The effect of physical exercise of different intensities on the mental health of college students

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Abstract

To investigate the impact of different intensities of physical activity on college students' mental health and fortitude. For a freshman in high school, the psychological state Experimentally, the effects of various exercise methods on various psychological issues were explored. It transpires that: Exercise benefits the heart. The rational state regulates effectively. Taijiquan is vital in learning anxiety; The healthy body is held, tai chi, and feather hairball has a noticeable improvement in symptoms with tai chi. The author employs cluster sampling, selects a college student as the research object, and employs the SCL-90 self-assessment scale and the adolescent mental toughness scale to examine the effect of physical exercise of varying intensities on improving the mental health and mental toughness of college students. •To a first-year high school student 786 To perform a questionnaire survey. Written by Zhou Bucheng et al., the Mental Health Diagnostic Test (M IT I) was used to conduct the survey. 753 recoveries, 3 valid surveys, and 384 boys. There were 27 men and 9 women in total. Input the original data acquired from the questionnaire with XE C king:12 X(commit to the actual number into the computer. The co-printed names were examined for physical symptoms using the M H T scale. We were learning about anxiety and psychological allergy tendencies for the freshman. According to the ex E E Zl X(random sampling), Each group contributes functions, which are arranged in basketball, setting-up exercise, tai chi, and feather hair. The experiment was conducted in four separate groups—the eight-week interval between exercising twice weekly and working out. The Fording exam was administered eight weeks later compared to the previous period. The scores of somatization, compulsion, interpersonal sensitivity, depression, anxiety, and paranoia on the SCL-90 scale of college students in the observation group were significantly lower than those in the control groups 1, 2, and 3. All P values were < 0.01; The scores of the psychological toughness questionnaire in the observation group were significantly lower than those in the control groups 1 and 2. Both P values were 0.01; Students in the observation group believed physical activity might positively affect social interaction, spiritual emancipation, and self-discipline. • Students with learning anxiety performed minimal Tai Chi exercises. There were statistically significant differences between groups (P & LT; 0.05), indicating that only Taiji boxing is of concern. This may be a requirement of "To Harbin" tai chi to enhance the impact. "The mind controls the action." Under the control of awareness, the neurological system is always fully set in the precision of every action, whether false or true, opening and closing, coordinating - and even to Garden life, metamorphosis, and respiration. Be determined to accomplish Flexibility and equilibrium of the neurological system are enhanced further. Self-ideation management Additionally, the control ability improves anxiety symptoms such as hypersensitivity. The heart does not experience real fear without cause. Anxiety and dread prevent the mind from being controlled, preventing the exercise of self-control and the section. The observation group's somatization, compulsion, interpersonal sensitivity, sadness, anxiety, and paranoid scores were considerably higher than those of the control groups 1, 2, and 3 (P < 0.01). The scores on the psychological resilience scale were substantially higher in the observation group than in the control group 1,2, P < 0.01. The students in the observation group stated that physical exercise might positively affect social interaction, physical and mental health, mental emancipation, and self-training, and their scores were statistically significant (P < 0.05) when compared to those in the other groups. College students can improve their mental health and mental toughness through moderate-intensity physical activity, which merits attention.

Keywords: Physical exercise; mental health; different intensities; interventional research

Introduction

Of the 460 college students who were polled, 75% were female. 319 of them, or 69.35% of the total, participated in extracurricular sports activities as individuals.

Most college students remain alone during a crucial age of physical and mental growth.

Physically and mentally mature female. Since I may confront or have numerous psychological problems in consciousness, interpersonal communication, and study,

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my way of thinking tends to develop. Such as fear, loneliness, and rage, if not resolved promptly, will be detrimental to their growth. Have negative effects. A modern study in sports psychology demonstrates anxiety and tension. The mental condition will eventually diminish the intensity of physical motion and powerful emotions. Sports intake reduces one's disposition. Numerous wealthy nations now use physical activity to treat mental health concerns. According to Kyao, the scholar, 60 percent of 1,750 doctors surveyed recommended making sports a sport. Physical activity is one of the effective treatments for depression. However, many physical activities How does the program influence the mental health of middle school kids differently?

In this publication, the needle is positioned to Examine the situation. As a highly educated population, college students are the driving force behind national construction and development; they are responsible for the hopes of the nation and its people, as well as the imperative responsibility of constructing the nation. Consequently, their physical and mental health is tied to the rise and fall of the nation and its economy. Currently, college students are merely children; at this age, psychological issues are widespread, and many situations are pessimistic. In recent years, numerous researchers have employed a variety of methodologies to perform extensive research on the mental health of college students (Rey et al., 2021). According to a study, the mental health of modern college students in my country is concerning. Numerous college students experience varying degrees of psychological issues for various causes. Some college students have experienced psychological distress, irritation, self-abandonment, etc., as well as deviant actions, and some have developed quite severe psychological problems (Richardson et al., 2021). Therefore, it is imperative to investigate college students' mental health issues. Individuals' physical and psychological health is improved through scientific and reasonable physical activity. The majority of available research data indicate: Moderate-intensity physical exercise has a good influence on the mental health of individuals; the optimal exercise length for maximizing psychological benefits is 20 to 30 minutes per session (Garcia-Aymerich et al., 2021). Figure 1 depicts the different intensities of exercise. The subjects of the studies mentioned above are primarily adults between the ages of 30 and 65. However, there are few studies on the effect of physical exercise with varying exercise duration and intensity on the mental health of college students. Therefore, the author focuses on the impact of different durations and intensities of physical exercise on the mental health of college students.

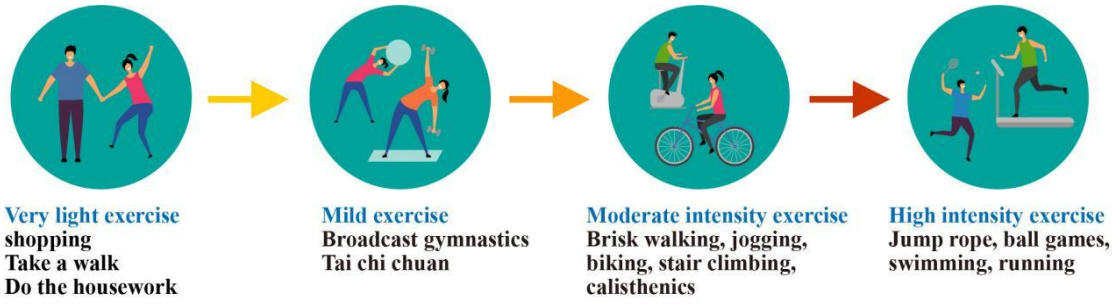

Figure. 1 Exercises of different intensities

In 1946, the World Health Organization defined health as "not just the absence of sickness and disability, but also the preservation of bodily, mental, and social excellence" (Rahawi et al., 2021). In September 1978, the International Conference on Primary Health Care reaffirmed the definition of health: "Health is not only the absence of sickness and infirmity, but also the optimal state of physical, mental, and social health" (Sung et al., 2021). In 1908, a movement was initiated to address mental health concerns, which are a matter of worry and social anxiety. Mental health is broad and all-encompassing, and physical, psychological, and sociocultural variables influence mental health. Mental health is a medical phenomenon, a psychological phenomenon, or a social phenomenon; scholars from different disciplines have different perspectives on mental health; mental health has a kind of cultural relativity; consequently, even though a great deal of research and discussion has been conducted on this topic at home and abroad, a unified understanding has not yet been developed (DeLuca et al., 2021). "The Concise Encyclopedia Britannica" defines mental health as "the optimal functioning state that an individual's mind can reach within the confines of its conditions, rather than a state of ultimate perfection" (Müller et al., 2021). "Vaishnavi defines mental health" as "the practice and philosophy of preventing mental sickness and various mental unhealthy states, as well as preserving and increasing mental health" (Vaishnavi et al., 2022). According to the Chinese Psychological Encyclopedia, both mental health and mental health refer to the condition of mental health. Not only is self-esteem based

on those mentioned above in domestic and foreign psychologists' discussions on health standards, but mental health generally includes the cognitive dimension (referring to the intelligence above the medium level, strong information processing ability, fast cognitive response speed, and efficient work), emotional dimension (referring to the upbeat mood and the ability to properly self-regulate), and behavioural dimension (Yelverton, Rafferty, & Mcauliffe, 2021). Cognitive aspects of mental health, such as changes or defects in "intelligence", "memory", "hands-on ability", etc., are often viewed as "stupid" and "clumsy" and are not used as a basis for judging mental health (Siber-Sanderowitz et al., 2022). In a similar poll conducted by Chan et al., 83.3% of respondents agreed that "mental retardation" was unrelated to psychological problems. This may be because, in everyday notions, psychological issues are more equated with "neuropathy" or "psychosis" and are primarily associated with anomalies in emotion, intention, personality, etc. Therefore there is a distinction between "madman" and "fool" in people's thoughts (Chan, Piehler, & Ho, 2021).

Physical exercise and related physical education are a way to improve mental health. To this end, the author selected 1546 college students as the research object to examine the effect of varying intensities of physical exercise on improving the mental health and mental toughness of college students and to provide relevant research materials for the reform of college students' physical education.

Literature review

Physical activity as a supplement to treating psychiatric disorders differs from exercise training. The objective of sports training is to increase the level of competition, while the primary purpose of sports exercise is to enhance health. Therefore, before beginning an exercise program, it is important to determine and analyze the students' psychological symptoms and then select the appropriate exercise program based on the results of this analysis. Choose tai chi if you are allergic to team sports such as basketball. To be efficient. After determining the workout program, scientific exercises, methods, and means should be implemented. To add diversity, prevent monotony, and enhance the effectiveness of training. There should be a minimum quantity of exercise. Times and loads. So long as it does not impact the following day's studies.

The pupils in the body sickness group participated in aerobics, Tai Chi, and badminton. There were statistically significant differences, suggesting that aerobics, Taijiquan, and badminton cause physical complaints in the group. Additionally, students are physiologically and psychologically related to anxiety. It has a beneficial effect. The allergy-prone students were part of the basketball exercise group. Basketball may demand players to possess sound judgment and bravery. Team members communicate with one another, which is naturally predisposed to allergy. The direction's improvement has a catalytic effect.

Methodology

Objects and Methods

According to the principle of cluster sampling, 1546 students from four classes in the first grade of 2021 at a college were chosen as the survey subjects. The students were then separated into control groups 1, 2, 3, and observation groups based on their classrooms. A psychological census was conducted on the first-year students using the SCL-90 self-rating scale and the teenage mental toughness measure. They were subsequently given physical training of varying intensities according to their groups.

390 subjects, consisting of 259 boys and 141 girls with an average age of (19.83±2.18) years, exercised according to the standard physical education curriculum in group 1. The low-intensity exercise was administered to 385 people in control group 2, including 255 boys and 130 girls with an average age of (19.982.17) years; There were 387 control groups in 3 groups, comprised of 252 boys and 135 girls, with an average age of (19.18±2.94) years; there were 384 subjects in the observation group, including of 253 boys and 131 girls, with an average age of (19.74±2.48) years. Three months of intervention were provided to the four groups mentioned above. All participants were told of the study's goal and signed a consent form, and a collegiate sports committee authorized the research.

The most popular sports among college students are ball games (basket row, foot) with 64.57 percent, gymnastics (callisthenics, dance, ballroom dancing) with 55.22 percent, martial arts with 23.26 percent, track and field with 11.5 percent, and others (badminton, table tennis) with 1.15%. Ball, jump rope, swimming, etc.) had a 4.13 percent participation rate.

Methods

The experimental method records the heart rate of college students during exercise using a stopwatch. The research design is implemented based on domestic and international research reports and the characteristics of the research object. The heart rate defines the exercise intensity: high-intensity exercise is 160-190 beats per minute, moderate exercise intensity is 130-<160 beats per minute, and light exercise intensity is 130 beats per minute. Basketball, football, badminton, aerobics, etc. are examples of sports. Table 1 depicts the link between heart rate and intensity.

Table 1

Relationship between heart rate and intensity

Heart rate (beats/min)	20 years old	30 years old	40 years old	50 years old	60 years old
maximum heart rate	200	190	180	170	160
daily life intensity			60-100		
low exercise intensity	<120	<114	<108	<102	<96
moderate exercise intensity	120-140	114-133	108-126	102-119	96-112
high exercise intensity	>140	>133	>126	>119	>112

Observation indicates examining the influence of exercise intensity on the SCL-90 self-rating scale and the adolescent mental toughness scale scores of students. The SCL-90 self-rating scale consists of nine subscales measuring somatization, obsessive-compulsive symptoms, interpersonal sensitivity, sadness, anxiety, anger, fear, paranoia, and psychosis. The Mental Resilience Scale comprises five subscales: goal orientation, emotional regulation, positive cognition, family support, and interpersonal aid. According to the self-made sports attitude questionnaire, the content includes six items of social interaction, mental health, spiritual liberation, self-discipline, and aesthetics, and each item is scored 50 points. The expert survey method tests the validity of the questionnaire content, and the results indicate a high level of reality (Bernal, C. 2021). The sports attitude survey was administered following the exercise intervention.

Quality Control

The researchers themselves distributed the questionnaires regarding recycling. To ensure the fairness of the research, a unified guide was provided. To preserve the individuals' privacy, the questionnaires were filled out anonymously. The questionnaires were collected and inspected once the appropriate questions were answered to verify that there were no missing items. Using double entry, the data are put into Excel. Once the access is complete, the accuracy of assignment, the logic and rationality of variables, the accuracy of an entry, and the timeliness of error correction are ensured to avoid compromising the analysis results.

Data Statistics

SPSS 21.0 software was used to process relevant statistical data. Measurement data were expressed as (mean ± standard deviation), the comparison between groups was performed by variance analysis, and P<0.05 was considered statistically significant (Wang et al., 2020).

Results and Discussion

The effect of different intensities of physical exercise on the scores of college students' SCL-90 self-rating scale

The survey results showed that after the intervention, the scores of the six factors of somatization, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, and paranoia in the observation group were significantly better than those in the other groups. The differences were statistically significant (all P values < 0.05), and there was a significant improvement trend compared with before intervention (t values were 14.17, 32.59, 10.31, 13.54, 49.75, 44 .42, all P values < 0.01). See Table 2.

Table 2

Comparison of scores of SCL-90 self-rating scale for college students with different intensity of physical exercise before and after intervention (x±s)

Before and After the Intervention	Group	Number of People	Statistics	Somatization	Force	Interpersonal Sensitivity	Depression	Anxiety	Paranoid
Before intervention	control group 1	390		1.64±0.63	3.62±0.78	2.49±1.83	2.27±0.79	2.41±0.58	2.51±0.33
	Control 2 groups	385		1.65±0.62	2.61±0.77	2.53±1.78	2.24±0.78	2.42±0.59	2.47±0.29
	Control 3 groups	387		1.67±0.64	2.65±0.79	2.52±1.78	2.25±0.79	2.39±0.27	2.39±0.32
	observation group	384		1.66±0.67	2.64±0.78	2.53±1.77	2.27±0.76	2.43±0.31	2.46±0.31
			F value	0.43	0.40	0.83	0.77	0.54	0.83
			P value	0.67	0.71	0.20	0.31	0.50	0.19
after intervention	control group 1	390		1.62±0.55	2.59±0.38	2.44±0.85	2.14±0.67	2.34±0.25	2.44±0.24
	Control 2 groups	385		1.45±0.53	1.74±0.39	2.05±0.89	1.98±0.77	1.94±0.24	1.88±0.23
	Control 3 groups	387		1.33±0.52	1.63±0.31	1.96±0.77	1.88±0.82	1.81±0.24	1.58±0.33
	observation group	384		1.06±0.49	1.25±0.3	1.59±0.25	1.63±0.53	1.45±0.23	1.45±0.32
			F value	3.57	3.33	4.27	5.28	3.82	4.29
			P value	0.00	0.00	0.00	0.00	0.00	0.00

The effect of different intensity physical exercise on college students' mental toughness scale

The results showed that after the intervention, the scores on the mental toughness scale in the observation group were significantly better than those in the control group 1 and 2. The differences between the groups were statistically significant (all P<0.05). See Table 3.

Table 3

Comparison of mental toughness scale scores of college students with different intensities of physical exercise before and after the intervention (x±s)

Before And After the Intervention	Group	Number of People	Statistics	Goal Focus	Emotional Control	Positive Cognition	Family Support	Interpersonal Assistance	Mental Toughness
Before intervention	control group 1	390		2.88±0.68	3.48±0.59	2.18±2.13	3.45±1.41	3.17±1.12	2.01±0.43
	Control 2 groups	385		2.86±0.67	3.49±0.56	2.39±2.24	3.59±1.39	3.19±1.18	1.97±0.49
	Control 3 groups	387		2.83±0.81	3.58±0.69	2.45±2.49	3.49±1.43	3.18±1.19	2.12±0.43
	observation group	384		2.89±0.67	3.47±0.59	2.29±2.09	3.48±1.40	3.16±1.17	2.19±0.39
			F value	0.54	0.49	1.08	0.72	0.05	1.17
			P value	0.66	0.69	0.36	0.54	0.99	0.32
after intervention	control group 1	390		2.92±0.29	3.52±0.62	2.39±0.43	3.47±1.59	3.21±0.18	2.22±0.52
	Control 2 groups	385		3.09±0.31	3.61±0.77	2.73±1.78	3.54±1.58	3.22±0.19	2.69±0.54
	Control 3 groups	387		3.19±0.28	3.65±0.79	3.52±1.78	3.55±1.51	3.29±0.17	3.23±0.53
	observation group	384		3.18±0.32	3.64±0.78	3.53±1.77	3.57±1.52	3.23±0.27	3.22±0.62
			F value	18.51	3.46	53.06	3.32	2.77	26.66
			P value	0.00	0.02	0.00	0.02	0.03	0.00

Combined with Table 4: Before the intervention, there were no statistically significant differences between the experimental and control groups' mental health (P>0.05 for each component). After the intervention, there were statistically significant differences between the experimental and control groups on the factors of preoccupation, interpersonal interaction, depression, anger, fear, and delusion (P<0.05). It demonstrates that physical activity has an interventional influence on mental health. This also verifies Ventura's conclusion regarding the moderating effect of physical activity on the mental health of college students (Ventura et al., 2021). Currently, many psychologists consider physical activity as a treatment for mental health. College students' mental health issues, particularly interpersonal connections, anxiety, and aggression, worsen as their academic performance improves (Alim et al., 2020). The following are the reasons: The rapid development of the Internet and electronic products has a significant impact on the mental health of students; (2) the majority of current college students are only children whose parents are spoiled; they are prone to dependence, poor independence, self-centeredness, and lack of willpower; (3) after the college entrance examination, students' academic pressure is relieved, and they are full of yearning for co-curricular activities; (4) after the college entrance examination, students' academic pressure is reduced, and they are full of yearning for After attending college, confronting a new environment, and assimilating into group life, the environment and roles have changed significantly. There is a contrast and contradiction between the past dependence and the current climate, which will produce intense psychological discomfort; (4) The rise in prices, the increase in food, clothing, and communication costs for students, along with the psychological effect of pursuing "fashionable" and well-known brands. Even when their families are highly impoverished, some people spend a lot of money and go out of their way. It will have a lasting impact on the mental health of pupils. (5) The belief that "love is a required course in college life" permeates the minds of today's college students; (6) The pressure of postgraduate entrance examinations and employment that juniors and seniors confront. These primary elements affect college students' mental health (Andreev et al., 2020).

Compared to adults, college students are more emotionally volatile and susceptible to changes in psychological activities, especially in the face of catastrophes or events of high consequence. Physical activity helps alleviate students' psychological issues to some degree. (1) Physical exercise can promote physical health, keep people energized, and increase self-confidence; (2) Physical exercise increases pulmonary ventilation and cardiac stroke volume, thereby accelerating the pulmonary circulation and systemic circulation of the body, increasing

the blood supply and oxygen supply to the brain, making students clear-headed, quick-witted, and memory-improving; (3) Long-term exercise can promote the production of dopamine and endorphins, which can alleviate depression and anxiety; (4) Physical exercise can increase pulmonary ventilation and Participation in physical exercise by college students is mainly in the form of group projects; during exercise activities, students can talk and interact face-to-face; with time, students can reduce antagonism and improve interpersonal connections (Mat-Shayuti et al., 2020). Students who engage in physical activity more frequently acquire more interpersonal skills than those who do not routinely engage in physical activity.

Table 4

Comparison of sports attitude scores of college students with different intensities of physical exercise (x±s)

	Somatization	Force	Interpersonal Relationship	Depression	Anxiety	Hostility	Fear	Delusional	Psychotic
Participate in exercise	0.03**	0.06**	0.09**	0.11**	0.11**	0.10**	0.07**	0.08*	0.10*
exercise intensity	0.14**	0.16**	0.18**	0.16**	0.21**	0.15	0.14**	0.13	0.16
exercise time	0.01**	0.01**	0.03*	0.03*	0.05*	0.05*	0.02*	0.03**	0.01*
exercise frequency	0.01**	0.06**	0.09**	0.13**	0.11**	0.11**	0.02**	0.08**	0.04**

Note: ** means the correlation coefficient is significant at the 0.01 level, and * means the correlation coefficient is vital at the 0.05 level.

The influence of different intensities of physical exercise on college students' physical attitude

Survey results show that the students in the observation group believed that physical exercise could have a good impact on social interaction, physical and mental health, spiritual liberation and self-discipline, and there were statistically significant differences between the scores of the students in the other groups (all P<0.05). See Table 5.

Table 5

Score difference Table

Group	Number of People	Social Contact	Physical and Mental Health	Sports Aesthetics	Spiritual Relief	Self-Training
control group 1	390	38.49±1.68	32.48±0.54	42.49±1.76	32.18±1.02	31.33±1.48
Control 2 groups	385	38.28±1.81	32.43±0.55	43.48±1.28	34.29±1.23	34.48±1.29
Control 3 groups	387	33.49±0.80	34.55±0.56	44.28±1.59	32.28±1.22	43.55±1.43
observation group	384	40.18±1.82	44.62±0.59	45.19±1.74	46.19±1.02	41.82±1.04
F value		2.62	3.12	3.43	2.75	3.02
P value		0.01	0.00	0.00	0.00	0.00

Effects of physical exercise of different intensities on mental health

According to many experiments conducted by psychologists, if college sports are divided into low, medium, and high intensities, the effects of college students under the three intensities of training indicate that students at the university level are best suited for low- and medium-intensity sports. In contrast, high-intensity training is unsuitable for underdeveloped college students with physical injuries. The effect of low- and medium-intensity physical activity on the mental health of college students is therefore evaluated as follows:

(1) Low-intensity physical activity to enhance cognitive development

To preserve the synchronization and consistency of the body and the brain, college students must learn the coordination and appropriate response of the body during low-intensity physical activity. Participating in sports improves the human body's central nervous system so that the cerebral cortex's nervous system may be adequately managed in the state of excitement or depression, improving the accuracy and balance of the cerebral cortex nervous system. Appropriate intensity exercise can help pique the interest of elementary school pupils in sports learning (Xing, T., 2021). Sports experience increases the

growth of college students' time, space, and perception abilities, make the brain's thinking more flexible and coordinated, and improves reaction speed dramatically, promoting college students' intelligence development.

(2) Moderate physical activity to enhance personality psychology

It is vital for elementary school children to overcome some subjective or objective aspects of their own to attain the purpose of physical exercise, which is to enhance college students' personality and psychological health. Therefore, physical education instructors should frequently organize students for physical activity. Participating in moderate-intensity exercise can increase college students' attention, observation, memory, thinking, and imagination, as well as anxiety, tension, depression, weariness, the pace of change in psychological stress, and the teaching effectiveness of elementary school sports. Students can obtain self-assurance, optimism, boldness, tenacity, perseverance, perseverance, persistence, happiness, and other pleasant emotional experiences, which aid in developing their personalities and ideal personality traits (Al-Wagdany, 2020).

(3) Improving interpersonal interactions by combining low- and moderate-intensity physical exercise

In the physical education sports training program, to make the muscle groups employed in the approaching moderate-intensity activity more adaptable, the muscle groups are expanded and contracted for a period prior to the moderate-intensity exercise. Involving physical activity requires a transitional warm-up of low intensity. Warm-up exercise refers to a brief period of low-intensity physical activity performed before moderate-intensity physical activity, which eliminates all types of discomfort caused by the body's abrupt transition from its normal state to a state of intense exercise and ensures that the body cannot be injured. Get any injuries and get an excellent workout; it can also assist primary school pupils in strengthening friendships and improving interpersonal relationships through physical activity. A warm-up exercise before jogging, for instance.

According to the results of this study, as measured by the Freshmen Mental Health Scale and the Mental Toughness Scale, the psychological quality of the students is low, and there are several inner inconsistencies and conflicts. Once, psychologist Rosenberg generalized that the emotions and cognition of individuals or social groups are composed of neural and endocrine responses, emotional and language responses, and explicit behaviors. Emotion and cognition in their internal structure are factors between stimulation and response, which can alter people's emotions and cognition when individuals or social groups are given the appropriate stimulation. It demonstrates that athletic conduct is closely related to students' mental health. Different intensities of sports have a favorable effect on students' mental health and can increase their sports performance, competitive level, and physical quality. Therefore, it can be concluded that increasing the intensity of exercise is helpful for both physical and mental health. In addition, this study demonstrates that although high-intensity and low-intensity physical activity might improve physical and mental health to some degree, moderate-intensity exercise is optimal. Domestic and international research has determined that moderate-intensity physical activity positively influences athletic performance and sustaining mental health. Regular physical education courses improve the individual's willpower and mental toughness. Under the intensification of physical intensity exercise, the individual's will quality, mental toughness, and anti-frustration ability will be greatly exercised. According to domestic and international research, increasing exercise intensity can enhance the tempering of will, and moderate exercise intensity is an essential means of cultivating virtue and improving mental toughness. There was no significant difference in the scores of students with different exercise intensities for target focus, emotional regulation, and interpersonal aid.

Regarding psychological toughness and other indicators, students with moderate exercise intensity performed significantly better than those in regular course instruction and those with low-intensity exercise. This indicates that moderate exercise intensity can cultivate students' ability to withstand pressure and setbacks and has a positive effect on students' future competition inside and outside of school. High-intensity athletics cannot overcome physical obstacles for some groups, such as girls, and will have detrimental consequences. This study reveals that the scores of mental toughness and other indicators of students who exercise at a high level are slightly better than those of students who exercise moderately, but the difference is not statistically significant. Therefore, in consideration of the unique circumstances of some pupils, moderate exercise intensity is more beneficial to mental fortitude. In terms of social scoring, the use of sports activities can provide students with social places and opportunities, which is conducive to allowing students to have more options for language and behavioral expression; Through sports activities, students can feel psychological stimulation; in particular, moderate intensity can amplify the value of sensory stimulation, make students feel a unique sense of pleasure, and increase their physical and mental health scores.

Physical education should be utilized extensively for mental health education. By. In sports, physical activity is conducted in groups, and students interact. Cooperation assists in adjusting the complicated interactions between individuals and individuals, as well as between individuals and groups. Students develop and master motor skills through group instruction and practice. Skill, the completion of prescribed physical exercises, demands physical exertion and teachers' and students' love and care, support and aid, respect and trust, and comprehension. And harmony. I mastered the movement method and conquered the drowsiness by exerting consistent physical and mental effort. Difficult, tempered the will, exercise their own, but also comprehend others to reap a psychological and physical double harvest.

Conclusion

(1) College students cannot promise a daily one-hour commitment to extracurricular athletics. The primary activities include ball games, gymnastics (aerobics, dance, ballroom dancing), and martial arts. (2) The primary reason why students do not like to participate in sports is that they are anxious about schoolwork, there is no uniform organization and set of requirements, and the facility's equipment is inadequate. (3) It is proposed that the content of two exercises is modified and that more gymnastics (aerobics, dance) be included. The martial arts and ballroom dancing enhance the pleasure and standardization of the exercises. (4) To enhance the investment in sports activities, we must maintain sports inside the system. The monies provide for more than 1 percent of the school's overall operating expenses to complement the school space, equipment, and supplies shortage. Despite the shortage of money for sporting activities, it is recommended that universities offer physical education programs for all four years. (5) For all kids, implement quality and physical education reforms. Change, encourage students to engage in sports fitness activities actively, promote students' sports interests and Sports values, and establish the notion of lifetime sports.

The results of this study's survey indicate that, according to the census of the first-year students' mental health scale and the mental toughness scale, the psychological quality of the students is low, and there are several inner contradictions and conflicts. The psychologist Rosenberg once hypothesized that the emotions and cognition of people and social groups are constituted of neurological and endocrine reactions, emotional and linguistic responses, and explicit acts. When proper stimuli are presented to individuals and social groups, factors during the reaction might alter people's emotions and perceptions. It demonstrates that athletic conduct is closely related to students' mental health. Physical activities can alleviate the negative physiological energy accumulated in the heart and erase the difficulties produced by negative emotions. Physical activities can eliminate negative feelings such as anxiety and tension. Negative physiological energy can be effectively eliminated through moderate-intensity physical exercise, and the blood rheology of the human body will undergo good changes, thereby promoting biochemical reactions in the brain. Under nerve mediation, the tense muscle response is relieved so that students gain a sense of self-control and satisfaction, which is conducive to maintaining a positive attitude. Frequently engage in diverse and colourful university sports, and give sports their due. In fitness, mental health, entertainment, and cultural transmission, among other things, numerous organizations play an essential role. Content. Various types of sports include grade and class ball games and tug-of-war ratio Group activities such as racing, hiking, and cross-country running cultivate and enrich the leisure time of middle school pupils. Student sentiment, develop positive interpersonal relationships.

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