



The Impact of Senior High School PE Entrance Examination Performance on Chinese Middle School Students' Physical Fitness: A Theoretical Study

Mao Yimou¹, Kim Geok Soh^{2*}, Rose Manisah Sulong³ & Suriyan Somphong⁴

^{1,2,3}Faculty of Educational Studies, Universiti Putra Malaysia, Serdang, Malaysia

⁴Faculty of Science and Technology, Suan Sunandha Rajabhat University, Thailand

Corresponding author: kims@upm.edu.my

Received : March 2025

Accepted : March 2025

Published : April 2025

ABSTRACT

With the ongoing reform of China's educational evaluation system and the advancement of integrating sports and education, the Senior High School Physical Education (PE) Entrance Examination has increasingly become a key policy tool for promoting the physical health of young people. This study adopts a theoretical approach to systematically explore the examination's potential application and underlying mechanisms on secondary school students' physical fitness (PF). The findings suggest that the examination, through institutionalised incentive mechanisms, effectively enhances students' participation in physical activity and raises their health awareness, thereby contributing significantly to improvements in PF. However, issues such as the limited scope of assessment items, unequal resource distribution, and increased psychological pressure have also emerged. The paper further analyses critical influencing factors, including the structure and standards of the examination, educational resources within schools, and the level of family and societal support. Based on this analysis, the study offers recommendations for policy and practice, such as optimising examination systems, adjusting educational strategies, and developing comprehensive support frameworks. The paper also acknowledges the limitations posed by a lack of empirical data and calls for future research to focus on the effects of specialised instruction, conduct longitudinal empirical studies, and explore collaborative multi-stakeholder mechanisms to enhance educational outcomes and improve performance on the Senior High School PE Entrance Examination.

Keywords: Examination Performance, Middle School Students, Physical Education, Physical Fitness

INTRODUCTION

In recent years, as national attention to the physical health of young people has steadily increased, physical education (PE) has gradually shifted from a supporting role to a central position within the educational system. Driven by the national 'Double Reduction' policy, the PE and Health Curriculum Standards (2022 Edition) (Wang et al., 2023), and the Opinions on Comprehensively Strengthening and Improving School PE in the New Era (China, 2020), the Senior High School PE Entrance Examination has assumed an increasingly important role in secondary school assessments, becoming a key instrument for evaluating students' comprehensive qualities and promoting the integration of PE with academic education (Chen, 2020; Ji, 2022). As an extension of this reform, the Senior High School PE Entrance Examination serves a selective function. It carries an educational mission - encouraging students to value physical exercise, further enhancing PE's status within the school system.

However, implementing the Senior High School PE Entrance Examination has revealed several significant issues. For instance, in some schools, PE has been reduced to exam-oriented training, neglecting students' individual differences and personal interests (Xiong & Wu, 2024). In certain regions, the unequal distribution of educational resources has created a distinct urban-rural divide in physical fitness (PF) assessment outcomes. Meanwhile, increasing exam pressure has resulted in sports-related injuries and heightened psychological stress among students (Han, 2014). Against this backdrop, it is worthwhile to critically reflect on whether a purely score-driven evaluation system in PE can genuinely achieve the educational goal of nurturing students through sport. The tension between the multifaceted value orientation of the PE entrance examination reform, including its academic significance, social function, and contribution to lifelong individual development, and the practical dilemmas faced in implementation presents a valuable space for theoretical inquiry (Sun et al., 2021).

This study aims to provide a theoretical analysis of the impact of the Senior High School PE Entrance Examination on the physical health of Chinese secondary school students. It traces the development of the examination system's policies and value orientation to clarify the underlying educational philosophy. Additionally, by drawing upon multiple theoretical perspectives, including educational assessment theory, sports sociology, and motivation theory, it explores the potential positive and negative mechanisms through which the examination may influence students' physical well-being. This research is expected to offer theoretical support for the future optimisation of the PE entrance examination system while also providing practical insights and guidance for improving the physical health of secondary school students.

LITERATURE REVIEW

Physical Fitness

PF has long been considered a core objective of school physical education and serves as a crucial indicator for assessing the holistic development of adolescents (Li & Zhang, 2024). An individual's physical development during adolescence demonstrates significant non-linear characteristics, with variations in the growth rates of bones, muscles, cardiorespiratory function, and other factors at different ages (Areekal, 2023; Cameron & Schell, 2021). Adolescence is critical for rapidly unlocking physical potential and structural remodelling, making scientifically validated physical exercise essential for enhancing aerobic endurance, bone density, and muscle coordination (Faenza et al., 2023; Norris et al., 2022).

Theoretical studies in exercise physiology have shown that moderate physical activity can effectively enhance the integration of the neuromuscular system and improve energy metabolism efficiency and exercise tolerance (Cakmak, 2023; Mileva & Zaidell, 2022; Patel et al., 2024). For adolescents, engaging in physical activity improves physiological attributes such as muscular endurance, strength, flexibility, and cardiovascular fitness. It also fosters psychological well-being by cultivating resilience and self-discipline through exercise. Including events like the standing long jump, 1000m run, and specialised basketball, football, and volleyball skills in the PE entrance examination aims to enhance students' physical fitness comprehensively. Specifically, the standing long jump assesses lower limb explosive power and muscular strength, the 1000-meter run evaluates cardiovascular endurance and aerobic capacity, while the ball sports focus on acquiring specialised skills and developing teamwork abilities. Therefore, the PE entrance examination design should fully consider adolescents' developmental stages, prioritise enhancing physical fitness, and avoid short-term, utilitarian training methods that may pose potential risks to students' physical and mental well-being.

Educational Evaluation

Educational evaluation is a vital feedback mechanism for transmitting knowledge and competence within the education system. It also functions as a formal means of guiding values and regulating behaviour (Black & Wiliam, 1998; Shepard, 2000). When the PE component of the Senior High School Entrance Examination is integrated as a summative assessment within students' academic progression, its results often impose significant external constraints that influence students' participation in physical activities.

According to the Expectancy Theory and the social constructivist perspective on evaluation, students typically regulate their sports participation behaviour dynamically based on factors such as the test's significance, the task's clarity, and the feedback's timeliness. This regulation leads to the development of adaptive strategies aimed at avoiding harm (Palincsar, 1998, 2012; Wigfield & Eccles, 2000). When an evaluation system excessively emphasises competitive performance while neglecting the effort process, students may shift towards an examination-oriented approach, resulting in 'test-oriented sports.' Conversely, if the evaluation system fully considers individual differences, promotes the growth process, and enhances feedback and reflection mechanisms, it is more likely to achieve the comprehensive human development goals of 'assessment for teaching,' 'assessment for learning,' and 'assessment for health.'

Incentive Mechanisms

Examinations, as a powerful external incentive mechanism, are inherently forms of 'Extrinsic Motivation' (Anastasia, 2024) and significantly influence students' physical education (PE) behaviours while selectively impacting their engagement in the subject. Self-Determination Theory distinguishes among various types of motivation, including intrinsic motivation, several forms of extrinsic regulation, and amotivation. It posits that individuals can cultivate lasting behavioural motivation when they satisfy their three fundamental psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 2013; Ryan & Deci, 2020; Ryan & Patrick, 2009). Suppose the design of the PE examination system is well-structured and addresses students' basic psychological needs through goal-setting, evaluative feedback, and contextual support. In that case, it can promote a shift from passive test-taking to active participation and facilitate the internalisation of extrinsic motivation into intrinsic motivation.

However, excessive emphasis on externally controlled rewards, such as scores, may suppress students' intrinsic interest. Therefore, from the motivational theory perspective, the PE entrance examination system must balance "incentivisation" and "pressure", ensuring practical assessment while respecting students' autonomy and promoting sustainable physical activity habits.

METHODS

This study employs a theoretical and policy-oriented analytical approach to examine the impact of the senior high school physical education (PE) entrance examination on middle school students' physical fitness in China. Instead of conducting empirical fieldwork, the research relies on a synthesis of relevant national policies, existing academic literature, and documented case studies, which serve as the primary sources of data.

Research Design

This study adopts a qualitative research approach grounded in the logic of theoretical deduction and literature analysis. It aims to construct theoretical frameworks and explore the mechanisms through which the Senior High School Physical Education Entrance Examination influences the development of students' physical fitness. The research process emphasises logical reasoning as the main thread, relying on existing literature to systematically summarise the potential positive and negative effects arising from the implementation of the PE entrance examination system. The findings are intended to provide a theoretical basis and reference framework for future policy optimisation and practical improvement.

Data Sources

This study systematically searched academic databases, including CNKI, Google Scholar, and Scopus. Keywords such as "The Senior High School PE Entrance Examination," "physical fitness," "physical education," and "middle school students" were used to identify relevant literature. This study applied the following exclusion criteria to ensure the relevance, quality, and focus of the selected literature: publication years were restricted to between 2000 and 2024 to maintain the contemporaneity and applicability of the findings; studies were primarily drawn from research conducted within China, given the context-specific nature of the Senior High School PE Entrance Examination; and non-formally published materials, such as reports, editorials, conference proceedings, or non-peer-reviewed papers, were excluded to enhance the academic rigour of the review. Additionally, studies that exhibited low thematic relevance to the research objectives were omitted. Throughout the selection process, priority was given to academically rigorous and methodologically sound sources that were directly policy-relevant and closely aligned with the thematic focus of this research. This systematic approach aimed to ensure that the final body of literature reviewed would provide a robust and credible foundation for subsequent analysis and discussion.

RESULTS

In this study, a total of 3,640 relevant documents were initially retrieved through a systematic search of major academic databases, including CNKI, Google Scholar, and Scopus. Following a rigorous

screening process involving title evaluation, abstract review, and full-text assessment, documents were examined against the predetermined inclusion and exclusion criteria to ensure methodological consistency and thematic relevance. As a result, 13 related papers were reviewed. These carefully selected sources provided a robust and credible foundation for the subsequent research findings and analyses presented in this study. As an integral part of the educational evaluation system, the PE entrance examination has a distinctly dual impact on students' physical health. While it can produce some positive effects, it may also lead to adverse consequences.

Positive Impact

Increased participation in physical activity

As a key component of the evaluation for promotion to higher education, the Senior High School PE Entrance Examination has transformed the PE program from 'dispensable' to 'rigid demand'. Students' previously neglected physical activities and exercise behaviours have gained greater attention and institutional support by including PE performance in the Senior High School PE Entrance Examination. Implementing this examination has effectively boosted students' motivation and frequency of participation in physical exercise (Dong et al., 2023).

Research findings indicate that since the policy's implementation, most junior middle schools have significantly reduced the incidence of PE classes being replaced by other subjects. The allocation of time for both in-class PE instruction and extracurricular physical activity has become more balanced, resulting in an overall increase in students' exercise frequency (Dong et al., 2023). Furthermore, the increased emphasis from schools and parents on students' PE performance has encouraged them to engage actively in basic fitness training during their free time, such as running, jumping, and strength training. This focus has enhanced the continuity and systematisation of their daily physical activity (Wang, 2015; Zhou, 2018). Additionally, some schools have developed diverse training programmes based on the exam criteria, including specialised volleyball, basketball, and football courses. These courses have made students' exercise behaviour more focused and effective, establishing a virtuous cycle in which "examinations promote training, and training improves health."

Enhanced health awareness

Driven by examination objectives, students' physical fitness has gradually improved, and their overall health status has consistently advanced (Xiong & Wu, 2024). The physical education component of the senior high school entrance examination requires students to demonstrate specific endurance, speed, and specialised skills. This encourages them to pay close attention to their daily diet, sleep patterns, and emotional management, thereby gradually nurturing a sense of self-regulation in health. Maintaining good physical condition has become crucial in meeting the demands of training and examination.

For example, many students have begun to take the initiative to learn about warm-up and relaxation methods, focus on protecting injury-prone areas such as the knee and ankle joints, and actively avoid physical risks. Moreover, PE teachers emphasise the importance of preventing sports injuries, monitoring physical fitness, and promoting essential health knowledge during daily training sessions (Wang, 2015; Zhou, 2018). They are gradually establishing a dual teaching structure of 'sports + health education,' transforming students' exercise behaviour from 'test-driven' to 'health-oriented.'

Ultimately, internalising health awareness enhances students' health literacy. It is also expected to create a strong psychological and cognitive foundation for developing stable, lifelong physical activity behaviours.

Negative Impact

Examination-oriented training

The intention of establishing the PE component in the high school entrance examination was to encourage students to participate more actively in physical activities and improve their PF. However, in practice, the compulsory nature of performance-based assessment has often led to an “exam-oriented PE” approach. Numerous studies have shown that teachers and students tend to organise teaching around examination content, adhering to fixed test items and rigid scoring standards while neglecting non-tested activities and developing broader physical literacy (Xiong, 2022). For example, schools frequently intensify training in tested events such as the medicine ball throw, standing long jump, long-distance running, and specialised skills like football and basketball but place limited emphasis on flexibility training and psychological development. As a result, students may experience imbalanced development in their PF.

Moreover, to quickly improve students’ performance, some teachers adopt “crash-style” or even excessive training methods, resulting in physical demands that exceed students’ capacity for adaptation, thereby increasing the risk of injury. In regions with limited sports resources and weak teaching capacity, training content is often highly repetitive and lacks personalised instruction tailored to students’ needs (Su, 2022). Such teaching approaches diminish students’ motivation to train and may lead to a loss of interest in sports altogether.

Increased psychological pressure

It was found that some students with weaker physical fitness (PF) and a poor foundation in physical education (PE) exhibited noticeable anxiety, nervousness, and even avoidance behaviours when faced with the PE examination in middle school (Xiong, 2022). Unlike cultural subjects, the uncertainty surrounding PE exams is more significant. Factors such as weather conditions, fluctuations in physical well-being, and incidents at the examination centre can impact the results, worsening students' feelings of insecurity.

At the same time, the Senior High School PE Entrance Examination is closely linked to students’ educational progression, and its emotional burden extends far beyond the realm of physical activity itself. Students who fail to achieve their expected results are prone to negative emotions such as frustration and self-doubt (Fang, 2024). They may even experience stress-related physical symptoms, including insomnia, elevated heart rate, and loss of appetite. Furthermore, the additional pressure some parents and teachers exert to pursue higher scores may unintentionally exacerbate students’ psychological stress (Pan, 2020).

Impact Factor Analysis

The impact of the Senior High School PE Entrance Examination on students' PF is not determined solely by the examination system. Instead, it is influenced by various factors, including policy, resources, family, and society. The following analyses focus on three aspects: examination content and standards, school educational resources, and family and social support.

Examination content and standards

Assessment content and evaluation standards guide students' physical activity behaviour. Currently, most regions include fundamental PF items in the PE component of the Senior High School PE Entrance examination, such as endurance running, standing long jump, medicine ball throwing, and pull-ups (Xin et al., 2021). It is worth noting that the content of PE examinations is not fully standardised across the country. Different provinces and cities develop differentiated examination frameworks based on local resources and teaching conditions. For example, the Sichuan Province Senior High School PE Entrance examination consists of four categories.

The first category is specialised skill assessment, where students select one of the following: football dribbling around cones, volleyball digging against the wall, or basketball lay-ups with dribbling. The second category focuses on strength and throwing; boys perform pull-ups or incline pull-ups. At the same time, girls execute a two-handed overhead medicine ball throw from a standing position. The third category is the standing long jump. The fourth category involves endurance running, with a 1000m run for boys and an 800m for girls (Chengdu, 2019).

Scoring is based on a percentage system. Certain activities, such as volleyball, basketball, and football, require relatively high levels of technical foundation, which may pose challenges for students without prior training experience.

Educational resources for schools

The allocation of school resources directly impacts students' training effectiveness. Middle schools often identify issues such as ageing sports facilities, equipment shortages, and limited indoor space. Some schools struggle to meet the basic requirements for daily physical education and exam-related training (Wang & Zhao, 2023). Additionally, some schools face a shortage of PE teachers and a lack of diversity in their professional backgrounds. Many teachers need to instruct multiple year groups while simultaneously preparing students for exams, resulting in high workloads and scattered teaching efforts.

However, research shows that the Senior High School PE Entrance Examination is gradually revitalising the educational resource system in a reverse manner. More developed regions have recognised the foundational role of PE in promoting students' physical fitness and overall competence and have actively redirected financial resources toward PE (Su, 2022). For instance, under the "Double Reduction" policy, Beijing has allocated special funding to support the implementation of digital testing equipment, recruitment, ongoing training of PE teachers, and enforcement of curriculum time allocation standards. These initiatives have significantly improved the PE environment in schools (Xu & Wang, 2022).

At the same time, the "one hour of daily school-based physical activity" initiative has become increasingly institutionalised (Ministry of Education of China, 2013). The evaluation mechanism has also encouraged schools to elevate physical education from a marginal subject to a compulsory and essential curriculum component. Reduced homework burdens and a more relaxed teaching pace allow students more time to engage in high-quality physical activity, providing a stronger institutional guarantee for enhancing their physical health.

In summary, although the current distribution of educational resources remains unbalanced and requires optimisation, the Senior High School PE Entrance examination policy has gradually become a key driving force in restructuring school education and redistributing these resources. As policy frameworks continue to improve and governance capacity strengthens, its role in enhancing students'

physical development and establishing a more systematic school-based sports structure is expected to grow significantly.

Family and social support

Family and society play critical roles in shaping students' physical activity behaviours. Research indicates that the extent to which parents recognise and support the Senior High School PE Entrance Examination policy significantly influences the value they place on their children's physical training and the level of support they provide (Wang, 2015). A survey found that, following the implementation of the Senior High School PE Entrance Examination, most parents began actively organising their children's training schedules, managing their diets, and offering psychological support, fostering a positive "home and school collaboration" in physical development (Zhou, 2016).

However, family support also shows clear stratification. On one hand, middle- and high-income families are more likely to enhance physical education (PE) through private coaching, nutritional support, and specialised training, thus broadening opportunities to develop physical potential. Conversely, some low-income families place insufficient emphasis on PE and may still believe that "PE is of little value," which results in a lack of external support for students' engagement in physical activity (Wang, 2015).

CONCLUSION

The results of this study indicate that the senior high school physical education (PE) entrance examination significantly influences students' physical fitness development and their commitment to regular physical activity. From a policy implementation perspective, the exam serves as an external incentive mechanism that not only formalises the role of physical activity within the educational curriculum but also encourages greater involvement from families and educational institutions in promoting student health. This dynamic aligns with the core principles of expectancy theory and self-determination theory, which emphasise the importance of perceived value and contextual support in enhancing and sustaining student motivation.

The discussion also highlights the policy's dual role as both a health intervention and an educational selection tool. This duality creates inherent tension: on one hand, the exam promotes physical engagement and health awareness; on the other hand, it can induce stress, reduce student autonomy, and distort pedagogical practices if not managed thoughtfully. While the exam has initiated a positive shift in the institutional status of physical education, it must be accompanied by reforms in curriculum structure, teacher training, and assessment philosophy to realise its full potential.

Therefore, the senior high school physical education entrance examination encourages students' involvement in physical activity, heightens their fitness awareness, and expands the time they commit to exercise, thus improving their overall physical fitness.

RESEARCH IMPLICATIONS

This research provides a systematic theoretical analysis of the policy logic, functional mechanisms, and impact pathways of the physical education (PE) component of the Senior High School PE Entrance Examination. The findings suggest that, as an institutionalised evaluation tool, the PE examination plays a multifaceted positive role in promoting students' physical fitness (PF). The Senior High School PE

Entrance Examination significantly enhances students' participation and regularity in exercise, thereby improving foundational physical capacity.

However, schools must find an appropriate balance between test-oriented objectives and quality-focused education in PE, consistently adhering to the educational philosophy of "student development as the foundation." The emphasis should be on the holistic development of students' physical fitness, motor skills, mental well-being, and healthy habits. PE classes should be fully implemented and scheduled according to national curriculum standards. It is essential to ensure that weekly PE hours are protected and not encroached upon by other academic subjects or reduced to mere formalities. Institutional safeguards should be established to guarantee the independence and stability of PE, allowing it to become an integral and sustained part of students' daily learning rather than merely a tool for examination preparation.

Therefore, the Senior High School physical education entrance examination system has positively contributed to promoting students' physical health and improving the emphasis on health education.

Research Limitations

This study primarily adopts a theoretical and analytical approach, drawing on policy documents, representative literature, and relevant empirical findings to propose the potential impact of the PE entrance examination on students' PF. However, the absence of systematic empirical investigation, data modelling, and firsthand data support limits the research.

Recommendations for Future Research

Many schools have implemented targeted specialised training programmes focused on examination components, such as concentrated practice in the standing long jump, medicine ball throwing, and middle-distance running. Additionally, some schools offer skill-based courses in sports like basketball and football. However, whether such specialised training genuinely enhances students' physical fitness, technical skills, and interest in physical activity remains under-researched and lacks systematic empirical evidence. Future experimental research could compare the effects of specialised and traditional PE teaching on students' PF structure, technical mastery, physical development, and performance in the PE entrance examination. This would help evaluate the impact of specialised teaching on the entrance exam and provide more scientifically based guidance for curriculum development.

REFERENCE

- Anastasia, U. C. (2024). Comparative effect of intrinsic and extrinsic motivation on secondary school students' achievement and retention in chemistry in Ogidi education zone of Anambra state. *Chemistry Research Journal*, 9(4), 1–14.
- Areekal, S. A. (2023). *Modelling growth processes in Indian children and adolescents* (Doctoral dissertation, Indian Institute of Science Education and Research Pune, India). <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8310>
- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice*, 5(1), 7–74. <https://doi.org/10.1080/0969595980050102>

- Cakmak, A. (2023). Adaptation of the musculoskeletal system to exercise. In D. Kaya Utlu (Ed.), *Functional exercise anatomy and physiology for physiotherapists* (pp. 373–389). Springer. https://doi.org/10.1007/978-3-031-27184-7_18
- Cameron, N., & Schell, L. (2021). *Human growth and development*. Academic Press. <https://books.google.com/books?id=ZHINEAAAQBAJ>
- Chen, P. (2020). Improving three key mechanisms to fully realise the educational value of school physical education: An interpretation of the opinions on comprehensively strengthening and improving school physical education in the new era. *Teaching of Physical Education*, 40(11), 8. <https://kns.cnki.net/KCMS/detail/detail.aspx?filename=tyjx202011004>
- Chengdu Education Bureau. (2019). Notice on the issuance of “Chengdu City senior secondary school examination enrollment physical education and health examination implementation programme” (No. 11 [2019]). *Chengdu Education Bureau*. https://edu.chengdu.gov.cn/cdedu/c113021/2019-08/29/content_5aecc6ec17224481b807bc52425d35f2.shtml
- China. (2020). The general office of the Central Committee of the CPC and the general office of the State Council print and issue the opinions on school PE in the new era. *Gazette of the State Council of the People’s Republic of China*, 30, 20–26. <https://kns.cnki.net/KCMS/detail/detail.aspx?filename=gwyb202030004>
- Deci, E. L., & Ryan, R. M. (2013). *Intrinsic motivation and self-determination in human behavior*. Springer Science & Business Media. <https://books.google.com/books?id=M3CpBgAAQBAJ>
- Dong, J., Mo, L., Shi, Y., Lu, D., Guo, C., Wan, Z., & Wan, B. (2023). Effects of the policy of physical education entrance examination for senior high school on health in middle school students. *Sustainability*, 15(2), 1701. <https://www.mdpi.com/2071-1050/15/2/1701>
- Faienza, M. F., Urbano, F., Chiarito, M., Lassandro, G., & Giordano, P. (2023). Musculoskeletal health in children and adolescents. *Frontiers in Pediatrics*, 11, 1226524. <https://www.frontiersin.org/articles/10.3389/fped.2023.1226524/full>
- Fang, Z. (2024). Representation, causes, and resolution paths of the exam-oriented tendency of the physical education part in the senior high school entrance examination. *Bulletin of Sport Science & Technology*, 32(7), 205–209. <https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2024&filename=spor202407051>
- Han, L. (2014). *Implementation of the high school entrance examination test-centering to research on the effects of middle school students’ physical fitness* (Master’s theses, Liaoning Normal University). <https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CMFD&dbname=CMFD201501&filename=1014380366.nh>
- Ji, L. (2022). New curriculum standard for compulsory education: Construction of physical education and health curriculum system based on key competencies. *Journal of Shanghai University of Sport*, 46(6), 1–9. <http://shtyxyxb.xml-journal.net/en/article/doi/10.16099/j.sus.2022.05.07.0004>
- Li, C., & Zhang, C. (2024). Exploring the current landscape of primary school physical education within the framework of the new curriculum reform: A quality evaluation model perspective. *Journal of the Knowledge Economy*, 1–22. <https://link.springer.com/article/10.1007/s13132-024-01873-5>

- Mileva, K. N., & Zaidell, L. (2022). Sport and exercise science and health. In J. Naidoo & J. Wills (Eds.), *Health Studies* (pp. 85–124). Springer Singapore. https://doi.org/10.1007/978-981-16-2149-9_4
- Ministry of Education of China. (2013). Primary and secondary school students' one-hour daily physical activity is basically guaranteed. *Yunnan Education (Vision Comprehensive Edition)*, (06), 4. Retrieved from https://www.cnki.net/KCMS/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLASN2015&filename=YNJB201306013&uniplatform=OVERSEA&v=UFjw5kStz4rzF6HEnk0vw2WTZUsvjKtmcCrDvQpIV4P7kvOrB_JJfHLEoBtSBCg
- Norris, S. A., Frongillo, E. A., Black, M. M., Dong, Y., Fall, C., Lampl, M., Liese, A. D., Naguib, M., Prentice, A., & Rochat, T. (2022). Nutrition in adolescent growth and development. *Lancet*, 399(10320), 172–184. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)01590-7/abstract](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)01590-7/abstract)
- Palincsar, A. S. (1998). Social constructivist perspectives on teaching and learning. *Annual Review of Psychology*, 49(1), 345–375. <https://doi.org/10.1146/annurev.psych.49.1.345>
- Palincsar, A. S. (2012). Social constructivist perspectives on teaching and learning. *An introduction to Vygotsky* (pp. 290–319). Taylor & Francis. <https://www.taylorfrancis.com/chapters/edit/10.4324/9780203022214-20/social-constructivist-perspectives-teaching-learning-annemarie-sullivan-palincsar>
- Pan, N. (2020). *Research on the physical education teaching strategy of Liaocheng junior high school based on the physical education examination* (Master's thesis, Liaocheng University). <https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CMFD&dbname=CMFD202201&filename=1020375532.nh>
- Patel, P. N., Horenstein, M. S., & Zwibel, H. (2024). Exercise physiology. *StatPearls* [Internet]. StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/sites/books/NBK482280/?report=reader>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://psycnet.apa.org/journals/amp/55/1/68/>
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61, 101860. <https://www.sciencedirect.com/science/article/pii/S0361476X20300254>
- Ryan, R. M., & Patrick, H. (2009). Self-determination theory and physical. *Hellenic journal of psychology*, 6(2), 107-124. https://www.selfdeterminationtheory.org/SDT/documents/2009_RyanWilliamsPatrickDeci_HJOP.pdf
- Shepard, L. A. (2000). The role of assessment in a learning culture. *Educational Researcher*, 29(7), 4–14. <https://doi.org/10.3102/0013189X029007004>
- Su, J. (2022). *Research on the influence of PE reform in Yunnan senior high school entrance examination on junior middle school PE teaching in Ninglang County* (Master's thesis, Yunnan Normal University). <https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CMFD&dbname=CMFD202301&filename=1022611131.nh>

- Sun, M., Zhang, Y., & Sun, Y. (2021). The value orientation and dilemma of the reform of physical education for senior high school entrance examination. *Journal of China Examinations*, 11, 26–34.
<https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2021&filename=ksyj202111004>
- Wang, L., Chen, Y., & Li, Q. (2023). Exploration of the physical education and health curriculum standards for compulsory education (2022 edition). *Education and Teaching Research*, 37(9), 120–128.
<https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2023&filename=cdjy202309011>
- Wang, T. (2015). *Research on the scheme and implementation of PE examination of senior high school entrance examination in Wuhan City* (Master's thesis, Central China Normal University).
<https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CMFD&dbname=CMFD201601&filename=1015443789.nh>
- Wang, Y., & Zhao, H. (2023). Research on PE reform in senior high school entrance examination under the background of the new curriculum standard. *Contemporary Sports Technology*, 13(24), 162–165, 170.
<https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2023&filename=dykj202324033>
- Wigfield, A., & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation. *Contemporary Educational Psychology*, 25(1), 68–81.
<https://www.sciencedirect.com/science/article/pii/S0361476X99910159>
- Xin, Z., Abdullah, B. B., Nasiruddin, N. J. M., Samsudin, S. B., & Zaremohzzabieh, Z. (2021). Relationship between curriculum-based intervention and fundamental movement skills among preschoolers: A systematic literature review. *International Journal of Human Movement and Sports Sciences*, 9(6), 1174–1188. <https://doi.org/10.13189/saj.2021.090612>
- Xiong, W. (2022). The re-examination on reform orientation of PE entrance exam for senior high school and college in the new era from operational and practical dilemma. *Sport Science Research*, 43(3), 8–17.
<https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2022&filename=tyka202203002>
- Xiong, W., & Wu, S. (2024). From focusing on “score-raising” in PE entrance examination for senior high school to making it a “compulsory examination” in PE entrance examination for college: Clarification on the basic theory of the reform of PE entrance examination. *Journal of Xi'an Physical Education University*, 41(3), 403–413.
<https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2024&filename=xaty202403014>
- Xu, Y., & Wang, J. (2022). The restrictive factors and path optimization on the implementation of physical education entrance examination policy for senior high school. *Journal of Physical Education/Tiyu Xuekan*, 29(1).
[https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=cr](https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=10067116&AN=154700466)
[awler&jrnl=10067116&AN=154700466](https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=cr&awler&jrnl=10067116&AN=154700466)

- Zhou, H. (2016). Physical education senior high school entrance exam SPSS analysis from the perspective of school–student–parents. *Journal of Computational and Theoretical Nanoscience*, 13(12), 10039–10043.
<https://www.ingentaconnect.com/contentone/asp/jctn/2016/00000013/00000012/art00176>
- Zhou, S. (2018). *Experimental study on the influence of layered grade 9 students' PE teaching on PE scores in senior high school entrance examination in Hohhot* (Master's thesis, Inner Mongolia Normal University).
<https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CMFD&dbname=CMFD201802&filename=1018709992.nh>