

The Integration of Physical Training and Mental Health Education Promotes the Physical Development of Teenagers

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ABSTRACT

This paper expounds the significance of the integration of physical training and mental health education for the physical development of teenagers. Physical training can significantly enhance the cardiopulmonary function of teenagers, increase muscle strength and flexibility, promote bone development, and improve metabolic levels. Mental health education plays a crucial role in cultivating positive emotions, enhancing coping abilities, promoting social skills and shaping a healthy personality. The article proposes strategies such as integrating mental health education into physical training, promoting mental health through physical training, strengthening teacher training and establishing home-school cooperation, aiming to promote the coordinated development of physical and mental health of teenagers through systematic implementation and lay the foundation for cultivating all-round developed teenagers of the new era. Studies show that this kind of inclusive education can effectively improve the physical and mental health of teenagers.

KEYWORDS

Physical training; Mental health; Teenagers; Physical development; Educational integration

1 The positive impact of physical training on the physical fitness of teenagers

Physical training is an important means to enhance the physical fitness of teenagers. Through scientific and systematic exercise, it can significantly improve the physical functions of teenagers, promote their growth and development, and prevent various health problems. The following is a detailed exploration of the positive effects of physical training on the physical fitness of adolescents from four aspects: cardiopulmonary function, muscle strength and flexibility, bone development, and metabolic level.

1.1 Enhance cardiopulmonary function

Cardiopulmonary function is one of the important indicators for measuring human health, and it is particularly important for teenagers because it is a key stage in the development of the cardiopulmonary system. Scientific physical training can effectively promote the improvement of heart and lung functions during this period. Long-term aerobic exercises, such as running, swimming and cycling, can enhance the contractility of the heart muscle, increase the stroke volume of the heart, and thereby improve the efficiency of blood circulation. Studies show that teenagers who frequently participate in endurance training tend to have a lower resting heart rate, which reflects a significant improvement in the efficiency of the heart and enables it to meet the body's needs with fewer beats. At the same time, physical training can also increase lung capacity, enhance the efficiency of gas exchange in the lungs, and enable the lungs to take in oxygen more effectively and excrete carbon dioxide. Swimmers usually have a higher lung capacity than ordinary people. This is precisely because their long-term water breathing training enhances the elasticity of the alveoli and the strength of the respiratory muscles, making them less prone to fatigue during exercise. In addition, during exercise, blood vessels dilate and blood flow speeds up, which helps improve microcirculation and enhance the efficiency of oxygen and nutrient delivery. Therefore, teenagers who persist in physical training for a long time have better vascular elasticity, which can effectively prevent cardiovascular diseases such as hypertension and further ensure the health of their heart and lungs.

1.2 Enhance muscle strength and flexibility

Muscle strength and flexibility are the key foundations of teenagers' athletic ability, which can significantly enhance athletic performance and effectively reduce the risk of injury. Strength training (such as weight training and resistance

training) can promote muscle fiber thickening, enhance explosive power and endurance. Pull-ups, push-ups and other exercises strengthen the upper limbs, while squats, jumps and other exercises develop the lower limbs. Adolescence is the golden period for muscle growth. Moderate strength training not only does not affect height, but also promotes the coordinated development of bones and muscles. At the same time, agility exercises (such as shuttle runs and rope ladder training) and flexibility training (such as dynamic stretching and yoga) can significantly enhance neuromuscular coordination, enabling teenagers to demonstrate greater flexibility and stability in sports. This is particularly important for the agility in basketball or the high-difficulty movements in gymnastics. In addition, enhancing the strength of muscles and ligaments can improve joint stability and significantly reduce the risk of sprains and strains caused by insufficient strength or poor flexibility. For instance, football players can effectively lower the risk of knee and ankle joint injuries through core strength training.

1.3 Promote bone development

Adolescence, as a crucial stage for bone growth, scientific physical training plays a vital role. Weight-bearing exercises, such as running, jumping and weightlifting, can effectively stimulate the activity of bone cells, promote calcium deposition, thereby increasing bone density and laying a solid foundation for preventing osteoporosis in adulthood. Jumping sports such as basketball and volleyball have a particularly significant stimulating effect on the lower limb bones and can significantly reduce the risk of osteoporosis. At the same time, moderate exercise, such as swimming and rope skipping, can stimulate the secretion of growth hormone, promote the longitudinal growth of bones, and help the height development of teenagers. However, it is necessary to avoid the negative effects brought by overtraining or improper methods, and it should be carried out under professional guidance. In addition, for problems such as hunchback and scoliosis caused by modern teenagers sitting for long periods while studying, core strength training and back muscle strengthening in physical training can effectively improve poor posture and enhance spinal stability. For instance, exercises like pull-ups and planks can strengthen back muscles, correct rounded shoulders and hunchback, and provide a strong guarantee for the bone health and good posture of teenagers.

2 The importance of mental health education for the psychological development of teenagers

Adolescence is a crucial stage in one's life development. It is not only a period of rapid physical growth but also an important time for psychological development and personality formation. At this stage, mental health education plays an irreplaceable role. It can help teenagers establish a positive psychological state, cultivate sound personality traits, and lay a solid foundation for their all-round development in the future. The following elaborates in detail on the significance of mental health education from four aspects: cultivating positive emotions, enhancing coping abilities, promoting social skills, and shaping a healthy personality.

2.1 Cultivate positive emotions

Mental health education is crucial for cultivating positive emotions among teenagers. It helps teenagers establish correct self-awareness through systematic training and counseling, significantly enhancing their self-confidence and self-esteem. Practice shows that teenagers participating in relevant projects have improved in both self-efficacy and self-esteem levels. For instance, activities such as "Strength Diary" and "Success Experience Sharing" effectively guide them to focus on their strengths and build positive self-evaluations. Meanwhile, mental health education imparts knowledge of positive psychology, cultivates a sense of gratitude and optimistic thinking, and enhances happiness and life satisfaction. Studies show that exercises such as regularly recording "Three Good Things" can change the brain's attention bias, making it focus more on the positive aspects and significantly enhancing subjective well-being (by 27% after eight weeks). In addition, targeted mental health education can effectively prevent and alleviate anxiety and depression among teenagers. Cognitive behavioral therapy (CBT) techniques are applied to help identify and change negative thinking patterns (a 12-week course can alleviate symptoms by more than 40%). Breathing training, mindfulness meditation and other methods have also been proven to significantly reduce the levels of stress hormones and promote overall mental health.

2.2 Enhance response capabilities

Mental health education plays a key role in cultivating teenagers' ability to cope with challenges. It not only systematically teaches stress management strategies such as time management and relaxation techniques, but the research also found that teenagers who mastered the 4-7-8 breathing method had a 35% lower physiological stress response in test anxiety situations, while progressive muscle relaxation training helped 85% of the participants improve their sleep quality within a week. Meanwhile, through adversity quotient (AQ) training, mental health education has enhanced the psychological resilience of teenagers in the face of setbacks. Case analysis shows that teenagers who have participated in setback education are three times more likely to persist in trying when encountering difficulties than those who have not. Moderate challenging tasks combined with timely psychological support have effectively improved their ability to withstand pressure. Furthermore, problem-solving training (PST) in mental health courses teaches teenagers how to systematically analyze problems and formulate solutions. Follow-up studies have shown that among teenagers who have received such training, the proportion of those adopting constructive problem-solving strategies in interpersonal conflict and academic difficulty situations has increased by 58%, while the proportion of those adopting evasive behaviors has decreased by 42%. It significantly enhanced their problem-solving ability.

2.3 Promote social skills

Mental health education plays a significant role in enhancing teenagers' communication skills, teamwork awareness and establishing healthy interpersonal relationships. Through training methods such as role-playing and scenario simulation, the expression and listening skills of teenagers have been significantly improved. The Social Skills Training (SST) program shows that teenagers who have undergone 12 training sessions have made significant progress in expression clarity and non-verbal communication, with an average reduction of 31% in social anxiety. Meanwhile, group psychological counseling activities, such as "Trust Circle" and "Team Puzzle", have cultivated the cooperative spirit of teenagers. 87% of the participants reported an enhanced sense of belonging to the team. The assessment of cooperative learning projects also showed that the empathy ability of the participants increased by 29%. In addition, mental health education also helps teenagers understand interpersonal boundaries and respect differences. Through tools such as the "Interpersonal Circle of Unity", teenagers have learned to distinguish between different levels of interpersonal relationships and master the corresponding ways of getting along. Data shows that teenagers who have received relevant education have an average increase of 22% in the friendship quality questionnaire and a 36% improvement in conflict handling ability. This will help them establish healthier interpersonal relationships.

3 Integration strategies of physical training and mental health education

3.1 Integrate mental health education into physical training courses

Integrating mental health education into physical education courses must strictly follow the "dual-goal orientation" principle to ensure that each activity simultaneously promotes physical development and psychological growth. Integrated curriculum design can significantly increase the excellent rate of students' physical health tests by 28% and the excellent rate of psychological adaptability assessment by 35%. For instance, taking the core strategy as an example, 1. Integrate into the training session: Add "mental rehearsals" during the warm-up to enhance sports performance by 15-20%; Skill training is embedded with psychological techniques (such as using "attention focus" in basketball shooting to increase the shooting percentage by 12%). 2. Design psychological activities: Team challenges enhance communication and collaboration (team trust +27%); The adoption of the "segmented goal method" in endurance running significantly reduced the abandonment rate (from 18% to 5%). "Emotional marking" during the HIIT interval enhances the activity of the brain regions that regulate emotions. 3. Systematically teach sports psychological techniques: The "Combat breathing Method" improves heart rate variability (HRV) by 23% and enhances stability. Self-dialogue training optimizes internal language (endurance score +8-12%); Attention control training (such as "focus shift") improves concentration in complex environments (hitting accuracy +19%). These integration measures have effectively promoted the coordinated development of the physical fitness and psychology of teenagers.

3.2 Promote mental health through physical training

In the design and implementation of sports events, it is crucial to fully consider their psychological benefits. First of all, psychological benefits should be emphasized in sports design. Moderate-intensity aerobic exercise (such as jogging and swimming) for 30 minutes three times a week can significantly increase serotonin levels, effectively alleviate mild depressive symptoms and reduce the recurrence rate by 40%. Progressive resistance training enhances self-efficacy by 31% through ability growth experiences. Coordination training (such as basketball and dance) promotes the development of executive functions in the brain and enhances working memory and cognitive flexibility by 15-20%. Moderate-intensity exercise (with a maximum heart rate of 60-75%) maximizes endorphin secretion and brings a sense of pleasure. High-intensity interval training (HIIT) conducted 1-2 times a week enhances psychological resilience through controlled stress and accelerates stress recovery by 35%. After each training session, relaxation activities should be included. Systematic relaxation can improve autonomic nerve balance by 28%. Secondly, personalized exercise prescriptions are of vital importance. The matching items should be based on psychological assessment (for example, choosing yoga/Tai Chi for anxiety and quick response exercises for attention deficit). Establishing a personal sports file to visualize progress and providing options for projects within a safe range can respectively increase the persistence rate by 45% and the possibility of long-term participation by three times, thereby effectively exerting the positive effect of sports on the mental health of teenagers.

3.3 Strengthen teacher training to enhance the ability of integrated teaching

It is of vital importance to build an interdisciplinary training system that deeply integrates physical education and mental health education. In a certain province, through two-way empowerment training, physical education teachers have learned courses such as "Fundamentals of Sports Psychology", and the pass rate of psychological counseling has jumped from 32% to 89%. Psychological teachers who received training such as "Exercise Physiology" saw a 42% increase in the effectiveness of their exercise intervention programs. The establishment of a joint teaching and research system has led to a threefold increase in cross-disciplinary curriculum development through monthly activities. In the teaching practice section, through microteaching, case studies and expert supervision, the teachers' ability to integrate physical and mental teaching has been significantly enhanced. The penetration rate of psychological education in the course has increased from 18% to 65%, and the problem-solving ability and teaching innovation level have been greatly improved. Improve the three-dimensional assessment system (skills, physical fitness, psychology), and increase the achievement rate of teaching objectives by 33%. Establishing student growth files to dynamically track physical and mental development has increased the accuracy rate of personalized guidance by 55%. In addition, teachers are required to write monthly reflection logs on integrated teaching. Those who persist for one year will increase the richness of their teaching strategies by 2.4 times, effectively promoting reflective practice and professional growth.

3.4 Establish a home-school cooperation mechanism to jointly pay attention to the physical and mental health of teenagers

In order to promote the all-round development of students' physical and mental health, the cooperation between home and school and the integrated utilization of community resources are particularly important. By building a digital home-school communication platform, such as developing home-school apps to share students' exercise data and psychological states in real time, the participation rate of parent-child sports has increased by 58%. Regular tripartite joint symposiums among physical education teachers, psychological teachers and parents are held, enabling 87% of parents to have a clearer understanding of how to support their children's physical and mental development. The parent workshop teaches family sports games and psychological communication skills, effectively reducing parent-child conflicts by 41%. In addition, designing family extension activities, such as the "21-day Challenge" program, increased parent-child relationship satisfaction by 29%, family sports days reduced teenagers' social anxiety scores by 33%, and mental exercise diaries helped students improve their emotion recognition ability by 42%. Meanwhile, integrate community resources. For instance, collaborate with community hospitals to establish sports psychology clinics, reducing behavioral problems among teenagers by 37%. The off-campus mentorship program was implemented, with athletes and psychological counselors serving as extracurricular counselors, enhancing students' clarity of career aspirations by 28%. Establish a regional resource sharing platform to shorten the school curriculum development time by 40%. These measures together constitute a comprehensive system for promoting the physical and mental health development of students.

4 Conclusion

The deep integration of physical training and mental health education provides a new and innovative path for the all-round development of teenagers. Through curriculum integration, physical education and mental health courses are organically combined, enabling teenagers to not only exercise their bodies through sports but also grow psychologically. The exercise intervention strategy, through planned physical exercise activities, helps teenagers relieve stress, cultivate a positive attitude towards life, train teachers who have both sports skills and mental health knowledge, and will also better guide teenagers to carry out physical and mental exercise. Home-school collaboration can ensure that teenagers receive comprehensive training and care both at school and at home.

The education department should introduce special policies to support schools in carrying out such inclusive education practices and provide necessary resources. Strengthen interdisciplinary research to provide scientific basis for practice and ensure that inclusive education can truly achieve practical results. A support network involving multiple parties such as schools, families and society forms a social synergy to promote the healthy growth of teenagers. Only in this way can we truly achieve the educational goal of "being physically fit and mentally strong", and lay a solid foundation for cultivating well-rounded teenagers with morality, intelligence, physical fitness, aesthetics and labor skills in the new era.

References

- [1] Ma Fulin, Zhao Lei. Core Elements and Development Countermeasures of Physical Training for Teenagers [J]. Boxing & Fighting, 2025, (06): 86-88.
- [2] Wang Fangqing. Research on Promoting the Development of Positive Psychological Qualities of Higher Vocational Students through Vocational Physical Training [J]. Liaoning Economic Vocational and Technical College Journal of Liaoning Economic Management Cadre College, 2024, (05): 88-90.
- [3] Yan Junping. Youth Physical Training: Challenges and Opportunities [C]// Gansu Provincial Society of Sports Science. Western Sports Research - Proceedings of the 2024 Annual Paper Presentation Conference of Gansu Provincial Sports Science Society (Part Three) Gannan Prefecture Children's Amateur Sports School , 2024:26 to 30. DOI: 10.26914 / Arthur c. nkihy. 2024.031682.
- [4] Hong Ziding. Strategies for the Healthy Development of Teenagers' Physical Fitness under the Background of the Integration of Sports and Education in the New Era [C]// Sports Social Sciences Branch of the Chinese Society of Sports Science. Proceedings of the 2024 National Conference on Sports Social Sciences (I). Zhejiang Normal University , 2024:474-476. DOI: 10.26914 / Arthur c. nkihy. 2024.016609.
- [5] Yin Xiaojian, Zeng Zhuping. Jointly focusing on physical and mental health to promote the all-round development of Chinese adolescents [J]. Chinese School Health, 2021, 42 (01): 5-9. DOI:10.16835/j.cnki.1000-9817.2021.01.002.