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Exploration on the Development of Adolescents' Sustained Physical Activity: PE Lessons, Teacher Support and School-Community Connection Modes

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Abstract: Teenagers lack sufficient exercise and are therefore not physically fit. According to the World Health Organization, children and adolescents aged 5-17 need to be physically active in a moderate-to-vigorous way for at least 60 minutes each day. However, a survey shows that 86% of children and teenagers are in a low-active state, and the compliance rate is only 14.8%. According to the "Compulsory Education Physical Education and Health Curriculum Standards (2022 Edition)", the average heart rate of students in physical education classes should be between 140 and 160 beats per minute. Insufficient teaching load and fragmented content are still relatively common in practice. The three contents of this paper are: the quality of physical education classes, teacher support and the connection between schools and communities; the way in which these three factors affect the continuous exercise of teenagers. The results show that the classroom serves as the foundation for skill acquisition, teacher autonomy support and emotional support motivate intrinsic motivation, and the link between schools and communities provides a space for extended participation outside of class. The three factors work together and are in conjunction to promote continuous participation behaviour. In light of the problems of skill-focused teaching in teacher support and a lack of school-community cooperation, it is proposed to optimise class load and teaching organisation, promote changes in the form of teacher support, and build a regular connection mechanism between schools and communities.

Keywords: Teenagers, Continuous Exercise, Physical Education Class, Teacher Support, School-community Cooperation.

1. Introduction

For a long time, the health problems of young people have been worrying. The "Outline of the Education Powerhouse Construction Plan (2024-2035)" issued in 2025 proposed "implementing the health-first education concept and launching a student physical fitness enhancement program". In November of the same year, the Ministry of Education and five other departments issued the "Opinions on Implementing the Student Physical Fitness Enhancement Program" (Document No. 1 of Education and Sports Arts in 2025), requiring that by 2027, the compulsory education stage should lead in ensuring that students achieve a daily comprehensive physical activity duration of no less than 2 hours. This series of policy deployments shows that the country is paying more attention to the physical health of young people and addresses the current problem of a lack of exercise.

Many survey results support the above. According to the "2025 National Fitness Activity Status Survey Report", only 23.9% of teenagers aged 7-18 have learned a single sport. According to the "SportsHour" study by the University of Hong Kong in the 2023/24 academic year, about 7.4 per cent of schoolchildren met the World Health Organization's recommendation of 60 minutes of moderate-to-vigorous physical activity per day. In the cross-sectional survey of Beijing's primary and secondary school students in 2023, the reporting rate of those who exercised for two hours a day was 33.1%. According to the above data, the problems of insufficient total physical exercise and weak foundations in sports skills among adolescents are still serious.

Continuous physical activity is not the same as occasional exercise; it refers to the continuity and habit formation of time. In order to help the adolescents develop good exercise habits, a good environment should be created in addition to their own desire. School physical education classes teach skills, physical education teachers provide direct guidance, and the family and community outside of school offer spaces for after-school activities. The three factors listed above provide support for participation in physical exercise [1].

Most of the existing research focuses on a single factor and has not fully explored the cooperative mechanism among all dimensions, such as physical education classes, teacher guidance and school-community cooperation. Based on the three dimensions above, this study will investigate the mechanism of each part sequentially: physical education classes, teacher support, and school-community cooperation, and explore how they work together on this foundation.

2. The Quality of Physical Education Classes and Building the Foundation for Teenagers' Continuous Physical Activity

The "Compulsory Education Physical Education and Health Curriculum Standards (2022 Edition)" provides an organised system of regulations for physical education courses, and Physical Education and Health classes account for about 10%-11% of the total class hours; the main competencies in these classes cover three areas: physical fitness, healthy habits, and sportsmanship. In teaching, the method of "teaching, frequent practice and regular competitions" will be used, and every class needs to reach a medium-to-high level of physical exertion. The mean heart rate of the whole class is generally in the range of 140-160 beats per minute. The above quantitative indicators have established operating bases for improving the quality of physical education classes.

The quality of the physical education class provides the basic support for teenagers' long-term participation in exercise. First, skill learning takes place in the classroom. If one cannot swim, it is difficult to include swimming in daily exercise; without learning the basic skills of basketball, the likelihood of actively participating in basketball during free time will also be low [2]. In accordance with the new curriculum standards, the six categories of sports skills are: ball games, track and field, gymnastics, water or ice sports, traditional Chinese sports, and emerging sports, offering students more choices. Second, a regular class can be set up to help people develop a habit of exercise. Fixed class times for physical education offer institutionalised exercise frequency and help students develop a regular exercise habit. Thirdly, in a group exercise scenario with peer interaction, some students' anxiety about exercising alone may be reduced. Students with weaker physical conditions or introverted personalities are more likely to avoid such group activities. The functions operate under ideal teaching conditions, but in practice, they are not always realised.

There are still some problems in the actual teaching work. The Exercise Load is relatively small. Some class organisations are too loose, and the actual exercise time is short; thus, the heart rate may not reach the range required by the curriculum standards [3]. The teaching content is also likely to be fragmented due to the limited total class hours in the semester and assessment requirements. Many schools frequently change subjects; this class teaches basketball, the next one martial arts, and the next one track and field, so students are unable to gain continuous and sufficient practice experience in any single subject. There is also no good connection between what is taught in class and the outdoor exercise. The skills learned in class and the interest aroused do not have channels for extension into after-school and off-campus activities, resulting in a disconnection between inside and outside the classroom, and students' ability to exercise independently outside school often lacks continuous support from the classroom. These deficiencies weaken the supporting function of physical education classes for continuous exercise and also affect the role of physical education in cultivating a lifelong habit of exercise.

3. The Incentive Effect of Teachers' Support Behaviors on Students' Continuous Physical Activity

As the organiser of the classroom, the teaching behaviour of physical education teachers affects students' participation in physical exercise. Research has shown that students feel more supported by their teachers and are thus more motivated to exercise. Teacher support can directly affect students' exercise behaviour and also enhance their sense of autonomy in learning indirectly [4]. In addition to the quality of the class itself, how teachers support also affects the direction and scope of the impact on students' continuous exercise.

According to the theory, the above mechanism can be explained by Self-Determination Theory. The three basic psychological needs of autonomy, competence and relatedness are proposed in this theory. Meeting these needs will help the people in society live more freely. Teachers can give students some freedom in the classroom by providing choices for the practice content, responding to their subjective experiences during exercise, explaining the purpose of practice, and reducing mandatory instructions to meet these psychological needs. This form of support will be applied in the current class and, by strengthening students' self-motivation, will also extend to their choice of extracurricular activities.

In terms of continuous physical exercise, the effect of teachers' support can be divided into three types. Cognitive factors refer to teachers' explanations of exercise principles, demonstrations of standardised movements and targeted feedback, etc., which help students build an effective exercise cognition. Rather than just telling students what to do, it is more likely that they will learn better and be more willing to do so if they know why. In terms of emotions, praise and recognition from teachers can reduce the anxiety or reluctance some students have towards exercise and make them feel better about participating in sports. In terms of behaviour, the teacher assigns some homework or recommends other learning materials for students to use after class to extend their learning.

The impact of teachers' support is restricted by some factors in practice. When the class size is large, it is difficult for the teacher to know about all the students' emotions and strengths and weaknesses in learning. Some teachers' understanding of the concept of autonomy is still in its early stages, and they are more accustomed to skill teaching and discipline management. If the school evaluation places a strong emphasis on long-term hard indicators, such as the rate of compliance with physical fitness tests, teachers will naturally focus on "doing it thoroughly" and pay less attention to "being willing to move"; thus, the role space for teacher support in motivating long-term exercise may be reduced [5].

4. School-Community Integration: The Extension of Physical Activity Space for Adolescents

Adolescents' exercise does not have to take place in the school. After school, on weekends, and during the winter and summer holidays, a considerable amount of time is spent out of school. How to use these periods of time effectively for physical exercise is a problem that needs to be solved to motivate young people to participate in such activities regularly. Integration of schools and communities is precisely how to break down the division between the inside and the outside of the school. No matter how fully the classroom and teachers' roles are realised, if physical exercise cannot be organised after school, the previous efforts will be in vain [6].

The "2025 National Fitness Activity Status Survey Report" can be referenced. Among the main places where people aged 7 to 18 exercise, community venues such as school sports facilities, park facilities and public sports venues have relatively high usage rates. The report also indicates that the current deficiencies in national fitness are still quite widespread. The most concentrated feedback is "lack of professional fitness guidance, organised support and continuous services". Some people have the problem of "having a place but no direction" or "being able to exercise but not scientifically". The above phenomena show that school-community cooperation is feasible. Schools have professional sports teachers and a system of teaching, but communities have convenient venue conditions and flexible opening hours. The two are complementary and can compensate for the shortcomings of the other.

The need for school-community integration is that continuous physical exercise requires a natural place to be

carried out. If the movement skills learned at school and the movement habits formed cannot be continued after school, then the effect of school sports will be diminished. At the same time, if the community can organise sports activities and guidance services that align with what is taught in school, students will also have a chance to practise outside of school. Thus, the three are connected in terms of classroom learning, after-school practice and community participation.

The progress of school-community integration is not going well. Resource barriers are especially pronounced: school venues are generally unavailable outside of school hours, community public facilities lack professional guiding staff, and no regular resource-sharing channels have been established for the two parties. There is also a lack of mechanisms. There are no regular communication platforms for schools and communities, and the organisation of activities lacks systematic planning and continuous follow-up [7]. Promptly address the safety problems. Outdoor activities have risks of transportation and accidental injury, and the responsible party is not clear. Schools and communities are not eager to do so. Due to the above reasons, adolescents have fewer opportunities to engage in high-quality physical exercise outside of school, and the chain of continuous participation between inside and outside the school has been broken.

5. Collaborative Mechanism for Physical Education Classrooms, Teacher Support, and School-Community Integration

The preceding chapters have introduced the three dimensions and the problems that arise from them. "Breakage" refers to a situation where these three dimensions do not work together and are not considered as a whole [8].

In order to know how the three work together, we first need to know when each one occurs. Based on the above analysis, the three links do not have the same direction. The physical education classroom provides the basic learning platform for movement skills; it is the starting point of the entire chain and a prerequisite for the effective operation of subsequent links, addressing the question of "how to do it". Teacher support maintains students' interest in participation and, at this stage, converts learned skills into a psychological desire for continuous participation, addressing the question of "do you want to do it". School-community integration offers opportunities and conditions for outdoor activities, providing a realistic extension of physical education from the classroom to the outside, addressing the question of "having access to it". These three links are in a sequence; students who lack basic skills will find it difficult to generate a desire to participate, and those who have such a desire but lack venues and opportunities cannot continue, and even if venue conditions are available, a lack of internal motivation will also make participation difficult to sustain. Therefore, the three are not in parallel addition but rather progressive and layered support.

The "Opinions on Implementing the Project of Strong Physical Fitness for Students" already show this collaborative spirit. This paper puts forward twenty measures in eight areas for reforming sports teaching and training, and establishing a competition system. The demand for "coordination inside and outside the school, and within and outside the campus" to promote 2-hour daily physical education, as well as the proposal of a new sports development model of "school + family", all point to multi-party cooperation. At the policy level, it has been clearly stated that only the school cannot achieve the goal of promoting continuous physical activity among teenagers. Involve the families and communities in the work.

There are still some practical problems with the implementation of the collaborative mechanism [9]. The three parties have different focuses: schools want to finish teaching and ensure safety; communities are interested in offering public services; families are more concerned about the children's study results. Given the different demands of all parties, there has been no effective consensus for cooperative promotion. In addition, for the cooperative mechanism to function normally, institutional support is required, such as cross-departmental coordination institutions, resource-sharing rules, risk-sharing modes and effect-evaluation mechanisms. These institutional elements are currently not complete, thus restricting the actual effect of the collaborative promotion.

6. Practical Approaches for Promoting the Development of Continuous Physical Activity in Adolescents

To address the above problems, efforts should be made at all three levels simultaneously.

The key at the classroom level is the exercise load and content arrangement [10]. The demand for the heart-rate indicator is clear: the average heart rate of all students in a class should be between 140 and 160 beats per minute. Project switching should be infrequent, and students need to focus on practising a small number of projects in a semester or a school year to learn at least one sport skill. The "Opinions on Implementing the Program for Strengthening Students' Physical Fitness" encourage schools to try class-based scheduling and club systems to cater to all students' different interests. The content of the course should also be related to students' daily lives and experiences so that what is learned in class can be applied after class, thus increasing their interest in learning.

Teachers can also alter their teaching methods outside of school hours to help students develop the independent-learning ability. Autonomous support is to give students some freedom within a reasonable range for specific goals, respect their physical sensations, explain the reasons for the exercise clearly, and provide prompt, targeted support. Thus, the students will be able to exercise their bodies and maintain a sense of purpose in learning. At the same time, the evaluation system should also consider what teachers have taught and what students have learned through experience. Teachers can also extend teaching outside of school hours by giving individualised homework, recommending local sports facilities, and connecting the school with other after-school activities.

Adjustments at the classroom and teacher levels address teaching and learning, but continuous physical activity still requires supporting space outside the school, and school-community cooperation needs an institutionalised collaborative framework [11]. School facilities should be open to students and the surrounding community during off-peak hours, and professional guidance groups from the community can come to the school for a two-way exchange of teachers and venues. The school and the community should work together to plan the content and form of extracurricular

sports activities regularly. The circumstances of students' extracurricular exercise can be added to the school's scope of attention via home-school communication and community records for continuous monitoring. A system of handling safety issues should be built to clarify responsibilities and establish a reasonable risk-sharing mechanism; thus, cooperation between the school and the community can be carried out effectively.

The reforms at the three levels support each other. The circumstances of the different areas are not the same, so the starting point and speed of implementation should be adjusted accordingly. Through the gradual accumulation of experience and optimisation of practice, a promotion mechanism for continuous physical exercise can be effectively built.

7. Conclusion

Whether the reforms at all three levels can be implemented effectively ultimately depends on how well the people understand the internal connections among the three. The quality of the physical education class directly affects whether the foundation of students' physical skills is solid, how teachers provide support determines whether students' internal motivation can be effectively stimulated, and the smoothness of the connection between the school and the community affects the feasibility of extending physical activities outside of school. The three levels are interdependent, and if any one of them is weak, the whole will be affected. The three parts correspond to the three basic problems of skill learning, motivation maintenance and condition guarantees, respectively.

In terms of policy implementation, relevant documents issued in recent years have provided an institutional basis for the reform, and some regional practical explorations have accumulated certain experience. However, overall, there are still some deficiencies in the physical education classes in terms of meeting the exercise load standards and the systemisation of teaching, and the transition from skill teaching to motivation stimulation by teachers has not been fully realised. The transition from local attempts to institutionalised operation in the connection between schools and communities is still in its early stages. The existence of these problems shows that the system has not been reformed at all. This paper will only present the theoretical analysis and policy review; the specific paths for action under each heading have not yet been verified by empirical research.

The aim of promoting continuous exercise is not to increase the length of exercise, but rather to help students develop a sense of self and a desire for participation in physical education voluntarily. This sense of identity has been formed through the continuous play of the classroom, teachers and the outside world over a long period of time. Later, more research will be carried out in detail on the intersection of the three directions to determine whether different combinations of these three dimensions exist in different areas. How do the sensitivity levels of students in different grades to various levels of support change? Which specific factors affect the operational effectiveness of the collaborative mechanism. The answers to the above questions will provide more specific support for the design of intervention plans in all circumstances and reduce the gap between policy recommendations and actual implementation.

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