform standards through combination or reorganization for the development of related research.

3.2. Risk classification method to be perfected

There is an old saying in China, ‘Nothing can be accomplished without norms or standards’, which means that everything has to follow specific rules. There are many ways of risk induction without having a unified, rigorous classification criterion. It was found that a variety of risk classification methods are present in the existing studies; some of which are based on the theory of statistics, some are based on Delphi or brainstorming methods with subjectivity and some researchers continued to use the existing classifications.
The theory of statistics is the most scientific, rigorous and accurate way to classify risk without affecting the results. The only difference is in naming them after induction. The subjective classification methods are often based on personal feelings. The mistakes that tend to affect the results are caused by a lack of the researcher’s ability and incomplete levels of research. Two results will occur if the existing classification method is continued to be used. The effect will be small if the process of induction is scientifically rigorous with little innovation. Otherwise, research results will not be accurate, and if such means are repeatedly adopted, the result will be a vicious cycle. Therefore, there is an urgent need to establish scientific and rigorous classification standards.

3.3. Limitations of research on risk identification

It was revealed that most studies on risk identification of college student sports activity are of obvious regional characteristics because their research objects were picked within specified regions. Among China’s total territorial area of 9.6 million square kilometers and 34 provincial administrative regions, there were dramatic differences in climate, customs and culture, dialect, economic development level of the southern and northern China, and even the time difference of some areas can be major factors influencing the result of the research. But for a wider scope of application of the research result, as well as for a quicker pace of development in this field, this issue needs to be scientifically and appropriately solved.

4. Suggestion of Improving Chinese College Students’ Sports Activities Risk Identification System

4.1. Creating basic risk questionnaire

A risk investigation scale is the primary means of data collection for Chinese researchers. Its accuracy directly determines risk identification results and indirectly determines the success of the risk management process; therefore, the development of the risk questionnaire is particularly important. Thus far, Chinese academia has not developed a standardized risk questionnaire; existing questionnaires have been compiled by researchers and differ in terms of quality, form and content and have thus not been appropriately used. To obtain more accurate data, it is recommended that a risk questionnaire be developed by joint research and be modified later by researchers as per the context. A standardized risk questionnaire can not only improve the accuracy and reliability of all subsequent research but also indirectly promote the development of Chinese college sports risk research.

4.2. Compiling risk classification standard

Currently, there are several ways to classify risk, and only the one based on statistical theory affects results the least. Risk classification based on researchers’ subjective opinions is neither scientific nor rigorous and can lead to deviations in the results. Varying opinions are not conducive to the improvement of overall research and development. Continued usage of existing classification methods hinders innovation and development; it could even lead to using poor classification methods in the research cycle and, consequently, poor development of college sports risk research. Therefore, it is recommended that scientific, standardized classification criteria or risk induction principles be compiled, applied to case studies and introduced on the national scale. In practice, risk classification can be adjusted according to the context or updated regularly on the basis of feedback. This approach can not only solve existing problems, thereby ensuring the accuracy of risk classification, but also improve the quality and depth of follow-up studies, thus improving the quality of risk research.

4.3. Contributing cooperation platform of risk identification

China is a vast country with various geographical environments, climates, customs and cultures; however, regionalism does not hinder college sports risk identification. To improve the risk analysis results in practice, a cooperation platform for risk identification
should be developed to contribute to solving the problem of regional restrictions. Building a cooperation platform requires the development of risk questionnaires and compiling risks according to risk classification criteria. This can be done by using scientific and rigorous measures for risk identification in all regions, i.e. the 34 provincial administrative region divisions. Risk identification must be conducted regularly, and survey results must be recorded in the form of a database to be collected, archived and updated within a fixed period. Although the construction of a cooperation platform requires a longer research cycle and the investment of more manpower and material resources, it can eliminate geographical constraints, regional restrictions and thus build a foundation for further study and even provide data to support sports risk research.

5. Conclusion

Risk identification is the process wherein the risk subject gradually realizes existing risks, mainly by analyzing risk perceptions, conducting analysis to identify risk factors and preventing and controlling risk[1]. The risk faced by college students in sports activities is inevitable and hence requires further study. Sports risk research is increasingly being conducted, emphasizing the importance of fortifying college sports safety. While several academic achievements have been made in this area, some problems have also been revealed. These problems mainly manifest as unclear identification of risk perceptions, inadequate risk induction methods and risk identification results affected by regional limits. The above suggestions are aimed at solving existing problems, which will hopefully be further examined in case studies, offsetting the limitations of this study. These suggestions are meant to improve further study of the existing problems, provide support for the development of college sports safety and promote the study of college sports risks.

6. References

6.1. Journal articles


6.2. Thesis degree


6.3. Books


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