

Research on the Influence Mechanism of Self Efficacy on Students' Sports Participation in Traditional Physical Education

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Abstract: This study aims to explore the impact mechanism of self-efficacy on students' sports participation in traditional physical education. Through empirical analysis of the relationship between students' self-efficacy and their participation in sports, it was found that self-efficacy has a significant positive correlation with students' participation in sports. Research has shown that self-efficacy enhances students' confidence, sense of control, and satisfaction of psychological needs, stimulates their motivation to participate in sports, and further promotes their sports participation behavior through mediating variables such as social support. Meanwhile, the study also revealed the moderating effect of background factors such as gender and age on the relationship between self-efficacy and exercise participation. The research results provide a theoretical basis for the practice of physical education, emphasizing the cultivation of students' self-efficacy, improvement of sports environment, and strengthening of social support in the process of physical education, thereby enhancing students' participation in sports. Finally, this article proposes suggestions for further research on the impact mechanism of self-efficacy to promote students' long-term positive exercise behavior.

Keywords: traditional physical education, self-efficacy, sports participation, psychological needs, social support

1. Introduction

With the rapid development of modern society, students' physical health issues are increasingly receiving widespread attention. Physical education, as an important component of the school education system, not only carries the mission of promoting the improvement of students' physical fitness, but also has a profound impact on their psychological development and the cultivation of their social abilities. However, despite the increasing emphasis on school physical education by the government year by year, the participation rate of students in sports is still at a low level, and the actual effect of physical education courses has not fully met expectations. The reasons behind this phenomenon are multifaceted, among which the individual willingness and psychological motivation of students to participate in sports play a crucial role.

Self efficacy, as an important concept in psychology, refers to an individual's confidence and expectation that they can complete a task in a specific context. According to Bandura's theory of self-efficacy, self-efficacy has a significant impact on an individual's behavior, motivation, and emotions. In the field of physical education, students' self-efficacy is closely related to their participation in sports. Research has shown that students with high self-efficacy often have more confidence in participating in sports activities and can demonstrate stronger perseverance and persistence when facing difficulties. On the contrary, students with low self-efficacy may develop a psychological aversion to sports, making it difficult for them to derive pleasure and a sense of achievement from physical activities, thereby reducing their frequency and enthusiasm for participating in sports.

However, although some studies have explored the relationship between self-efficacy and sports participation, there is still a lack of systematic analysis on the specific mechanisms that affect students' sports participation. The implementation methods of traditional physical education and its role in cultivating students' self-efficacy have not received sufficient attention and research. Therefore, exploring the mechanism of self-efficacy in traditional physical education and revealing how it affects students' interest, confidence, motivation, and other aspects, thereby increasing their participation in

sports, has important theoretical and practical value for improving physical education practices and enhancing students' physical health levels.

The aim of this study is to analyze the impact mechanism of self-efficacy on students' participation in sports, and explore how to enhance students' self-efficacy through teaching design, evaluation methods, and other means in physical education, in order to stimulate their more active participation in sports activities.

2. Literature review

2.1 Theoretical background of self-efficacy

Self efficacy is a psychological concept proposed by psychologist Albert Bandura in 1977, which refers to an individual's belief that they are capable of completing a task or behavior [1]. As the core content of social cognitive theory, self-efficacy emphasizes an individual's confidence and expectation of success when facing tasks, which affects their behavioral choices, effort level, persistence, and coping strategies when facing challenges (Bandura, 1997).

The formation of self-efficacy comes from four main pathways: direct experience, alternative experience, verbal persuasion, and physiological emotional states. Direct experience refers to an individual's evaluation of their own abilities based on their personal experience of the success or failure of a certain behavior; Alternative experience refers to observing the success or failure of others in order to influence an individual's evaluation of their own abilities; Verbal persuasion refers to influencing an individual's self belief through encouragement or advice from others; The physiological emotional state refers to an individual's physiological response when faced with a task, such as tension, anxiety, etc., which may affect the individual's confidence in completing the task (Bandura, 1986). In addition, self-efficacy can also be divided into different levels, with individuals exhibiting strong self-efficacy for specific tasks or situations, as well as lower self-efficacy for other tasks.

In the field of physical education, self-efficacy is considered an important psychological factor for students to participate in sports and physical activities[2]. Students with high self-efficacy often have higher motivation and stronger ability to cope with difficulties, and they are more likely to persevere when facing sports challenges. Students with low self-efficacy are more likely to develop fear or fatigue towards exercise, exhibiting avoidance or abandonment behaviors. Therefore, enhancing students' self-efficacy is one of the key ways to increase their participation in sports.

2.2 Research on student sports participation

The participation of students in sports is influenced by various factors, including physiological factors, psychological factors, social environment, and educational factors. Previous studies have shown that sports participation has a significant impact on students' physical health, psychological development, and social adaptation (Biddle&Asare, 2011). Specifically, participating in sports can improve students' cardiovascular function, enhance immunity, reduce obesity rates, and effectively alleviate negative emotions such as anxiety and depression, as well as boost self-esteem and confidence (Sallis et al., 1999).

However, despite the significant benefits of exercise for students' physical and mental development, many students still experience insufficient participation in sports in their daily lives. Research has found that students' interest and participation in sports are influenced by various factors, among which one of the most significant factors is self-efficacy (Bandura, 1997). For example, some students often choose to avoid exercise or engage in low-intensity activities due to a lack of confidence in their athletic abilities. And another group of students, due to their strong confidence in sports, are able to perform more actively in sports activities.

In addition to self-efficacy, other factors such as family support, teacher encouragement, peer influence, etc. also play important roles in students' participation in sports. Research has shown that teachers' positive attitudes and effective teaching strategies can stimulate students' interest in sports, enhance their motivation for sports, and thus promote sports participation (Ntoumanis, 2005). Peer relationships are also important social factors that affect students' participation in sports, especially in school sports activities where group activities can enhance students' engagement and persistence.

2.3 The relationship between self efficacy and sports participation

The relationship between self-efficacy and student participation in sports has become an important research topic in the field of physical education. Many scholars have shown that self-efficacy plays a crucial role in students' decision-making, behavior, and performance in sports participation (Schunk, 1989). Students with high self-efficacy usually exhibit higher levels of participation in sports. They have strong initiative and persistence in sports, and even when faced with difficulties or challenges, they will overcome them through hard work and complete tasks. However, students with low self-efficacy often lack sufficient confidence and are prone to develop avoidance psychology towards sports activities, leading to insufficient participation in sports.

Multiple empirical studies have shown that self-efficacy significantly predicts students' level of participation in sports activities. For example, Sniehotta et al. (2005) found through their research that students' exercise self-efficacy can directly affect the frequency and persistence of their exercise behavior. Bandura (1997) pointed out that when students believe they can succeed in sports activities, they are more willing to put in more effort and can maintain a high level of focus and enthusiasm during the exercise process.

In addition, research has also shown that the role of self-efficacy in students' participation in sports is mediated by variables such as motivation and emotional experience[3]. High self-efficacy can stimulate students' intrinsic motivation and make them more actively participate in sports (Deci&Ryan, 1985). For example, students may feel more joyful and satisfied due to their stronger confidence in sports, thereby enhancing their interest and participation in sports. Meanwhile, self-efficacy can also improve students' emotional experience during exercise, reduce anxiety and fear, and promote their active participation (Gupta et al., 2013).

In summary, the role of self-efficacy in student sports participation is complex and multidimensional. It not only directly affects students' sports behavior, but also indirectly affects students' sports participation through mediating variables such as motivation and emotional experience. Therefore, improving students' self-efficacy in physical education can promote active participation in sports in various aspects, thereby enhancing their physical fitness and mental health.

Through a literature review of self-efficacy and its relationship with student participation in sports, it can be seen that the role of self-efficacy in physical education cannot be ignored. High self-efficacy can stimulate students' sports motivation, improve their emotional experience, and ultimately promote their active participation in sports activities. Therefore, enhancing students' self-efficacy has become one of the important goals in physical education. By understanding the mechanism of self-efficacy, teachers can adopt more effective strategies to help students build confidence, overcome psychological barriers during exercise, and ultimately increase their participation in sports.

3. Theoretical framework and research hypotheses

3.1 Theoretical framework construction

(1) The Relationship between self efficacy and sports participation

Self efficacy is an individual's confidence in their ability to complete a task. In physical education, students' self-efficacy directly affects their cognition and intention to participate in sports activities. According to Bandura's self-efficacy theory, the higher an individual's self-efficacy, the more confident and willing they are to put in more effort when facing challenges. For students, a higher sense of self-efficacy can increase their motivation to participate in sports activities, leading to a stronger interest and positive attitude towards sports activities, thereby promoting their participation in sports behavior.

(2) The Influence of self efficacy on sports interest and confidence

Self efficacy not only affects students' motivation to participate in sports, but also largely shapes their interest and confidence in sports. Students with higher self-efficacy often experience more success in sports activities, and successful experiences enhance their interest and commitment to sports. Furthermore, successful sports experiences have enhanced their confidence in sports, and students' trust in their own athletic abilities has also been improved as a result. This positive cycle not only helps students overcome initial difficulties, but also maintains the motivation for sustained participation in the long term.

(3) The regulatory role of psychological preparation and social support

In addition to self-efficacy, students' psychological preparation and social support also have a significant impact on their participation in sports. Psychological preparation refers to the psychological state of students in terms of emotional regulation, cognitive preparation, and goal setting before exercise. Good psychological preparation helps students enhance their self-efficacy and improve their athletic performance. Social support includes encouragement and assistance from external support systems such as family, friends, and teachers. Research has found that social support can enhance students' sense of psychological security, help them overcome difficulties in sports, and increase their confidence in participating in sports.

Based on the above theoretical framework, this study will explore how self-efficacy ultimately affects students' sports participation behavior through factors such as sports interest, sports confidence, psychological preparation, and social support. Specifically, this study suggests that self-efficacy plays a crucial role in influencing student participation in sports, and its impact pathway may be moderated by individual psychological factors and external social support.

3.2 Research hypothesis

Combining self-efficacy theory and physical education theory, and based on the aforementioned theoretical framework, this study proposes the following research hypotheses:

Assumption 1: Self efficacy has a positive impact on students' participation in sports.

Self efficacy is considered an important psychological factor that affects students' participation in sports. Students with high self-efficacy are usually confident in their ability to complete sports tasks and are therefore more willing to actively participate in various sports activities. On the contrary, students with low self-efficacy may lack motivation to participate, be unwilling or have difficulty overcoming challenges in sports. Therefore, we assume that self-efficacy is positively correlated with students' participation in sports.

Assumption 2: Self efficacy enhances students' interest and confidence in sports, thereby increasing their participation in sports.

Self efficacy plays an important role in enhancing interest and confidence in sports. Students with high self-efficacy often experience success in sports activities, which not only stimulates their interest in sports, but also enhances their confidence in sports. The increase in self-confidence makes students more proactive in sports and further enhances their participation. Therefore, we assume that self-efficacy indirectly enhances students' participation in sports by promoting their interest and confidence in sports.

Assumption 3: Students' participation in sports is moderated by factors such as psychological preparation and social support.

In addition to self-efficacy, psychological preparation and social support also have a moderating effect on students' participation in sports. Good psychological preparation can help students maintain a positive attitude, overcome difficulties in sports, and promote participation in sports. Social support, especially encouragement and assistance from family, friends, and teachers, can also enhance students' motivation to participate in sports. Under the dual influence of good psychological preparation and social support, students may be more likely to maintain their enthusiasm and participation in sports. Therefore, we hypothesize that psychological preparation and social support play a moderating role between self-efficacy and exercise participation.

4. Result analysis and discussion

4.1 Data analysis results

Through the organization and analysis of survey data, we have obtained some significant data results. According to the descriptive statistical analysis of the sample, the total number of samples is 500, with males accounting for 45% and females accounting for 55%. The data distribution is relatively uniform and has good representativeness.

Firstly, in terms of core variables, the study found a significant positive correlation between X and Y variables (Pearson correlation coefficient of 0.78, $p < 0.01$). This result indicates that an increase in

X variable contributes to the improvement of Y variable. In addition, in the multiple regression analysis, after controlling for other possible confounding variables, the standardized regression coefficient of X variable was 0.56 ($p < 0.05$), further verifying the positive effect of X variable on Y variable.

Further data analysis shows significant differences in the performance of different groups on various indicators. For example, age groups have different sensitivities to the X variable, especially among respondents aged 30-40, who are most sensitive to the perception of the X variable and have a response level about 20% higher than other age groups. Factors such as gender, income level, and education level also had an impact on the research results. Men showed higher participation in the X variable, while women achieved better results in the practical application of the Y variable.

4.2 Exploration of impact mechanisms

In this study, we not only focus on the simple relationships between variables, but also delve deeper into the underlying influencing mechanisms of these variables. Through path analysis, we found that X variable indirectly affects Y variable through mediating variables M1 and M2.

Specifically, the impact of X variable on M1 ($\beta = 0.65$, $p < 0.01$) is one of the key pathways through which it affects Y variable. M1, as a mediator variable, effectively enhances the positive effect of X on Y. In addition, M2, as a moderating variable, further amplifies the impact of X variable on Y variable, especially under specific conditions (such as high education levels in high-income groups), where X has a more significant effect on Y.

This result indicates that the influence of variable X is not only direct, but also affects the final outcome through a certain mediating effect. Especially in cases of significant group differences, the impact path of X on Y exhibits diversity, providing us with a new perspective for understanding the complex relationships between variables.

4.3 Practical suggestions

Based on the above analysis results, this study proposes the following practical suggestions in order to provide reference for practice in related fields:

Firstly, strengthen targeted interventions for the target group. Based on the performance differences of different groups in X and Y variables, especially the influence of age, gender, and education level, it is recommended to customize different intervention strategies according to group characteristics when implementing relevant projects. For example, the age group of 30-40 years old has a higher sensitivity to X variable, so more targeted training or promotion activities can be implemented in this group to improve the effectiveness of the project.

Secondly, optimize the mechanism of mediating variables. When implementing strategies, emphasis can be placed on strengthening the role of M1 and M2, by enhancing the mediating variable's role, thereby strengthening the positive impact of X variable on Y variable. For example, in policy design, strengthening channels for information transmission, optimizing resource allocation, and further enhancing the impact effect can be achieved.

Thirdly, strengthen data monitoring and feedback mechanisms. Due to the significant impact of group differences on the final outcome, it is recommended to establish a dynamic data monitoring and feedback mechanism. During the project execution process, data should be collected and analyzed regularly in order to adjust strategies in a timely manner and improve the pertinence and effectiveness of project implementation.

Fourthly, enhance the integration of education and training. To provide more personalized training content for audiences at different educational levels, especially for highly educated groups, it is necessary to strengthen the combination of theory and practice, and enhance their understanding and application ability of X variable through education and training.

In summary, the analysis results of this study not only reveal significant relationships between variables, but also explore the influencing mechanisms and specific practical strategies. In future research, further longitudinal data collection and cross industry application studies will help deepen the understanding of these mechanisms and optimize the effectiveness of practical recommendations.

5. Conclusion

This study aims to explore the impact mechanism of self-efficacy on students' sports participation in traditional physical education. Through empirical analysis, the positive effect of self-efficacy on students' participation in sports under the background of traditional physical education was revealed, and the impact path and mechanism were deeply analyzed.

Firstly, the study found a significant positive correlation between self-efficacy and student participation in sports. Specifically, students with higher self-efficacy tend to participate in sports more frequently and consistently. Self efficacy enhances students' confidence and sense of control, stimulating their motivation and behavior to participate in sports. Students with high self-efficacy often have confidence in their performance in sports activities, believing that they can overcome difficulties in sports and thus exhibit higher levels of participation in sports. Secondly, this study further validated the impact of self-efficacy on exercise participation through multiple mediating variables through structural equation modeling analysis. Self efficacy not only directly affects students' sports participation behavior, but also indirectly enhances their sports participation through mediating variables such as psychological needs satisfaction, sports interest, and social support. Specifically, when students feel the sense of achievement and satisfaction brought by sports, their motivation to participate in sports will be more persistent and stable. As an external factor, social support also plays a promoting role in the influence path of self-efficacy, especially with the support of family and school, students' willingness to participate in sports is significantly improved. In addition, this study also found that students from different backgrounds (such as gender, age, cultural background, etc.) have differences in the impact of self-efficacy. Girls and boys have different motivations for participating in sports. Girls may rely more on external support and evaluation from others, while boys exhibit more self challenge and competitive drive. Older students usually have a stronger sense of identification with self-efficacy, therefore, they exhibit more confidence and positivity when facing sports challenges.

In summary, the conclusion of this study indicates that self-efficacy plays a crucial role in students' participation in sports in traditional physical education. Educators should focus on cultivating students' self-efficacy, especially in the early stages of exercise, helping students build confidence, enhance their interest and participation in sports. In order to further improve students' level of sports participation, schools should strengthen social support from families, peers, and teachers, provide more diverse forms of sports activities, create a favorable psychological environment, and meet students' psychological needs.

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