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Using ChatGPT to promote college students' participation in physical activities and its effect on mental health

ChatGPT in physical education

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Abstract

As one of the most famous large language models, ChatGPT has great potential for application in physical education. It can provide personalized exercise plans, a variety of exercise options, and interactive support. The integration of ChatGPT into the teaching process can promote college students' participation in physical activities and improve their mental health while expanding the traditional teaching environment and promoting the reform of traditional teaching methods. However, the application of ChatGPT faces challenges and obstacles in physical education. To make full use of ChatGPT in physical education, it can be combined with wearable devices and sports equipment to enhance the efficiency of interactions with users. Relevant policies are urgently needed to avoid the improper use of users' data.

Key Words: ChatGPT; College students; Physical education; Mental health

Core Tip: ChatGPT has great potential for application in physical education. This article argues that the integration of ChatGPT into college physical education has great benefits for both students and teachers. To make full use of ChatGPT in the future, interactions with users should be further enhanced, and relevant policies should be released to prompt the proper use of ChatGPT.

TO THE EDITOR

We reviewed the article titled "Effect of exercise prescription teaching on exercise quality and mental health status of college students", published in Volume 13, Issue 5 of the World Journal of Psychiatry [1]. By randomly assigning students to an experimental group of exercise prescription teaching and a control group of routine teaching, this study examined the effects of exercise prescription teaching on students' exercise quality, cardiopulmonary function, and psychological status. The authors observed that exercise prescription teaching can formulate teaching content for students and effectively improve their physical quality. Interestingly, personalized exercise teaching for students can also benefit their mental health [1]. With the deep integration of artificial intelligence (AI) and education, we believe that ChatGPT has great potential for application in physical education.

We strongly agree with the conclusion of this study that college students' poor physical fitness, poor living habits, and mental health problems urgently require attention [2, 3]. Traditional physical education mainly focuses on competitive sports and tends to ignore college students' subjectivity [4]. In contrast, exercise prescription teaching involves teaching content based on college students' physical qualities and health status [1, 5]. First, the intensity of physical exercise is designed based on college students' physical qualities; that is, targeted teaching content can effectively improve college students' enthusiasm for participating in physical activities, decrease the probability of injury due to excessive intensity of exercise, and play a role in preventing chronic diseases [6, 7]. Second, exercise prescriptions have been widely used to treat mental diseases [8-10], and the effect of exercise prescription teaching on students' mental

health has attracted attention. Some studies note that participating in physical exercise has a significant positive impact on relieving depression and anxiety [11, 12]. Furthermore, different physical activities have an impact on different aspects of physical and mental health [13, 14].

In exercise prescription teaching, since students' feedback on their physical state and the effects of exercise are not always timely, teachers' adjustments of exercise plans may lag behind students' feedback. With the integration of artificial intelligence and education, AI-facilitated physical education has become a widely discussed topic in research and has brought new opportunities for physical teaching reform [15-17]. ChatGPT is currently one of the most popular large language models. It is worth further exploring the application prospects of ChatGPT or generative AI (represented in this paper by ChatGPT) in teaching [18]. First, ChatGPT can produce personalized plans based on college students' basic information [19]. By dialoging with students, ChatGPT collects specific information about them, including their physical fitness, health status, daily exercise, and exercise goals, and develops personalized exercise plans. In addition, as Khan et al noted, when students' physical fitness and health status change, ChatGPT can receive timely feedback from students and modify their exercise plans [20]. Second, as a conversational artificial intelligence model, ChatGPT can provide timely and interactive support [21]. Zheng et al suggested that continuous support from ChatGPT could help users stay motivated and self-manage [22], and some empirical studies have reported that chatbot-assisted interventions can increase college students' interest in participating in physical activities and improve their health [18, 23, 24]. ChatGPT can also use dialog to encourage college students to participate in physical activities and increase their enthusiasm. Moreover, since ChatGPT is not limited by time or space, college students can have conversations with ChatGPT on their mobile phones at any time, and ChatGPT can track students' exercise after PE class and adjust their exercise plans according to students' feedback. Third, the ChatGPT can provide a variety of exercise options that benefit college students' mental health. Proper physical exercise is a critical way to alleviate psychological problems [25]. ChatGPT can suggest different

physical activities according to different psychological problems. Fourth, the integration of ChatGPT into the teaching process has many benefits for teachers as well because it not only expands the traditional teaching environment but also promotes the reform of traditional teaching methods [26, 27].

Although ChatGPT has excellent application prospects in physical education, it faces some challenges and obstacles in the teaching process. First, the reliability of the exercise plans developed by ChatGPT should be verified. The official website of OpenAI emphasizes that ChatGPT may yield incorrect or meaningless answers due to the limitations of machine training and other reasons, which may mislead students. If ChatGPT's recommendations are harmful to students' health, it is unclear who is responsible for the consequences [28]. Second, ChatGPT may lead to adverse effects on students' development. Overreliance on ChatGPT hinders the development of students' critical thinking and creativity [29]. In addition, the use of ChatGPT in education presents higher requirements for students' self-control, and it remains unclear whether ChatGPT will exacerbate educational inequity. Third, students' excessive reliance on ChatGPT will pose a challenge to traditional teaching and teacher–student relationships [30].

ChatGPT has been iterated to GPT-4. Some studies have applied it in clinical practice [31, 32], and its impact on the field of education has attracted increasing attention [20, 21, 33]. To promote the application of ChatGPT in educational practice, we present the following suggestions for its future development. First, to better integrate ChatGPT into reality, it can be combined with wearable devices and sports equipment to monitor students' physical status in real time and improve interaction efficiency. Second, the ethical and data protection issues that may be caused by ChatGPT have been widely discussed [34, 35]. Therefore, it is urgent to develop relevant policies to restrict ChatGPT. Affiliated companies should pay attention to users' privacy issues to avoid the improper use of users' data.

As the latest product of the era of artificial intelligence, ChatGPT has great potential for application in college physical education. However, despite its ability to revolutionize education, ChatGPT also poses great challenges for schools, the

government, and society. In the future, educators should further explore how ChatGPT can be integrated into education while promoting student development.

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