

The Positive Effects of Physical Exercise on Mental Health Among Chinese Students Under Great Competitive Pressure

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Abstract: Under an environment full of competitive stress, students tend to form negative emotions, and the time for them to engage in physical exercise is greatly limited due to overwhelming academic tasks. Therefore, in this paper, we focus on acknowledging the purpose of physical exercise, and how physical exercise affects the mental health of students under stressful circumstances but not in the context of leisure. Questionnaire was distributed to participants with an average age of 20, to investigate their preference, frequency, and reason for exercising, and their attitude towards it. Our results showed that participants think that exercise can strengthen the body, relieve stress, improve fitness and interpersonal relationship regardless of their purpose such as interests, emotional necessity and even out of non-subjective ideas. In conclusion, physical exercise helped to improve students' mental health especially under great pressure and ultimately, it will enhance their academics and bring about the unity of mind and body.

Keywords: Chinese students; Physical exercise; Purpose; Positive effects; Mental health

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1. Introduction

Students with poor mental health have increased with the greater competitive pressure especially in China. Under such an environment full of competitive stress, students tend to form negative emotions. They are forced to undertake more academic tasks to an overwhelming extent, and the time for them to engage in physical exercise is greatly limited. Research has shown that leisure-time physical exercise contributes to positive emotions, which are beneficial for students coping with high levels of stress, anxiety, and depression ^[1]. However, there is no recent research done on Chinese students. Therefore, acknowledging the students' reason for exercising and figuring out the effects of physical exercise on mental health under stressful circumstances can help maximize the positive effects of physical exercise.

2. Literature review

There is no sufficient research on the effects of physical exercise on mental health under the stressful

circumstances. Deslandes ^[2] demonstrated that exercise has been investigated as a potential enhancer of cognitive and behavioral functions. This finding is coincident with another research, which suggested that the mitochondrion can mediate the relationship between physical exercise and the reduced risk of mental illness ^[3]. The reason for physical exercise varies. According to Kim and McKenzie ^[1], active leisure which requires some degree of physical exertion allows people to pursue enjoyment, self-expression, and meaningful engagement. This phenomenon suggests that when people are at leisure, they tend to participate in joyful activities to relax in spite of its consumption of energy and strength.

3. Methods

3.1. Participants

The sample for this study was 100 students from senior high and college in China (no limits on cities). The participants' age ranged from 18 to 22 years old, with an average of 20. There were 44 males and 56 females. There was no incentive given for participation.

3.2. Materials

This research was conducted by using a questionnaire. The participants were asked about their preference, frequency, and reason for exercising by using ranking questions. Besides, the students' attitudes towards the exercise were investigated through multiple-choice questions. In particular, we surveyed that whether their time for exercise and sports was influenced by their overwhelming academic assignments.

In this research, we requested only the gender of those surveyed, and no other personal information was collected; the survey was voluntary and anonymous.

4. Findings

As shown in **Figure 1**, emotional regulation accounted for the largest proportion (34.50%) of the students' opinions towards exercise, while strengthening the body made up 27.30%. The rest of the students thought that physical exercise helps build a more active mind and improve interpersonal relationships.

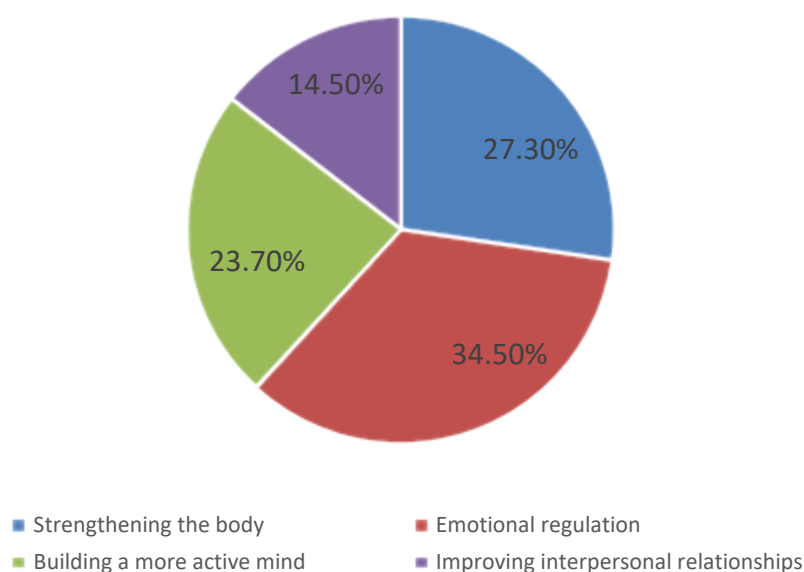


Figure 1. Students' attitudes towards exercise

Based on **Figure 2**, 74.55% of the participants acknowledged that their study and work assignments occupy their sports time, while only 25.45% of them did not think so.

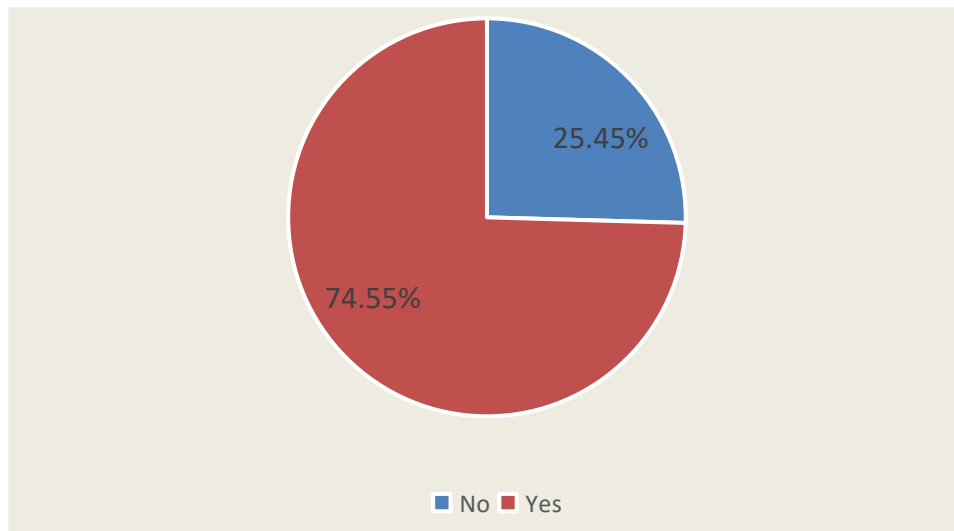


Figure 2. The percentage of participants who think learning will reduce their time for exercising

In **Figure 3**, passing the physical education (P.E.) exam was the most common reason for exercising with 37.60%, while the rest of them were interests and hobbies, improving fitness, and stress relief with 21.70%, 22.50% and 19.20%, respectively.

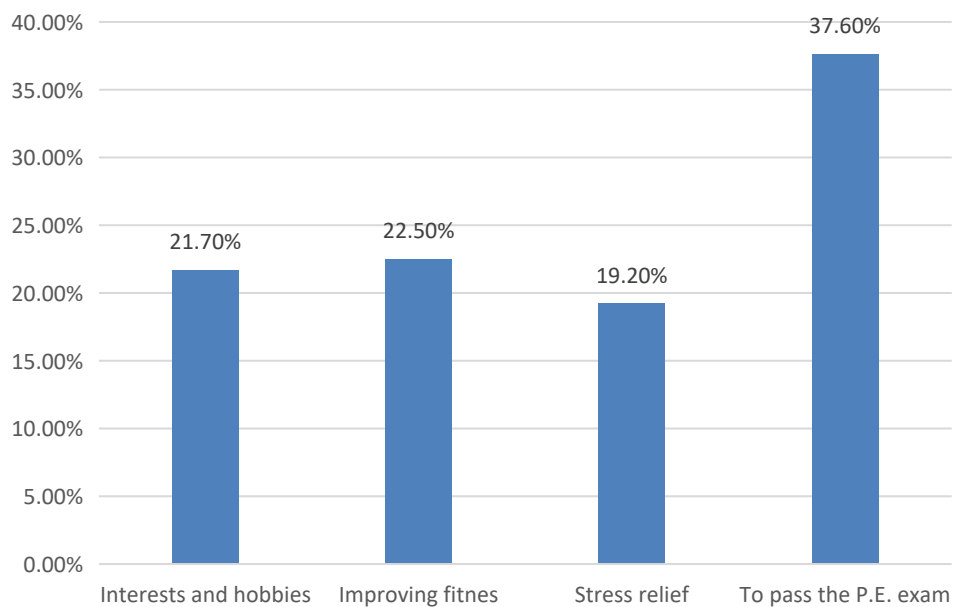


Figure 3. The reason for exercising

5. Discussion

This experiment found that physical exercise benefits the participants in different ways and helps to improve their mental health, especially under great pressure of studying and working. According to the survey, when

they exercise, it not only enhances their physique, but also improves their emotions. This greatly reduces their stress, eliminates their negative emotions, and boosts their physical and mental health. Additionally, they are more responsive and have greater cognitive ability. Exercise can enhance their thinking ability and help them in facing difficulties, ultimately improving their academic performance. People who engage in low-intensity exercise responded that they have a clear mind and focus, which helps them cope with and solve problems ^[1]. Lastly, physical exercise improves interpersonal relationship. In today's society, interpersonal relationships are close and complicated, and social problems have become a big problem for young people. Through physical exercise, students can expand their social circle, improve their interpersonal relationships. Besides, exercising also helps to reduce the students' psychological burden. Thus, according to Zhu *et al.* ^[4], exercise is a good way to improve the mental and physical health of college students.

Another finding of the investigation proved that under the influence of study pressure, the vast majority of participants reckoned that the tedious tasks do take up their time for physical exercise. However, they still exercise frequently due to their own interests and pursuit for physical fitness. However, many of them take part in sports activities solely to pass the physical examination. In today's society, there is a large number of talented people, which undoubtedly increases the competition among the younger generation. As a result, students spend more and more time and energy on academics. Although physical examination is a part of performance evaluation, it is still often neglected. Consequently, sports have gradually become utilitarian instead of an interest. As Zhang ^[5] argued: ".....students are more eager to be admitted to better universities and more popular majors. This causes students to have great academic pressure and insufficient time and energy to engage in physical exercise."

There are also some limitations to this research. The findings may not represent the entire population because the sample only consisted of students in senior high or college in China. Therefore, further research that includes a variety of populations with broader academic scope and geographical background is needed, so as to reduce chance and bias.

6. Conclusion

The evidence can also be found in the research carried by Kim and McKenzie ^[1] in which volunteers experienced the positive feelings such as the optimistic emotion, unity of mind and body, high self-esteem, problem-focused coping and self-regulation of health behaviors and so on.

Physical exercise helps to improve students' mental health especially under great pressure of studying and working regardless of their reason for exercising. It can strengthen the body, relieve stress, improve fitness and interpersonal relationship, and ultimately, it will be advantageous for their academic achievements and bring about the integration and development of physical and mental health.

Disclosure statement

The author declares no conflicts of interest.

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