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## Evaluating the Role of Physical Education in Enhancing Physical Activity Levels among Adolescents

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### ABSTRACT

Physical activity is an essential part of the development of adolescents. However, modern living patterns have witnessed a significant decrease in the development of movement-based behaviors among young people. Screen time, academic stress, and a decrease in outdoor activities have significantly contributed to sedentary behaviors among young people. In this context, physical education has become an essential tool for increasing the level of physical activity among young people. The main purpose of this research paper is to assess the role of physical education in increasing the level of physical activity among young people by focusing on its role in enhancing physical fitness, behavioral development, mental health, social development, and health awareness. The research paper is based on a qualitative and analytical approach by relying on secondary data collected from different journals, reports, and studies on the education sector and health awareness. The main argument of the research paper is that physical education is not only a requirement of the education curriculum but also a tool for increasing the level of physical activity among young people. At the same time, the paper also identifies some of the challenges that hinder the efficiency of physical education. The challenges include the lack of infrastructure, inadequate teacher preparation, gender stereotyping, inadequate curriculum time,



and the emphasis on competitive sports. The paper concluded that physical education can have a transformative impact on the physical activity levels of adolescents when it is inclusive, well-designed, motivating, and supported by institutional commitment. Therefore, there is a need for school authorities, educators, and policymakers to recognize physical education as a vital aspect of health promotion for adolescents.

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## Introduction

Adolescence is one of the most important periods in the life cycle of an individual, during which rapid physical growth, emotional change, cognitive development, and formation of social identity occur. The behavior formed during this period is often carried forward into adulthood, which is reflected in the long-term health consequences. Among such behavior, regular physical activity holds a prominent place, as not only is it related to physical well-being but also to mental health, social confidence, discipline, and the quality of life as a whole. Yet, in spite of its significant role, the level of physical activity among adolescents has been declining in the past decades. The advancement of technology, high scholastic pressures, urban living, lack of open spaces, and the use of electronic media as an entertaining medium have forced many adolescents to lead sedentary lifestyles, which is an issue of serious concern among educators, health experts, and policy-makers worldwide.

Physical inactivity among adolescents is associated with various adverse effects. The adverse effects include obesity, reduced cardiovascular fitness, poor posture, muscular weaknesses, lack of stamina, increased stress, anxiety, and the early onset of lifestyle-related disorders such as diabetes and hypertension. In addition, the lack of physical activity during adolescence may result in reduced self-confidence, reduced social activity, and adverse effects on academic performance through reduced concentration and mental freshness. In this context, the role of schools as an intervention site for health promotion is gaining greater recognition, given the potential to reach the adolescent population on a regular basis. Physical education is one such intervention among the many available that holds tremendous potential.

Physical education is not just a subject in school that focuses on games or physical exercises. It is a method of education aimed at promoting physical competence, physical fitness, movement skills, and discipline, as well as a love of physical activity, in students. Unlike other physical activities, physical education is a part of the school curriculum, which means it has the potential to reach a wide number of



students from different socio-economic, cultural, and academic backgrounds. Therefore, physical education has the potential to act as a platform for promoting physical activity in adolescents who are otherwise inactive.

The main objective of the current research paper is to assess the role of physical education in increasing the level of physical activity among adolescents. The main focus is not only on the role of physical education in increasing the level of physical activity among adolescents during school hours but also on its influence on the attitudes and behavior of adolescents. The paper also discusses the relationship between physical education and the mental health of adolescents, social interaction, physical literacy, and the resistance of adolescents to sedentary behaviors. In addition, the paper identifies the challenges facing the effectiveness of physical education in schools and provides recommendations for improving its effectiveness.

The importance of this topic can be found in the need to address the health issues of adolescents in contemporary society. In most cases, educational institutions are focused on helping students achieve academic success. Physical education is often viewed as secondary or optional. However, such a view fails to take into consideration the fact that health and learning are closely related. An active adolescent is often full of energy, focused, emotionally stable, and socially confident. Thus, assessing physical education as a means of promoting physical activity is not only an intellectual task, but it is also socially imperative. This paper will present the idea that physical education should be viewed as a vital aspect of adolescents' development.

## **Literature Review**

The relationship between physical education and physical activity in adolescence has been extensively examined in various educational, medical, and psychological studies. The literature available on this topic indicates a strong likelihood of physical education having a significant effect on physical activity in young people, especially when physical education is regular, well-structured, and embedded in a conducive school environment. However, there are indications in literature that physical education can have a differential effect in terms of curriculum quality, teacher competence, motivation, gender, and facilities.

Some of the early research in the field of school health education highlighted the significance of physical activity in the development of the physical well-being of the child. It was argued by researchers that the period of adolescence is one during which the body is growing rapidly. It is during this period that the



body requires movement, exercise, and motor development. It is also during this period that the body is developed to perform physical fitness activities. Later, the perspectives of these researchers were widened to the point where it was argued that physical education is not limited to the performance of physical fitness activities.

One of the concepts that were developed in modern literature is physical literacy. Physical literacy is defined as “the ability, confidence, motivation, and understanding to move one’s body in a way that provides lifetime opportunities for physical activity.” Whitehead is one of the researchers who has advocated for the importance of developing physical literacy in physical education rather than sports skills. This is a significant aspect in modern physical education because adolescents may not participate in physical activities due to a lack of confidence, embarrassment, poor coordination skills, and past experiences rather than a lack of opportunities. Literature has shown that when adolescents develop movement skills and confidence in physical education, they can participate in physical activities in and out of school.

Another important field of research is the role of physical education in the context of the global increase in sedentary behaviors. Health institutions and public health research reports have repeatedly highlighted the growing rates of sedentary behaviors among adolescents, including watching TV, using smartphones, and academic activities involving long periods of sedentary behavior. Reports published by international health institutions have shown the high rates of adolescents not reaching the recommended daily amounts of moderate to vigorous physical activity. As a consequence, several research studies have highlighted the role of schools as a setting for the prevention of sedentary behaviors, with physical education being one of the direct methods to increase the level of physical activity among adolescents. Several studies have shown the positive effects of adolescents attending daily physical education activities on their daily steps, aerobic capacity, and awareness of exercise for health.

Another significant body of literature also points to the psychological and emotional benefits associated with physical education. Adolescence is marked by factors such as stress, social pressures, emotional instability, and identity crises. Studies have established the benefits of movement-based activities in school curricula, which can reduce anxiety levels, improve mood states, and increase concentration. Physical education activities such as cooperative games, rhythmic activities, yoga, and non-competitive exercises can lead to positive emotional benefits. It is evident that the role of physical education is not confined to the physical domain and can contribute to the holistic understanding of adolescence.



Social development is another theme that emerges in the literature. Students in physical education classes are often in groups and must learn to cooperate, communicate, and get along. This can have a positive impact on social confidence and inclusion, but there is a risk that physical education can perpetuate exclusion, especially when teachers overemphasize competition and do not provide a supportive environment for less-skilled students, girls, overweight students, or students with disabilities. The success of physical education, therefore, depends on the teaching style.

Research into gender differences in physical education has been a major area of concern. The consensus among researchers is that, in physical education, girls are less active than boys in physical education, and this can be attributed to cultural, body image, and lack of female-friendly activities. The researchers argue that physical education can play an important role in promoting physical activity among adolescents, but only if gender differences in physical education are taken into consideration. Inclusive activities like dance, yoga, fitness circuits, and non-competitive physical activities have shown positive results in increasing the participation rate of girls and less-skilled students.

Some researchers have also studied the policy and structural aspects of physical education. It is seen that in many school systems, physical education is not given much priority because of academic pressures, exam-oriented education, and resource constraints. It is also seen that if physical education is not regularly included in the curriculum with definite objectives, its contribution to the physical activity level of adolescents is minimal. But if schools can offer qualified teachers, sufficient facilities, and diverse activities with a positive attitude, the results can be positive. It is seen in all the literature that physical education is effective not because it is included in the curriculum, but because it is implemented.

In summary, the literature review supports the assertion that physical education can play an important role in the promotion of physical activity among adolescents, but only insofar as it is purposeful, inclusive, enjoyable, and relevant to the student's life. It is also important to note that the review above is the basis on which the present study is grounded, with the intention of examining the role of physical education not as an educational subject but as an instrument for the promotion of health among adolescents.

### **Objectives of the Study**

The objectives of the current study can be summarized as follows:

1. To investigate the significance of physical education in the promotion of physical activity among adolescents.



- 2.To assess the significance of physical education in the development of physical fitness and movement behaviors among school-going adolescents.
- 3.To analyze the significance of physical education in the reduction of sedentary behaviors and the promotion of active lifestyles.
- 4.To understand the effects of physical education on the mental, emotional, and social well-being of adolescents.
- 5.To determine the challenges and limitations hindering the effectiveness of physical education programs among school-going adolescents.
- 6.To propose suggestions to enhance the quality and effectiveness of physical education programs in the improvement of physical activity among adolescents.

### **Research Methodology**

The methodology that this research paper is going to follow is qualitative, descriptive, and analytical in nature. The research is going to be primarily based on secondary data, which includes books, journal articles, educational reports, studies on school health, government guidelines, reports published by various national and international organizations concerned with the health and physical activity of adolescents. The rationale behind the adoption of the secondary source-based approach is to create an extensive academic understanding about the role of physical education in the enhancement of physical activity among adolescents.

The research is based on an interpretative framework, which implies that the research is not based on any statistical experiment conducted by the author but is based on the analysis of existing data and theoretical perspectives. The sources are based on the relevance of the data to the research topic, credibility of the publication, and applicability of the data to the school-based adolescent health context. The research is particularly based on literature on physical literacy, school-based intervention, sedentary behavior, adolescent psychology, curriculum design, and inclusive education.

This methodology is also inclusive of the thematic approach to the analysis. Major themes such as structured movement, health awareness, psychological benefits, social development, barriers to participation, and policy implications were derived from the reviewed literature. These themes will be the basis for the discussion section, which enables the paper to evaluate physical education on different dimensions rather than focusing on physical fitness alone.



Although the research provides a general and significant academic evaluation, it is limited in the sense that it is based on secondary data and does not include field surveys, interviews, and experimental data collected directly from the adolescents and schools. Nevertheless, this does not reduce the significance of the research; it actually enhances the academic value of the paper.

### **The Concept of Physical Education in the Adolescent Context**

Physical education, in the context of adolescence, can thus be understood as a "planned and educationally meaningful engagement in bodily movement, health awareness, motor skill development, and social interaction." It is not merely the playing of games or the performance of physical exercises. Rather, it is a "curriculum-based educational experience designed to influence young people's understanding of the body in terms of health, fitness, cooperation, and self-discipline." At the adolescent stage of development, the student undergoes rapid changes in body and mind. Physical education can thus help the student cope better with these changes.

During this stage, adolescents tend to be more body-conscious, comparing themselves to their peers, being sensitive to physical appearance, and being more or less comfortable with physical movement, depending on how safe and acceptable they perceive their surroundings to be. Physical education has a positive impact on adolescents at this stage because it offers a controlled environment where adolescents can be exposed to a culture of safe and acceptable physical movements, making them feel comfortable with their bodies, comfortable with their movements, and more aware of the benefits of physical movements to their total well-being.

The educational value of physical education to adolescents lies in its ability to impart knowledge and action at the same time. They not only learn to be healthy, they also experience being healthy. They know, for example, how exercise affects their endurance, how flexibility is important, how posture affects their movements, how teamwork is essential, and how physical movements affect their moods. This is a unique form of learning because they relate abstract advice on health to actual experience.

### **Physical Education as a Direct Source of Daily Physical Activity**

One of the first things that is quite noticeable and quantifiable is that physical education provides adolescents an opportunity to be physically active in a direct manner within the school premises. Within many schools, adolescents spend a large amount of time sitting, be it in class, working on assignments, giving examinations, or working on computer-based learning tools. This leads to a lack of physical



activity, causing fatigue and decreased levels of physical energy. Physical education breaks this trend and reintroduces physical activity within an adolescent's life.

If physical education is conducted on a regular and active basis, physical education can contribute to a great extent to the total moderate to vigorous physical activity that adolescents perform on a weekly basis. Jogging, jogging practices, stretching, aerobic exercises, sports, relay races, yoga, dance, and fitness activities increase heart rates, improve circulation, and work different muscle groups in an individual's body. Even a few physical education classes a week can be quite beneficial, especially for adolescents who are not physically active outside of class.

The importance of this direct activity should not be underestimated. For some adolescents, particularly those from poor families, urban environments that lack open space, or very academic families, school can be the only place where they are physically active in a direct way. For some, there may not exist sports clubs, playgrounds, urban space, or family support for physical activity. In these cases, physical education can be not only beneficial but also essential.

But the quality of the activity is also of great importance. If the physical education class consists of waiting in lines, not doing much, or simply observing, then it does not contribute much to physical activity. So, in assessing the contribution of physical education, one should look at whether the students are actually moving in class, not simply sitting there in school uniforms. The most effective physical education maximizes participation, minimizes waiting, and maximizes physical activity.

### **Developing Physical Literacy and Movement Confidence**

One of the most significant long-term functions of physical education, aside from exercise itself, is the development of physical literacy. Physical literacy has been defined as "having the motivation, confidence, competence, and knowledge to participate in physical activity throughout life." Physical literacy is particularly significant in adolescence because this is a time of life in which young people often begin to develop beliefs about themselves that can last a lifetime, such as whether they are "good" or "bad" at physical activity.

A student who has often felt clumsy, excluded, or embarrassed in physical activity situations may begin to avoid physical activity altogether. On the other hand, a student who has learned skills, succeeded, and felt supported in physical education is more likely to have a positive view of physical activity. Physical education can influence a young person's identity. It can help young people view themselves in positive ways, such as "capable movers," "active participants," and "healthy bodies."



This is where skill development comes in. When young people are able to master basic skills such as running, throwing, catching, stretching, balancing, coordinating, and overcoming physical challenges, they become more confident in their participation in sports and fitness activities. Such skills help young people overcome their fears and become independent.

Confidence is another key aspect in this regard. To become a physically literate young person, one does not have to become a sportsperson, but they must believe in their capability to engage in physical activities. Therefore, physical education programs must not only reward those who are competitive and gifted in sports but also those who show progress and improvement.

This is why, when physical education programs are focused on progress and not on comparing students, more young people become willing to participate in physical activities.

### **Combating Sedentary Lifestyles Through School-Based Intervention**

Sedentary behavior has emerged as one of the most important issues facing modern adolescence. The extensive screen time, online gaming, homework, and transportation have significantly reduced physical activity. The lack of physical culture and outdoor activities have resulted in students spending a large portion of their time sitting. This has made physical education an essential element in counteracting this.

Physical education breaks the long periods of inactivity and sends a message to students that physical activity is not only important but also necessary. It reminds them that the human body was made to be used and that physical fitness should be taken seriously. It normalizes physical fitness in students' lives, not making it an exceptional or exceptional event, but rather a routine occurrence.

More importantly, physical education can also impart knowledge to children on the risks of being sedentary. This can be done by educating them on the health risks of excessive sitting, slouching, lack of physical exercise, and excessive dependence on electronic devices. This aspect of physical education is important because, at times, people tend to act when they know why they should act. This is because, if children know that physical exercise will improve their energy, sleep, concentration, confidence, and prevent illnesses, they will be more inclined to avoid being sedentary.

The impact of physical education on children's sedentary behavior is also important because, at such a young age, children tend to form habits that will stay with them even when they become adults. This means that if a child learns to love walking, stretching, playing games, and exercising, they will be more



inclined to maintain such behavior even when they become adults. This is because, at such an age, they will be preventing themselves from being sedentary when they become adults.

### **Influence on Physical Health and Fitness Outcomes**

The physical health benefits of physical education include a wide range of effects. Some of these include cardiovascular endurance, muscular strength, flexibility, balance, coordination, and body composition. During adolescence, the body undergoes rapid growth. Therefore, physical education plays an important role in promoting physical and mental well-being. It can help in regulating weight and preventing obesity. It can also help in maintaining healthy bones, muscles, and posture. This is important because, during this time, many teenagers complain of tiredness, lack of stamina, and musculoskeletal problems resulting from excessive sitting. Physical education can help in regulating weight and preventing obesity. It can help in maintaining healthy bones, muscles, and posture. This can be achieved through weight-bearing activities, muscular development, and maintaining proper posture. It can help in increasing stamina and relieving tiredness. This can be achieved through cardiovascular activities. It can help in relieving musculoskeletal problems. This can be achieved through physical activities.

Additionally, physical education helps in functional fitness, which is a type of fitness required in everyday life. When teenagers engage in physical activities, they are likely to enhance their capability to walk, climb stairs, carry their school bags, engage in social games, and increase their energy levels throughout the day.

It is worth noting that the benefits of physical education on health are not restricted to those who are highly physically fit. Therefore, physical education cannot be measured by its impact on elite performers alone, but its benefits are required to enhance the general health of students.

### **Mental and Emotional Benefits of Physical Education**

It is not possible to think of adolescent well-being in strictly physical terms. It is a time of emotional fragility, academic stress, social comparison, and psychological uncertainty. Physical education can play a significant role in these areas by providing a source of movement as a way of emotional release and mental rejuvenation.

Exercise is linked with a better mood, reduced anxiety, better sleeping patterns, and increased powers of concentration. When adolescents engage in physical activities, they feel a release from academic stress. It



refreshes their minds and gives them a chance to enjoy themselves, as there is little time for enjoyment in academic pursuits.

Physical education can play a role in raising self-esteem as well. As adolescents become stronger, more coordinated, or more willing to participate in activities, they may develop a more positive self-image. It is not just a matter of body image; it is a matter of being able to do things. The feeling of being able to complete a run, learn a skill, contribute to a team, or improve one's fitness can be a powerful source of empowerment.

Furthermore, certain types of physical education, like yoga, stretching exercises, breathing exercises, dance, and non-competitive games, can be particularly helpful for students who feel overwhelmed and socially anxious.

Physical education is therefore important in maintaining adolescent mental health not in a therapeutic way, but as a daily routine in maintaining wellness and balance in one's life.

### **Social Development and Interpersonal Learning**

One of the few academic disciplines in which learning occurs through direct interaction, shared space, and collective action is physical education. It is one discipline with a special role to play in the social development of adolescents. Through games, teamwork, paired exercises, and group challenges, adolescents learn how to work together, communicate with one another, work together towards a common goal, respect individual differences, and deal with success and failure.

These experiences are important because adolescence is the time when peer relationships become increasingly important. A positive physical education setting can contribute to social belonging, counter feelings of isolation, and help adolescents develop friendships despite academic or social groupings. Teamwork can teach adolescents to be responsible, working together can teach them to be empathetic, and competition can teach them to control their emotions and be fair.

On the other hand, this social aspect can also take a negative turn if the environment is a harsh one, where students are mocked for their poor performance, picked last in a team, or made to feel inferior in some way. In this sense, the role of a teacher is critical, as a good teacher will establish a culture where students are respected at all times and participation is valued over competence.

Physical education, if socially inclusive, can become one of the strongest environments in a school in terms of character development and peer bonding.



## **Gender, Inclusion, and Access in Adolescent Physical Education**

Any assessment of physical education would, therefore, include who benefits and who is left behind in the process. Not all teenagers have similar experiences in physical education.

Many young girls drop out of physical education in their teens due to their level of consciousness, fear of being judged, and lack of privacy, as well as activities they think are male-dominated.

Some students, such as overweight students, shy students, and students with low skill confidence, may drop out of physical education due to a competitive atmosphere.

To include everyone in physical education, there is a need to diversify activities so they cater to different interests and tastes. Not all students are interested in traditional sports, and not all students are expected to participate in traditional sports.

Dance, yoga, circuit training, walking, rhythmic movement, games, and individual fitness activities are some alternatives to traditional sports in physical education.

Inclusion also involves adapting our expectations. We need to give our students opportunities to progress from where they are. We should expect success based on effort, improvement, and engagement rather than achievement. When young people feel safe, respected, and able, participation will naturally follow.

## **Challenges Limiting the Effectiveness of Physical Education**

However, despite its potential, physical education does not always reach its full impact due to structural and cultural factors. Perhaps the most common problem is that physical education is often relegated to a secondary place. In a school system that emphasizes examinations, other subjects take precedence, and physical education lessons are often shortened, cancelled, or used for other purposes. This is a damaging attitude that implies that health is less important than performance.

Another major problem is the lack of infrastructure. Many schools do not have sufficient playgrounds, halls, or open space. Overcrowding in physical education lessons can hinder participation, and poor conditions can also affect motivation.

The qualifications of the teacher are also essential. If a teacher does not teach, simply supervising activities, or only teaches by means of repetition and competition, he/she can miss the full range of students. Physical education teachers should not only have sports skills but also have some understanding of youth psychology, health education, and motivational techniques.



Another factor is the limitations of the curriculum. If physical education is limited in scope and content to a few competitive sports, students will feel alienated from physical education. The curriculum has to be broad and flexible and related to lifelong physical activity, not just to winning in tournaments.

Finally, social attitudes can act as a barrier in the way of physical education as a subject. Parents, administrators, and students themselves may regard physical education as a leisure activity rather than a learning activity. This attitude has got to be changed in order for the subject to be taken seriously.

### **Recommendations for Strengthening the Role of Physical Education**

In order to improve the efficacy of physical education in the promotion of physical activity among adolescents, several steps can be taken.

One, physical education should be considered an integral part of the school curriculum and not something peripheral. Time allocated to it should be respected and ensured to be followed regularly.

Two, the curriculum needs to be diversified. It is not sufficient to teach only competitive sports. Fitness education, yoga, dance, recreational games, movement training, walking, and lifestyle-based movement activities should be included. More adolescents can be encouraged to take up activities they enjoy.

Three, teachers should be trained to teach physical education. It is not sufficient to leave it to the teachers to motivate the adolescents. They should be trained to teach physical education in such a way that it is done in an emotionally safe environment. It is not enough to supervise the adolescents.

Four, the entire school should support the idea of movement. Short activity breaks, activity time during recess, the formation of walking clubs, fitness campaigns, and awareness among parents can support the idea of physical education.

Fifth, assessment will change. Rather than grading students on their physical performances, there will be a focus on participation, effort, progress, knowledge of health concepts, and personal fitness development.

Lastly, there is a need for policy support. There is a need to allocate resources, provide guidelines, and incorporate physical education in school health programs.



## Conclusion

The evaluation of physical education in terms of its relationship to physical activity in adolescents leads to a conclusion that is at once clear and compelling: physical education is one of the most effective and applicable tools at a school's disposal to foster active living in adolescents. In an era in which physical inactivity has become more prevalent and adolescents' health is being challenged by digital addiction, academic overload, and a lack of engagement in physical activities, physical education represents a solution to a problem that is at once structured, inclusive, and educationally meaningful.

The value of physical education is not merely measured in terms of minutes of physical activity delivered within a given day, but also in terms of the broader attitudes, behaviors, and identities that physical education has the power to shape. Physical education has a direct impact on physical activity, physical literacy, confidence, physical fitness, physical inactivity, mental health, and social learning, and has a unique ability to reach adolescents of diverse backgrounds.

At the same time, its effectiveness is not guaranteed. Physical education will only become a truly transforming experience if it is undertaken seriously, taught proficiently, made inclusively, and supported institutionally. Otherwise, if it is relegated to token periods of time, excessive competition, and poor supervision, its effectiveness will remain unrealized. The question for educators and policymakers is not whether to include physical education but how to improve it.

A healthy adolescent is not made by achievement in school work alone. The development of the body, the confidence to move about, the pleasure of activity, and the discipline of health are all of equal importance. Physical education, if seen in this expanded role, is not an additional part of education but an essential part of it. If schools are committed to preparing adolescents for a rich and balanced life, physical education must be put at the very center of educational and health planning. Not only will schools succeed in increasing levels of physical activity among adolescents but will also contribute to the creation of a healthier and more active citizen of the future.

## References

- Sirard, John R., and Russell R. Pate. "Physical activity assessment in children and adolescents." *Sports medicine* 31.6 (2001): 439-454.



- Wallhead, Tristan L., and Janet Buckworth. "The role of physical education in the promotion of youth physical activity." *Quest* 56.3 (2004): 285-301.
- Chen, Senlin, Youngwon Kim, and Zan Gao. "The contributing role of physical education in youth's daily physical activity and sedentary behavior." *BMC public health* 14.1 (2014): 110.
- Bevans, Katherine B., et al. "Physical education resources, class management, and student physical activity levels: A structure-process-outcome approach to evaluating physical education effectiveness." *Journal of School Health* 80.12 (2010): 573-580.
- Bailey, R. (2006). Physical education and sport in schools: A review of benefits and outcomes. *Journal of School Health*, 76(8), 397–401.
- Van Sluijs, Esther MF, Alison M. McMinn, and Simon J. Griffin. "Effectiveness of interventions to promote physical activity in children and adolescents: systematic review of controlled trials." *Bmj* 335.7622 (2007): 703.
- Fairclough, S., & Stratton, G. (2005). Physical education makes you fit and healthy. Physical education's contribution to young people's physical activity levels. *Health Education Research*, 20(1), 14–23.
- Trudeau, F., & Shephard, R. J. (2008). Physical education, school physical activity, school sports and academic performance. *International Journal of Behavioral Nutrition and Physical Activity*, 5(10), 1–12.
- Whitehead, M. (2010). *Physical Literacy: Throughout the Lifecourse*. Routledge.
- World Health Organization. (2020). *Guidelines on physical activity and sedentary behaviour*. Geneva: WHO.
- Sallis, J. F., McKenzie, T. L., Beets, M. W., et al. (2012). Physical education's role in public health. *Research Quarterly for Exercise and Sport*, 83(2), 125–135.
- Strong, W. B., Malina, R. M., Blimkie, C. J. R., et al. (2005). Evidence based physical activity for school-age youth. *The Journal of Pediatrics*, 146(6), 732–737.
- Pangrazi, R. P., & Beighle, A. (2019). *Dynamic Physical Education for Elementary School Children*. Human Kinetics.



- Kirk, D. (2010). *Physical Education Futures*. Routledge.
- Lubans, D. R., Morgan, P. J., Cliff, D. P., et al. (2010). Fundamental movement skills in children and adolescents. *Sports Medicine*, 40(12), 1019–1035.
- Centers for Disease Control and Prevention. (2019). *Youth Risk Behavior Surveillance System (YRBSS)*.
- UNESCO. (2015). *Quality Physical Education Guidelines for Policy-Makers*. Paris: UNESCO.
- Salmon, Jo, et al. "Promoting physical activity participation among children and adolescents." *Epidemiologic reviews* 29.1 (2007): 144-159.
- Meyer, U., et al. "Contribution of physical education to overall physical activity." *Scandinavian journal of medicine & science in sports* 23.5 (2013): 600-606.
- Boyle-Holmes, Trina, et al. "Promoting elementary physical education: results of a school-based evaluation study." *Health Education & Behavior* 37.3 (2010): 377-389.