

INVESTIGATING THE POSITIVE IMPACT OF PHYSICAL EDUCATION AND SPORTS PROGRAMS: A MINI REVIEW ON BULLYING PREVENTION, SOCIAL RESPONSIBILITY DEVELOPMENT, ACADEMIC PERFORMANCE, AND PROSOCIAL BEHAVIOR IN ADOLESCENT STUDENTS

DELIMARIS IOANNIS

ABSTRACT

Aim: The aim of this mini review is to investigate the positive impact of physical education and sports programs on bullying prevention, social responsibility development, academic performance, and prosocial behavior in adolescent students.

Material and methods: The material of the present study was exclusively Internet-based. The method was the comprehensive electronic literature search in the databases PubMed and Google Scholar from 10 May 2024 to 10 June 2024. Criteria for inclusion of studies were : a) literature written in English, b) literature published from 2020 to 2024, c) studies that involved adolescent students, d) studies that had keywords in the title and/or abstract. Criteria for exclusion of studies were :a) reviews, b) conference papers, c) book chapters, d) books, e) short surveys , d) articles and documents written in languages other than English.

Results: The review of the literature on the positive impact of physical education and sports programs revealed that these programs play a crucial role in bullying prevention, social responsibility development, academic performance, and

prosocial behavior in adolescent students. Studies highlighted the importance of teachers' socialization experiences in shaping their attitudes and responses to bullying, the effectiveness of teaching personal and social responsibility in reducing bullying behaviors, the positive influence of a hybrid Positive Youth Development (PYD) program on personal and social responsibility in youth volleyball players, the correlation between sports participation and prosocial behavior in junior high school students, the longitudinal relationships between sports activities and academic performance in adolescents, and the impact of sport education on sportsmanship orientations in high school students.

Conclusions: The findings suggest that physical education and sports programs have a multifaceted positive impact on adolescent students, contributing to bullying prevention, social responsibility development, academic performance improvement, and prosocial behavior enhancement. These programs not only foster physical health but also contribute to social and emotional well-being, highlighting the importance of integrating such programs into educational

* **Corresponding author:** Dr. Ioannis A. Delimaris, Dr.Med.Sc (ClinBiochem), MSc (ClinChem), BSc (BiolSc), PGCE, QTS, Post-Doc (Nutr), Registered College Lecturer (Reg Num 159/2013), Scientific Collaborator at the Center for Instruction, Research, and Technology (C.I.R.T.), Metropolitan College, Athens, Greece; e-mail: dr.i.delimaris@gmail.com

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settings to support comprehensive development in students.

Further research is needed to explore the specific mechanisms through which physical education and sports programs influence these outcomes and to develop evidence-based interventions to maximize their benefits for adolescent students.

Keywords: health education, physical education, sports programs, adolescent students, bullying prevention, social responsibility, academic performance, prosocial behavior.

Introduction

Physical education is “instruction in the development and care of the body ranging from simple calisthenic exercises to a course of study providing training in hygiene, gymnastics, and the performance and management of athletic games” [1]. Sport is “a physical activity engaged in for pleasure” or “a particular activity (such as an athletic game) so engaged in” [2]. Regular physical activity promotes growth and development and has multiple benefits for physical, mental, and psychosocial health that undoubtedly contribute to learning. Specifically, physical activity reduces the risk for heart disease, diabetes mellitus, osteoporosis, high blood pressure, obesity, and metabolic syndrome; improves various other aspects of health and fitness, including aerobic capacity, muscle and bone strength, flexibility, insulin sensitivity, and lipid profiles; and reduces stress, anxiety, and depression. Physical activity programming specifically designed to do so can improve psychosocial outcomes such as self-concept, social behaviors, goal orientation, and most notably self-efficacy [3]. The fact that physical activity can improve psychosocial outcomes of the adolescent students has led to research regarding the positive impact of physical education and sports programs in promoting healthy behaviors in adolescent students [4-9]. Bullying is “the repeated use of threats or violence in an attempt to harm or intimidate others” [10]. Bullying prevention programs have desirable effects, as compared with treatment as usual. However, the

effects are modest, and they seem to be especially weak in adolescence [11]. Moreover, we define social responsibility as a set of values or personal commitments to improve one’s community and society. These values are considered part of a prosocial orientation and an integral component of youth civic engagement. Value constructs are higher-order beliefs that guide attitudes and behaviors. Social responsibility values predict a range of prosocial behaviors such as volunteering, voting, environmental behaviors, and lower substance use [12]. On the other hand, academic performance includes objective knowledge, attendance and behaviour, information that can typically be obtained from school records, but also, school adjustment and academic adaptation. The way young students are taught and assessed can impact their mental health and their development in an academic and educational environment [13]. Addressing bullying prevention, promoting social responsibility development, improving academic performance, and encouraging prosocial behavior are all important aspects of creating a positive and supportive school environment for adolescent students. By addressing these factors collectively, schools can help students thrive academically and socially (**Figure 1**).

The aim of the present mini review is to investigate the positive impact of physical education and sports programs on bullying prevention, social responsibility development, academic performance, and prosocial behavior in adolescent students. The significance of this mini (brief narrative) review lies in the potential of physical education and sports programs to not only improve physical health, but also to positively impact psychosocial outcomes in adolescent students. This mini review explores narratively the benefits of such programs in promoting healthy behaviors and examines their role in bullying prevention, social responsibility development, academic performance, and prosocial behavior. Furthermore, the originality and innovation of this review lies in its focus on the holistic development of students, beyond just physical fitness.

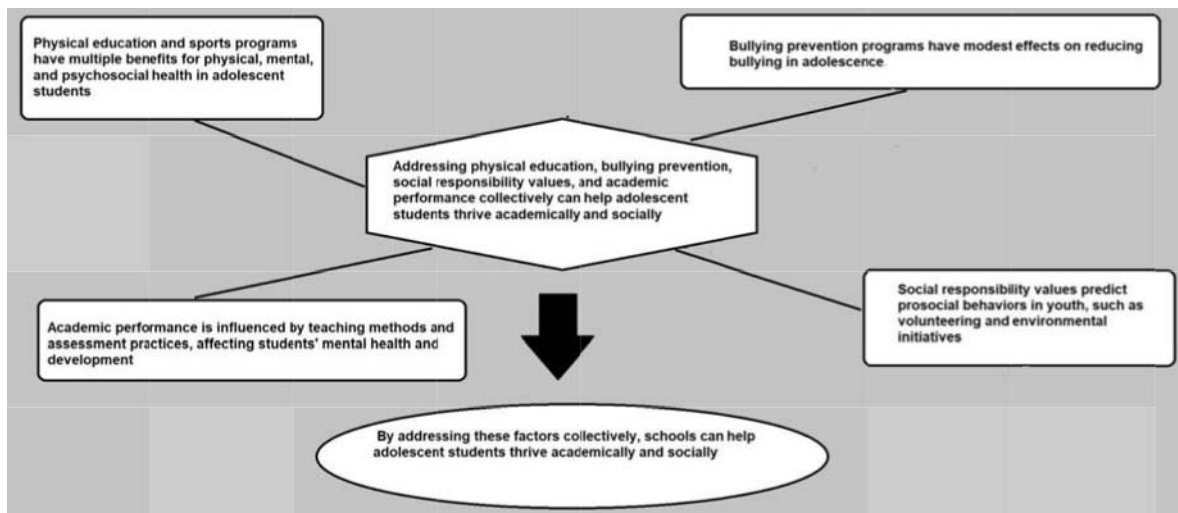


Figure 1: Addressing physical education, bullying prevention, social responsibility values, and academic performance collectively can help adolescent students thrive academically and socially.

By highlighting the potential of physical education and sports programs to address pressing issues such as bullying, social responsibility, and academic performance, this review aims to contribute valuable insights to the field of adolescent health and education. It has to be mentioned that mini reviews have several advantages over regular reviews. Firstly, they are concise and to the point, making them easier to read and digest for busy readers. Mini reviews also tend to focus on specific topics or issues within a field, allowing for a more in-depth analysis of a particular subject. Moreover, mini reviews are often more accessible to a wider audience, as they are typically written in a more accessible and understandable language. Overall, mini reviews are a valuable tool for both researchers and readers, providing a quick and informative overview of current trends and developments in a particular field [14,15].

Material and methods

Design

A brief review was performed based on a narrative synthesis of previously published literature. The material of the present study was exclusively Internet-based. A comprehensive electronic literature search in the databases PubMed and Google Scholar was performed (from 10 May 2024 to 10 June 2024) using the following terms/

key words: 1) «physical education programs» OR «sports programs» AND «bullying prevention» AND «adolescents», 2) «physical education programs» OR «sports programs» AND «social responsibility development» AND «adolescents», 3) «physical education programs» OR «sports programs» AND «academic performance» AND «adolescents», 4) «physical education programs» OR «sports programs» AND «prosocial behavior» AND «adolescents». In addition, a search in the reference lists was carried out.

Criteria for inclusion of studies were :

- Literature written in English
- Literature published from 2020 to 2024
- Studies that involved adolescent students
- Studies that had keywords in the title and/or abstract

Criteria for exclusion of studies were :

- Reviews
- Conference papers
- Book chapters
- Books
- Short surveys
- Articles and documents written in languages other than English

Selection of studies

All obtained references from the search were organized and duplicates were excluded. The titles and abstracts were screened for content

and relevance to the topic with focus on the inclusion criteria. The integral text of selected titles was read and the reference list of selected articles was consulted in order to find out other relevant publications. Additionally, studies which failed to adequately describe human DNA damage in arterial hypertension were excluded.

Data extraction and analysis

The essential data from each published study were extracted and synthesized. The results are presented in a brief narrative form. Six (6) research articles were obtained and analyzed.

Positive impact of physical education and sports programs on bullying prevention, social responsibility development, academic performance, and prosocial behavior in adolescent students

In the research of Wei et. al. (2024) [4] examined the impact of teachers' socialization experiences on their attitudes towards and actions against bullying. A total of thirty (30) physical education teachers currently working in schools were recruited for this study. Each participant underwent a semi-structured individual interview lasting around 60 minutes. Data analysis involved both inductive and deductive approaches. The analysis revealed two (2) main themes outlining teachers' views and responses to bullying. These themes identified that (a) socialization experiences and influencers shape teachers' attitudes and behaviors towards bullying, and (b) teachers utilize strategies to combat bullying but encounter significant obstacles. The findings highlight the need for enhanced education and training on bullying prevention and intervention for preservice physical education teachers. Additionally, in-service teachers should engage in professional development opportunities to enhance their confidence in effectively addressing bullying incidents [4].

In the work of Wei et. al. (2023) [5] assessed the perspectives of children, camp counselors, and activity leaders on the impact of a 4-week summer program based on teaching personal and social responsibility, with a focus on reducing bullying behavior among school-age

children. Data collection involved semistructured interviews with 30 children and eight (8) camp staff members. The child participants completed pre- and post-surveys, including the Personal and Social Responsibility Questionnaire and the Illinois Bullying Scale. Observations were recorded in a field notes log over the course of the 4-week program. Survey data was analyzed using descriptive statistics and bivariate correlations, while observational and interview data were coded using inductive and deductive techniques. The findings indicated that the implementation of the teaching personal and social responsibility model led to a perceived decrease in bullying incidents. The results of this study suggest that teaching personal and social responsibility can enhance social and emotional learning and foster improved personal and social responsibility among children [5].

Positive Youth Development (PYD) programs are utilized to promote comprehensive development in children and adolescents. The combination of two or more of these programs has become increasingly important recently. While these programs are commonly used in educational settings, there is limited research on their implementation outside of school. The study of Muñoz-Llerena et. al. (2021) [6] examined the impact of a hybrid PYD program on personal responsibility (PR) and social responsibility (SR) in youth volleyball players participating in an extracurricular program. The hybrid program was implemented over 37 sessions during the competitive season with 30 female students aged 8-10 years. A mixed methods approach including interviews, field notes, and questionnaires was used to assess the outcomes. Results suggested that the hybrid program positively influenced the learning experience for both participants and the coach. While there were no significant differences between the experimental and control groups, the findings indicate that the hybrid program may effectively promote PR and SR in youth girl volleyball players [6].

Additionally, in the research of Wan et. al. (2021) [7] examined the impact of physical activity on promoting prosocial behavior in junior high school students by investigating the

correlation between participation in sports and prosocial behavior. The study utilized data from the 2014-2015 China Education Panel Survey (CEPS) to evaluate the relationship between regular sports participation and prosocial behavior among eighth-grade students. Ordinary least squares (OLS) estimation and propensity score matching (PSM) were used to analyze the data, and the robustness of the results was assessed using Rosenbaum's bounds test. Heterogeneity analysis was conducted to identify subgroups that benefited more from sports activities. The OLS analysis indicated that engaging in sports increased prosocial behavior scores by 4%, while the PSM results showed that regular physical activity led to a more than 0.2 standard deviation increase in students' prosocial behavior tendencies. Rosenbaum's bounds test confirmed the reliability of the estimates, and the heterogeneity analysis revealed that male students and those with fathers who had more than 9 years of education experienced more significant improvements in prosocial behavior. The findings suggest that physical activity has a positive impact on students' prosocial behavior, and there is a significant relationship between prosocial behavior and gender as well as the educational level of the students' fathers [7].

The study of Ishihara et al. (2020) [8] aimed to investigate the longitudinal relationships between different sports activities and academic performance in adolescents, as well as the mediation effect of cardiorespiratory fitness. The study focused on the impact of complex motor skills and the distinction between individual sports and team sports. A total of 463 7th-grade students were followed for 2 years, with data collected on sports participation, types of sports, academic performance, and cardiorespiratory fitness at baseline and after the follow-up period. Structural equation modeling showed that engagement in sports activities was positively correlated with academic improvement over time, with these associations being mediated by gains in cardiorespiratory fitness. Participation in sports that require complex motor skills and individual sports were directly linked to academic

performance improvement. Ceasing sports activities was associated with a decline in academic performance due to a reduction in cardiorespiratory fitness. These results suggest that specific sports involvement can significantly benefit academic performance in adolescents, with cardiorespiratory fitness acting as a mediator. Sports activities that involve complex motor skills and individual participation may have a direct impact on academic success. Continued participation in sports is essential for sustaining these benefits for academic achievement [8].

Moreover, the study of Burgueño et al. (2020) [9] aimed to examine the impact of sport education on sportsmanship orientations in high school students. Participants were divided into an experimental group receiving 16 basketball lessons under sport education conditions and a control group with traditional teaching. Pre and post-intervention measures were collected on sportsmanship orientations. Results showed significant improvement in sportsmanship orientations in the sport education group compared to the traditional teaching group. Specifically, the sport education group showed increased levels of respect for social conventions, rules, referees, and opponents. There were no significant differences between genders or after-school sports activities. The study concludes that sport education is an effective pedagogical approach for physical education teachers to promote moral and ethical development through the enhancement of sportsmanship orientations in high school students [9].

Discussion

The studies by Wei et al. (2024) [4] and Wei et al. (2023) [5] highlighted the importance of socialization experiences and training in enhancing teachers' abilities to address and combat bullying. Findings suggested that implementing interventions like teaching personal and social responsibility models can lead to a decrease in bullying incidents among school-age children. The study by Muñoz-Llerena et al. (2021) [6] emphasized the positive impact of a hybrid Positive Youth Development (PYD) program on personal

responsibility (PR) and social responsibility (SR) in youth volleyball players. Additionally, Wan et al. (2021) [7] found that regular sports participation can promote prosocial behavior in junior high school students, with significant improvements observed in male students and those with more educated fathers. Ishihara et al. (2020) [8] demonstrated that engaging in sports activities, particularly those involving complex motor skills and individual participation, can lead to improved academic performance through gains in cardiorespiratory fitness. Lastly, the study by Burgueño

et al. (2020) [9] emphasized the effectiveness of sport education in promoting sportsmanship orientations in high school students, highlighting the value of this pedagogical approach in enhancing moral and ethical development in physical education. The main research findings regarding the positive impact of physical education and sports programs on bullying prevention, social responsibility development, academic performance, and prosocial behavior in adolescent students are shown in **Figure 2**.

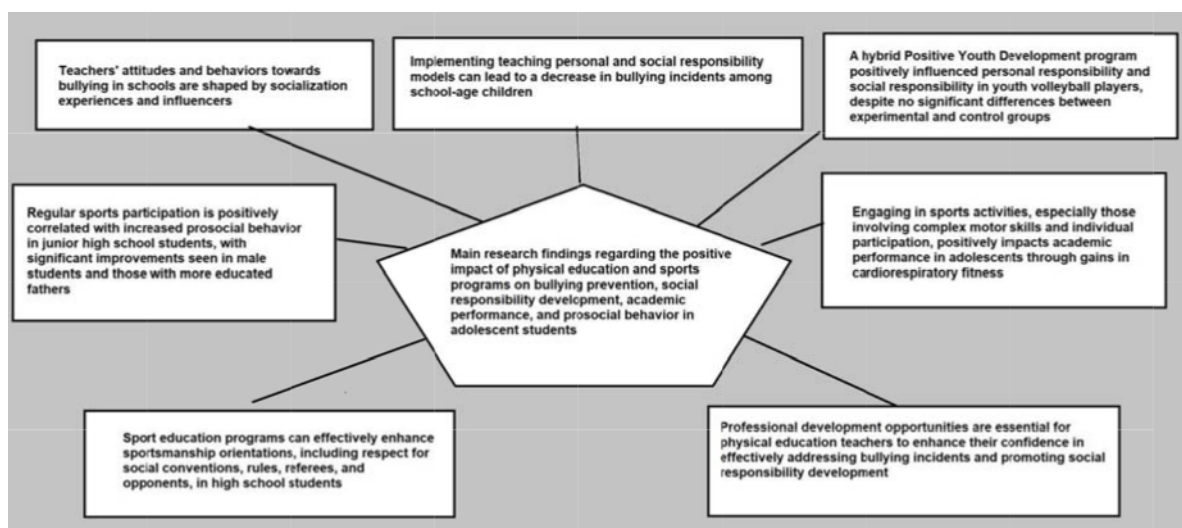


Figure 2: Diagramm demonstrating the main research findings regarding the positive impact of physical education and sports programs on bullying prevention, social responsibility development, academic performance, and prosocial behavior in adolescent students.

The research studies that we analyzed share several similarities in their methodologies and findings, even though they focus on different aspects of physical education and sports participation. Firstly, all studies utilized a mixed methods approach, combining qualitative and quantitative data collection methods such as interviews, surveys, observations, and questionnaires. This approach allowed researchers to gather comprehensive data on the impact of various interventions and programs on participants' attitudes, behaviors, and outcomes. Secondly, the studies all emphasized the importance of social and emotional development in children and adolescents through physical activity and sports participation. They highlighted the role of personal responsibility,

social responsibility, prosocial behavior, and sportsmanship orientations in shaping individuals' character and behavior. Additionally, all studies underscored the significance of continued education, training, and interventions in promoting positive outcomes in physical education and sports programs. They all recommend professional development opportunities for teachers, coaches, and program leaders to enhance their skills in addressing bullying, promoting personal and social responsibility, and fostering sportsmanship orientations among students. Overall, these studies contribute valuable insights into the positive impact of physical education and sports participation on various aspects of individuals' development and well-being [4-9].

The strengths of the above studies lie in their methodological rigor and empirical findings that contribute to the existing body of literature. The research by Wei et. al. (2024) [4] and Wei et. al. (2023) [5] are notable for their qualitative approach, utilizing semi-structured interviews and surveys to gather rich data on teachers' attitudes towards bullying and the impact of a summer program on reducing bullying behavior among children. The use of both inductive and deductive analysis in these studies enhances the credibility of the findings. Similarly, the study by Muñoz-Llerena et. al. (2021) [6] adopts a mixed methods approach, incorporating interviews, field notes, and questionnaires to evaluate the impact of a hybrid PYD program on youth volleyball players. This comprehensive approach provides a holistic understanding of the program's effectiveness. Additionally, the research by Wan et. al. (2021) [7] and Ishihara et. al. (2020) [8] employ advanced statistical analyses, such as OLS estimation, PSM, and structural equation modeling, to assess the relationship between physical activity, sports participation, prosocial behavior, and academic performance. These quantitative methods offer robust evidence supporting the positive effects of physical activity and sports on various outcomes. Similarly, the study by Burgueño et. al. (2020) [9] provides valuable insights into the effectiveness of sport education in promoting sportsmanship orientations among high school students, highlighting the pedagogical benefits of this approach. Overall, these studies make significant contributions to the fields of education, sports science, and public health, offering valuable implications for practitioners, policymakers, and researchers.

While the above studies provide valuable insights into the impact of various interventions on bullying behavior, personal and social responsibility, prosocial behavior, and academic performance in adolescents, there are several limitations that need to be acknowledged. Firstly, most of these studies rely on self-report measures and subjective assessments, which may introduce bias and inaccuracies in the data collected. Additionally, the sample sizes in some of these studies

were relatively small, which may limit the generalizability of the findings to larger populations. Furthermore, the duration of the interventions in some studies was relatively short-term, which may not capture the long-term effects of the interventions on the targeted outcomes. Moreover, the lack of control groups in some studies may limit the ability to establish causal relationships between the interventions and the outcomes observed. Finally, while some studies utilized mixed methods approaches, the reliance on qualitative data in some cases may limit the ability to draw definitive conclusions. Overall, while these studies provide important contributions to the field, future research should address these limitations to enhance the validity and reliability of the findings [4-9].

Moving forward, future studies in the field of physical education and sports psychology should focus on the long-term effects of anti-bullying interventions and social responsibility programs on children and adolescents. Longitudinal studies tracking the development of social and emotional skills over time can provide valuable insights into the lasting impact of these programs. Additionally, further research is needed to explore the effectiveness of Positive Youth Development (PYD) programs in different settings and with diverse populations to determine their generalizability and scalability [4-9]. Health education programs play a crucial role in supporting the field by providing teachers, coaches, and students with the necessary knowledge and skills to prevent and address issues such as bullying, prosocial behavior, and academic performance. These programs can offer evidence-based strategies, resources, and tools for promoting a healthy and positive learning environment. By incorporating health education into physical education curricula and extracurricular sports activities, educators can empower students to make informed choices and develop the skills needed to thrive academically and emotionally. Overall, integrating health education programs into the field can enhance the effectiveness and sustainability of interventions aimed at improving physical,

social, and emotional well-being in children and adolescents [16-20].

Conclusions

In conclusion, the findings from the mini review and the research studies included in this paper collectively suggest that physical education and sports programs have a significant positive impact on adolescent students. These programs are valuable tools in addressing key issues such as bullying prevention, social responsibility development, academic performance enhancement, and prosocial behavior promotion. The studies discussed highlight the importance of teachers' attitudes, personal and social responsibility education, the implementation of hybrid programs, the correlation between sports participation and prosocial behavior, the longitudinal relationships between sports activities and academic performance, and the impact of sport education on sportsmanship orientations. Overall, it is evident that integrating physical education and sports programs into educational settings not only enhances students' physical health but also contributes to their social and emotional well-being. These programs play a pivotal role in promoting comprehensive development in adolescents and fostering positive behaviors and attitudes. However, further research is needed to explore the specific mechanisms through which these programs influence outcomes and to develop evidence-based interventions to maximize their benefits. By recognizing the multifaceted positive impact of physical education and sports programs, educators and policymakers can prioritize the implementation of such programs to support the holistic development of adolescent students. Ultimately, investing in physical education and sports programs can lead to a brighter future for our youth by equipping them with the necessary skills and values to navigate through life successfully.

Declarations

Author contributions

ID is the sole author of the article.

Conflicts of interest

The author declares that he has no conflicts of interest.

Ethical approval

Not applicable.

Consent to participate

Not applicable.

Consent to publication

Not applicable.

Availability of data and materials

Not applicable.

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