

The Effect of Physical Exercise on Promoting the Mental Health Level of English Teachers

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Abstract

In order to better understand the mental health level of English teachers, the author proposes a study on the effect of physical exercise on promoting the mental health level of English teachers. The author takes English teachers in a certain province as the research object to analyze and demonstrate the impact of physical exercise on the mental health status and level of health of English teachers. Using the "Symptom Checklist for Mental Health (SCL-90)" questionnaire and the physical exercise participation survey questionnaire, the SCL-90 psychological scale consists of 10 factors: Somatization, depression, compulsion, interpersonal sensitivity, anxiety and hostility, terror, paranoia, mental illness, and others. A random questionnaire was distributed to English teachers in the province, with a total of 200 questionnaires distributed, 190 questionnaires collected, and 185 valid questionnaires. The job of an English teacher involves intense mental labor, and prolonged and high-intensity work can lead to fatigue and irritability, leading to a decrease in mental health levels. Teachers who frequently participate in physical exercise have better mental health levels than those who do not frequently participate in physical exercise and those who never participate in physical exercise, teachers who participate in collective project exercise and those who participate in individual forms of physical exercise have certain differences in factors such as depression, anxiety, hostility, and paranoia. Education management departments should pay more attention to the psychological health of teachers, regularly provide psychological counseling to English teachers, and their units should regularly organize physical activities for teachers to mobilize everyone to participate in physical exercise, continuously improve teachers' mental health level through physical exercise.

Keywords: Physical Exercise, English Teaching, Mental Health.

Introduction

In modern society, English teachers are facing increasing work pressure and mental health issues. As a group of teachers, they often need to address various challenges such as students' learning needs, the completion of teaching tasks, and the pressure of school management. For a long time, the mental health issues of English teachers have been of great concern. The low level of mental health may lead to a decrease in teaching efficiency, a decrease in quality of life, and even long-term effects on physical and mental health. Meanwhile, physical exercise, as a common form of physical activity, is widely recognized as an effective method to improve mental health. Physical exercise can promote physical health, enhance physical fitness, and also have a positive impact on the psychological level. Through physical exercise, people can release accumulated stress and negative emotions, promoting physical and mental relaxation and balance. In addition, exercise can also

promote the brain to produce neurotransmitters such as Endorphins and dopamine and increase the sense of happiness and well-being. Therefore, conducting in-depth research on the mental health status of English teachers and the impact of physical exercise on their mental health level is of great practical significance. By understanding the relationship between physical exercise and mental health, effective mental health interventions and suggestions can be provided for English teachers, which can help improve their work efficiency, quality of life, and psychological resilience, thereby enhancing the development and stability of the entire education industry.

Many university teachers do not recognize the importance of English and believe that it is only a basic course that cannot be compared to professional courses, they do not attach enough importance to English, therefore, in classroom teaching, we blindly pursue teaching progress and adopt a teaching model of reading from book, neglecting teaching

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effectiveness and rarely reflecting humanistic care, which cannot achieve the effect of teaching and educating people (Hove, Martinez, & Shorrocks, 2022). Some English teachers in universities believe that mental health education is the responsibility of counselors and mental health teachers, and has little to do with themselves, they will not invest too much time and energy in mental health. Some English teachers also believe that even conducting mental health education for people with poor psychological quality is ineffective, so they often perfunctorily carry out classroom mental health education. Psychological health education itself has a high degree of complexity and usually does not have the same immediate effect as cultural knowledge teaching, it is more difficult to penetrate psychological health knowledge into English teaching in universities. For a long time, English teachers in universities have mainly imparted cultural knowledge, lacking professional health knowledge teaching. Integrating mental health education into classroom teaching often follows the arrangement of the school, and their understanding of the psychological characteristics of English teachers is not sufficient, at the same time, there is a lack of corresponding psychological counseling experience, and most of them rely on subjective experience to judge the psychological and behavioral biases of English teachers (Segrave et al., 2022). In addition, there is a lack of quantitative standards for evaluating the effectiveness of mental health education, teachers lack sufficient reflection on mental health education and cannot follow up and improve it in a timely manner, resulting in the ineffective play of the role of mental health education and often deviating from the expected results. Psychological health education is a systematic work that requires the joint participation of schools and teachers, and a systematic psychological health education system should be constructed. Some universities have simply established psychological counseling centers for English teachers, or have attached mental health education to departments such as school hospitals, student work offices, and ideological and political departments, with the main purpose of preventing English teachers from going to extremes and absolving the school of responsibility, however, there is a lack of mandatory regulations on subject infiltration, in which case, the infiltration of mental health education in college English is mostly a formality, making it difficult to play its educational role. A comprehensive mental health education system should be established, and education plans should be

implemented in a systematic manner. Only by implementing mental health education as a systematic project can the teaching of English courses be organically integrated with mental health education. As shown in Figure 1:

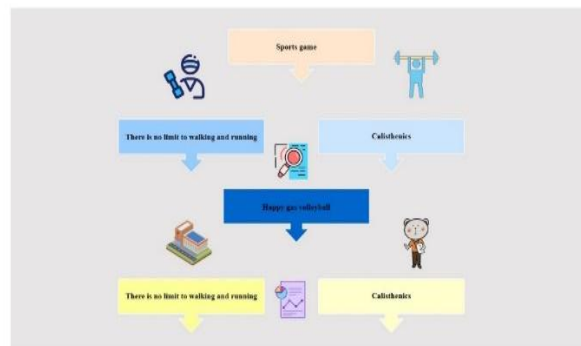


Figure 1: Physical Exercise Promotes Mental Health Levels.

Literature Review

Public mental health is currently a very active field in psychological research both domestically and internationally. According to the theory of physical and mental interaction, there is a close connection between physical and mental health. This allows people to assume that physical exercise, as an effective means of improving physical health, will inevitably promote mental health. The test of this hypothesis first comes from clinical psychology, some psychogenic diseases (that is, physiological ailments caused by psychological reasons, such as primary hypertension), after being treated with physical exercise, not only have physical illnesses been alleviated, but psychological aspects have also been significantly improved. Mental health is a comprehensive concept, and there is currently no completely identical standard for the definition of mental health, different scholars have different views and perspectives on mental health, but they all indicate that mental health is the result of individual internal coordination and external adaptation. Psychological health includes psychological state and psychological regulation ability, and its standards are relative. Psychological health is a continuous and dynamic process, and the absence of psychological diseases or obstacles is the foundation of psychological health, having a positive psychological state is a condition and requirement for maintaining psychological health, psychological health can be evaluated from aspects such as emotional state, cognitive ability, self-concept, interpersonal relationships, and social adaptation. Numerous studies have shown that physical exercise has

various effects on improving individual emotional states, eliminating psychological barriers, enhancing cognitive function, and improving self-concept. However, some contrary research findings have made the psychological effects of physical exercise vague and complex. Even as a treatment method for patients with psychological disorders, exercise intervention has not been recognized by mainstream mental health services. Whether it is individual physical exercise or collective exercise activities, they all include factors such as exercise type, exercise intensity, exercise time, and exercise frequency. Physical exercise can be a long-term and regular routine, or a short-term and casual participation. Therefore, it is necessary to distinguish the psychological effects brought about by physical exercise with different sports characteristics. Liu, S. and others believe that many universities incorporate fitness into their physical education curriculum, making more and more students realize that fitness not only enhances their physical fitness, but also helps them shape a perfect body shape, benefiting them for a lifetime. However, there are some problems in the construction of fitness courses in universities, which hinder the effective development of fitness courses in universities. On this basis, the feasibility, significance, and current situation of the construction of fitness courses in universities were explored from the perspective of lifelong sports, and strategies for the construction of fitness courses in universities from the perspective of lifelong sports were proposed (Liu, 2022).

Research Methods

Research Subjects

The author takes English teachers in a certain province as the research object to analyze and demonstrate the impact of physical exercise on the mental health status and level of health of English teachers.

Table 1

Score Statistics and Ranking of SCL-90 Questionnaire

Grade	No Psychological Barriers	Mild Psychological Disorders	Moderate Psychological Disorders	Severe Psychological Disorders
fraction	Score≤160	≤160Score≤220	220<Score≤260	260<Score
Number of people	134	37	15	2
proportion	70%	20%	9%	1%

From Table (1), it can be seen that the overall level of mental health of English teachers is good, 20% of the

Methods

Literature Method

This study mainly provides theoretical support for the study by consulting information on the relationship between psychology, physical exercise, and mental health, as well as books and materials on sociology, sports psychology, sports statistics, and sports research methods.

Questionnaire Survey Method

This study used the "Symptom Checklist for Mental Health (SCL-90)" questionnaire and the physical exercise participation survey questionnaire. 200 questionnaires were randomly distributed to English teachers in the province, and 190 were collected, resulting in a total of 188 valid questionnaires. The SCL-90 psychological scale includes 10 factors, namely somatization, depression, compulsion, interpersonal sensitivity, anxiety, hostility, terror, paranoia, mental illness, and others.

Mathematical Statistics

The data was statistically processed using Excel spreadsheet and statistical software SPSS17.0, and t-tests were used to analyze the psychological health indicators between people who frequently exercise and those who do not exercise, as well as between people with different exercise programs, to determine whether the differences are significant (Fortes & Lindau, 2022).

Results and Analysis

Analysis of the Overall Health Status of English Teachers

Collect and organize the effective questionnaires collected and obtain the overall mental health level of English teachers in the province. Divide the statistical results by level, as shown in Table 1:

total population has mild psychological disorders, 9% has moderate psychological disorders, and only 2 people

have severe psychological disorders, accounting for 1% of the total population; By organizing and summarizing the questionnaire, classify the health factors of each project, and analyze the impact of each health factor on mental health status, the top five health factors for English teachers include obsessive-compulsive symptoms, interpersonal relationships, depression, hostility, and paranoia, among them, male teachers ranked in the top three for factors such as hostility, paranoia, and obsessive-compulsive symptoms, while female teachers ranked in the top three for factors such as interpersonal relationships, obsessive-compulsive symptoms, and depression.

Table 2

Analysis of Psychological Health Status of People with Different Exercise Habits

Grade	No Psychological Barriers	Mild Psychological Disorders	Moderate Psychological Disorders	Severe Psychological Disorders
fraction	Score≤160	≤160Score≤220	220<Score≤260	260<Score
Number of people who exercise regularly	54	7	4	0
proportion	86%	9%	4%	1%
Number of people who do not exercise regularly	58	13	6	0
proportion	78%	16%	5%	1%
Number of people who never exercise	26	19	10	2
proportion	45%	32%	20%	3%

Table 3

Comparison of Average Scores of Various Items in the SCL-90 Psychological Scale among People with Different Physical Exercise Habits

Factor	Regularly Participate in Physical Exercise M	Not Frequently Participating in Physical Exercise M	Never Participate in Physical Exercise M
Somatization	1.30	1.36	1.53
depressed	1.31	1.43	1.46
Compulsive symptoms	1.26	1.71	1.78
interpersonal relationship	1.35	1.57	1.65
anxious	1.38	1.26	1.32
hostile	1.34	1.40	1.47
terror	1.28	1.11	1.19
Paranoia	1.39	1.38	1.42
Psychiatric	1.02	1.16	1.22

According to the analysis in Table 2, it can be seen that the scores of English teachers who frequently participate in physical exercise are lower than those who do not participate in physical exercise, teachers who do not frequently participate in physical exercise score lower than teachers who never participate in physical exercise; The

Analysis of the Mental Health Status of Different Exercise Groups among English Teachers

Sports population refers to the standard for sports population established based on the actual situation in China, which means that the frequency of physical activity is more than 3 times per week; More than 30 minutes of physical activity per session; The intensity of each activity is moderate or above. According to the standards of sports population, the surveyed subjects were divided into three categories: regular exercise, infrequent exercise, and never exercise for investigation and analysis. It was found that the psychological health status of people with different exercise habits is shown in Table 2:

score of each project factor is inversely proportional to the participation in physical exercise, from this, it can be found that regular participation in physical exercise can effectively promote the improvement of individual mental health levels.

In order to further investigate the impact of physical

exercise on the mental health level of English teachers, by collecting, analyzing, and organizing the scores of various item factors in the collected SCL-90 psychological scale, we further analyzed the differences in psychological disorders among different groups of people who participated in physical exercise, as shown in Table 3. From the statistical results in Table 3, it can be found that the comparison of the average scores of psychological health factors among those who frequently participate in physical exercise, those who do not frequently participate in physical exercise, and those who never participate in physical exercise is as follows: Regularly participate in physical exercise < Not frequently participate in physical exercise < Never participate in physical exercise. The comparison results show that English teachers who never participate in physical exercise have poor mental health levels, followed by teachers who do not frequently participate in physical exercise, teachers who frequently participate in physical exercise have the best level of mental health. From this, it can be seen that appropriate participation in physical exercise can positively promote a person's mental health status. From Table 3, it can be seen that the scores of depression, compulsion, interpersonal sensitivity, hostility, and paranoia in each factor are relatively high, which is related to the teaching profession, due to the high work pressure of English teachers, there is a certain relationship.

Comparative Analysis of the Psychological Health Status of English Teachers under Different Forms of Physical Exercise

The form of physical exercise may be closely related to the psychological health of participants, and choosing

different forms of exercise may have a certain impact on the mental health level of English teachers. The author divided the physical exercise projects participated in by English teachers into collective projects and individual projects through the processing of the designed survey questionnaire. Among them, football, basketball, volleyball, table tennis, badminton, and tennis are classified as collective events, while swimming, dance, running, martial arts, and bodybuilding are classified as individual events. This study then compares the mental health status of English teachers choosing different sports.

By comparing the average scores of psychological health factors for English teachers in two different forms of exercise, the statistical data in the table shows that the psychological health level of individuals who participate in physical exercise in physical form, except for the average scores of somatization factor and obsessive-compulsive symptom factor, is higher than that of individuals who participate in physical exercise in personal form, the average scores of other health factors are lower than those of individuals participating in physical exercise. This indicates that collective participation in physical exercise may have a positive promoting effect on the mental health level of English teachers. After testing, it was found that there were significant differences in the average scores of psychological health factors among English teachers who participated in different forms of exercise, such as depression, hostility, anxiety, terror, paranoia, and interpersonal relationship factors; There was no significant difference in symptoms of compulsion, psychosis, and somatization. As shown in Table 4

Table 4

Comparison of Different Forms of Physical Exercise on the Mental Health Level of English Teachers

Factor	Collective Project M	Personal Project M
Somatization	1.36	1.33
depressed	1.36	1.54
Compulsive symptoms	1.76	1.70
interpersonal relationship	1.45	1.53
anxious	1.39	1.36
hostile	1.28	1.58
terror	1.29	1.26
Paranoia	1.12	1.53
Psychiatric	1.16	1.16

Comparison of Psychological Health Levels of English Teachers of Different Genders

From the statistical results in Table 5, it can be found that male teachers have higher scores in factors such as

compulsion, hostility, and paranoia, while female teachers have higher scores in factors such as interpersonal sensitivity, compulsion, and depression, this indicates that the mental health problems of male and female teachers mainly focus on factors such as

compulsion, interpersonal sensitivity, depression, hostility, and paranoia. Female teachers scored higher than male teachers in all six factors except for the paranoid and hostile factors, indicating that male teachers have relatively better mental health levels than female teachers. From this, it can be concluded that the

above-mentioned differences in the psychological health level of male and female teachers may be due to the different cognitive levels, work and life pressures they bear, different psychological mediation methods, and different biological foundations of male and female genders (Nikolaou & Crispin, 2022).

Table 5

Comparison of Psychological Health Levels of English Teachers of Different Genders

Factor	Male M	Female M
Somatization	1.37	1.41
depressed	1.38	1.53
Compulsive symptoms	1.66	1.76
interpersonal relationship	1.47	1.66
anxious	1.38	1.47
hostile	1.56	1.43
terror	1.24	1.36
Paranoia	1.54	1.35
Psychiatric	1.33	1.47

Comparison of Psychological Health Levels between Urban and Rural English Teachers

From the statistical results in Table 6, it can be seen that rural English teachers have higher scores in terms of physical and depressive factors, while urban English teachers have higher scores in terms of obsessive-compulsive symptoms and interpersonal relationship factors. Overall, the mental health symptoms of English teachers in urban and rural areas mainly appear in several

aspects: Depression, compulsion, and interpersonal relationships. From Table 6, it can be seen that, there are significant differences in mental health levels between urban and rural teachers, mainly in terms of somatization, interpersonal relationships, depression, and hostility factors. The above situation may be related to the working environment, living environment, and family environment in which English teachers are located, rural teachers have less external pressure than urban teachers.

Table 6

Comparison of Psychological Health Levels between Urban and Rural English Teachers

Factor	City M	Rural M
Somatization	1.36	1.46
depressed	1.37	1.50
Compulsive symptoms	1.68	1.58
interpersonal relationship	1.49	1.62
anxious	1.38	1.40
hostile	1.54	1.37
terror	1.31	1.32
Paranoia	1.40	1.36
Psychiatric	1.45	1.38

Discussion

In a highly competitive society, English teachers often experience emotional reactions such as depression and nervousness, sports can shift individuals' unpleasant emotions and help them get rid of their troubles. Regular exercise can regulate tense emotions, alleviate

psychological stress, and reduce the anxiety and psychological disorders of English teachers; Can effectively improve the depression situation of English teachers and alleviate the degree of depression; Relieve symptoms of compulsion; One of the main reasons is that participants in physical activities can experience the pleasure of exercise, which means that individuals will experience

satisfaction, pleasure, and comfort after exercising. Psychologists believe that physical activity is an important way to properly activate the central nervous system and get a happy level. Moderate load of physical exercise can promote the release of a polypeptide substance - endorphin, it can make people feel a comfortable and happy mood directly after exercising. Therefore, participating in sports, especially those that one loves or excels at, can bring joy, boost one's spirit, cultivate one's character, and generate a good emotional state (Li et al., 2021).

The optimal psychological state that sports can generate. English teachers can generate optimal sports pleasure in appropriate physical activities. This kind of sports pleasure has a significant impact on the emotions and emotions of English teachers, sports have the function of venting, neutralizing, offsetting, and combating unpleasant emotions, through sports, people not only explode energy, at the same time, more importantly, it releases the accumulated unpleasant emotions. Sports, accompanied by an increase in blood flow and oxygen uptake, have a good effect on the central nervous system and can control depression, because depression is usually associated with low adrenaline secretion, exercise increases adrenaline secretion. Sports can enhance a sense of self-control. English teachers have developed a sense of control and self-control through physical exercise, they can experience a greater sense of success and competition in sports, as well as the release of a sense of oppression through exercise, with a sense of satisfaction, it makes exercisers more consciously engage in sports, this positive emotional experience has direct psychological benefits.

Sports can help form an independent personality. Sports contribute to the formation of personality, because on the one hand, sports are based on confrontation and competition, which facilitates the cultivation of qualities such as resilience, confidence, bravery, and wit; On the other hand, sports are centered around progress and friendship, facilitating the cultivation of qualities such as honesty, tolerance, understanding, and mutual love, as well as strengthening and improving people's organizational, disciplinary, and collective values.

Sports can help cultivate the willpower to strive and progress. Essentially, sports are the process of overcoming oneself, overcoming oneself, purifying oneself, and improving oneself, thus gradually forming a positive and healthy psychological orientation through the refinement of a certain sports activity and the cultivation of sports spirit, in order to complete the sublimation of personality. Almost any sports require a spirit of bravery and fearlessness, and most of them are collective and

competitive sports, the level of one's abilities, cultivation, and charm will be demonstrated, allowing oneself to have a more realistic understanding of oneself, it cultivates people's courage and tenacity, as well as the willpower to strive for progress. Victory and defeat are always accompanied by sports. Sports encourage people to yearn for and pursue victory, and also cultivate the courage to accept failure, which is more meaningful for a person's growth. It is not difficult to maintain an enterprising spirit in victory and success, but it is difficult to maintain an enterprising spirit in failure (Heesen & Rosenkranz, 2022). Sports can improve interpersonal relationships. Sports are beneficial for emotional communication and the relief of self-claustrophobia, making it easier to form friendly relationships with others. English teachers can use sports exercises to understand, adjust, and transform their psychological qualities and behavioral patterns. Through physical exercise, the improvement of physical fitness is inseparable from the intrinsic motivation of exercise, and there is a positive correlation between the level of physical exercise and mental health (Einstein, Katz, & Ben-Hur, 2022).

The proportion of English teachers frequently participating in physical exercise is less than 60%, due to the high pressure of work, life, and family, there is not enough time to participate in physical exercise. Due to insufficient sports facilities in rural areas, rural teachers have less opportunities to participate in physical exercise than urban teachers (Krishnan, 2022).

The mental health level of English teachers is lower than the national norm, with higher scores in factors such as compulsion, depression, hostility, paranoia, and interpersonal relationships compared to other factors. There are differences in the mental health levels of English teachers between different genders, cities, and rural areas. Teachers who frequently participate in physical exercise have better mental health levels than those who do not frequently participate in physical exercise and those who never participate in physical exercise, teachers who participate in collective project exercise and those who participate in individual forms of physical exercise have certain differences in factors such as depression, anxiety, hostility, and paranoia (Long et al., 2022).

Conclusion

Sports and mental health interact and interact with each other. Sports can have a positive impact on individual mental health. During the process of participating in sports, participants have a subtle and positive impact on their mental health, enabling them to have new changes

and cognition in various aspects of mental health. At the same time, there is a positive correlation between the level of mental health and physical activity. Sports are a process of showcasing oneself, while mental health is a process of individual self-formation, only by fully realizing one's self-worth can individuals better improve themselves in terms of mental health. English teachers are the leaders of basic English education, shouldering the arduous task of cultivating the next generation. The psychological health of English teachers directly affects their work status and also affects the future of English education. English teachers are the main components of the unit, and their physical and mental health directly affects the basic education of English. Investigating and understanding the daily physical exercise and mental health status of English teachers, analyzing the main factors that affect their participation in physical exercise and the main issues of mental health, is of great positive significance for promoting the harmonious and rapid development of basic education. English teachers should enrich themselves, comprehensively enhance their awareness of physical exercise and health, cultivate good habits of physical exercise, improve their lifestyle, and enhance their awareness of quality of life, they should participate in physical exercise purposefully and organized, and continuously improve their personal mental health level.

Although sports have a positive impact on individual mental health, research and discussion should also consider the following limitations:

1. Individual differences: Each person's mental health status is unique, and the impact of participating in sports on mental health may vary from person to person. Some people may be more sensitive to sports, while others may have less influence on them. Therefore, individual differences need to be considered in research and practice.
2. Time factor: The impact of sports on mental health may take some time to manifest. In the short term, there may not be a significant effect, while long-term participation in sports may lead to more significant improvements in mental health.
3. Other influencing factors: An individual's mental health is influenced by multiple factors, including work environment, family status, social support, etc. Although sports have a positive impact, they cannot completely offset other possible negative factors.

In research and practice, the above limitations should be comprehensively considered, and a more comprehensive and comprehensive approach should be adopted to evaluate the actual impact of sports on the mental health of English teachers. This will help to develop more effective mental health interventions and promote the overall mental health level of English teachers.

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