



## Identification of Barriers to Physical Activity Engagement in Adolescents: A Scoping Review

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### Abstract

This study aims to identify and map various barrier factors reported in the scientific literature related to the involvement of adolescents (aged 10-19 years) in physical activity. This scoping review method was conducted according to the PRISMA-ScR guidelines. A systematic search was conducted in electronic databases such as PubMed, Scopus, Web of Science, CINAHL, PsycINFO, and SPORT Discuss, using relevant keywords about adolescents, physical activity, and barriers. Studies that identified barriers to AF in adolescents were included. Data were extracted and synthesized narratively and thematically to identify key categories of barriers. Results are a synthesis of 12 included studies identifying multidimensional barriers that fall into three main categories: (1) Individual/Personal: Lack of motivation, personal preferences, time constraints, self-confidence, and mental health issues. (2) Social/Interpersonal: Lack of family/peer support, parental objections, and group dynamics that influence acceptance. (3) Environmental/Structural/Policy: Lack of access to or quality of facilities, safety concerns in public spaces, cost and transportation constraints, and unsupportive school/community policies. The COVID-19 pandemic was also a significant barrier. In conclusion, barriers to physical activity in adolescents are complex and interrelated, requiring a holistic and multi-component approach. Addressing these barriers requires tailored interventions, support from multiple stakeholders (individuals, families, schools, communities), and innovation in promotion strategies, including digital solutions. Further research is needed to test the effectiveness of interventions targeting these specific barriers.

**Keywords:** Barriers to physical activity, Healthy adolescents, Sports involvement

### Abstrak

Penelitian ini bertujuan untuk mengidentifikasi dan memetakan berbagai faktor hambatan yang dilaporkan dalam literatur ilmiah terkait keterlibatan remaja (usia 10-19 tahun) dalam aktivitas fisik. Metode scoping review ini dilakukan sesuai panduan PRISMA-ScR. Pencarian sistematis dilakukan pada basis data elektronik seperti PubMed, Scopus, Web of Science, CINAHL, PsycINFO, dan SPORTDiscuss, menggunakan kata kunci relevan tentang remaja, aktivitas fisik, dan hambatan. Studi yang mengidentifikasi hambatan AF pada remaja diinklusi. Data diekstraksi dan disintesis secara naratif dan tematik untuk mengidentifikasi kategori hambatan utama. Hasil adalah sintesis dari 12 studi yang diinklusi mengidentifikasi hambatan multidimensional yang terbagi dalam tiga kategori utama: (1) Individu/Personal: Kurangnya motivasi, preferensi pribadi, kendala waktu, kepercayaan diri, dan masalah kesehatan mental. (2) Sosial/Interpersonal: Kurangnya dukungan keluarga/teman sebaya, keberatan orang tua, dan dinamika kelompok yang memengaruhi penerimaan. (3) Lingkungan/Struktural/Kebijakan: Kurangnya akses atau kualitas fasilitas, masalah keamanan di ruang publik, kendala biaya dan transportasi, serta kebijakan sekolah/komunitas yang tidak mendukung. Pandemi COVID-19 juga menjadi faktor penghambat signifikan. Kesimpulannya, hambatan terhadap aktivitas fisik pada remaja bersifat kompleks dan saling terkait, memerlukan pendekatan holistik dan multi-komponen. Mengatasi hambatan ini membutuhkan intervensi yang disesuaikan, dukungan dari berbagai pemangku kepentingan (individu, keluarga, sekolah, komunitas), serta inovasi dalam strategi promosi, termasuk solusi digital. Penelitian lebih lanjut diperlukan untuk menguji efektivitas intervensi yang menargetkan hambatan spesifik ini.

**Kata Kunci:** Hambatan aktivitas fisik, Keterlibatan olahraga, Remaja sehat

## INTRODUCTION

Physical activity is a crucial component in maintaining health and well-being throughout the life span, including adolescence. Adolescents, defined as individuals aged approximately 10 to 19 years, experience rapid growth and development both physically, cognitively, and emotionally (Prabowo et al., 2025a). In this phase, the formation of healthy living habits, including involvement in regular physical activity has a significant long-term



impact on health in adulthood. The benefits of physical activity for adolescents are very diverse, including improving cardiorespiratory fitness and muscle strength, maintaining ideal body weight, improving bone health (Shao & Zhou, 2023). Then, the benefits of reducing the risk of non-communicable diseases such as type 2 diabetes and heart disease (Sudarko et al., 2023). As well as improvements in mental health including reduced symptoms of depression and anxiety, and improved cognitive function and sleep quality (Al-Haroni et al., 2024).

However, despite strong scientific evidence for the benefits of physical activity, global data shows that the prevalence of adolescents meeting daily physical activity recommendations is still low. According to the World Health Organization (WHO), children and adolescents should get at least 60 minutes of moderate to vigorous intensity physical activity each day (Bull et al., 2020). The reality on the ground is often far from this target, with the majority of adolescents failing to achieve recommended levels of physical activity. This phenomenon has become a serious concern among public health practitioners and researchers, given its negative implications for increased risk of obesity, chronic diseases, and mental health problems in adolescent and young adult populations (Chaput et al., 2020), (Karlsen et al., 2022).

These factors for low physical activity can come from the individual level, for example, motivation, personal preferences, health conditions (Roselló-Novella et al., 2023). Then, the social environment, for example, family and peer support, social norms), the physical environment (for example, access to sports facilities, environmental safety, availability of green open spaces), to policies and programs (for example, physical education curriculum in schools, active transportation policies) (Debebe & Yi-gang, 2024), (Prabowo et al., 2025b). Identification and in-depth understanding of these barriers is essential to designing effective and sustainable interventions. Without a comprehensive understanding of these barriers, existing health promotion programs may not adequately address the root causes, thus limiting their effectiveness (Diba et al., 2023).

Given the complexity and multidimensionality of factors influencing adolescent engagement in physical activity, a systematic review in the form of a scoping review is highly relevant and necessary. Therefore, this study aims to systematically identify and categorize various barriers that have been reported in the global scientific literature related to adolescent engagement in physical activity. The results of this review are expected to provide a comprehensive picture of the barrier landscape, identify existing knowledge gaps, and become a basis for developing more targeted and relevant interventions to increase physical activity among adolescents.

## **METHOD**

This study adopted a comprehensive scoping review approach, following the methodological framework outlined by Arksey and O'Malley (2005) and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines (Tricco et al., 2018). This methodology was specifically chosen to allow for the identification, mapping, and synthesis of a broad body of literature on barriers to physical activity engagement among adolescents. Based on the title of the study, the main question to be answered by the scoping review is "What barriers have been reported in the scientific literature on adolescent (aged 10-19 years) physical activity engagement across global settings?".

A systematic search strategy will be applied to several leading electronic databases, including PubMed/MEDLINE, Scopus, Web of Science, CINAHL (Cumulative Index to Nursing and Allied Health Literature), PsycINFO, and SPORTDiscus. The search will involve combinations of keywords such as "adolescent", "youth", "teenager", "physical activity",



"exercise", "sport", "barrier", "obstacle", "challenge", "determinant", "factor", and "influence", which will be linked using ("AND", "OR").

Inclusion criteria focused on adolescent population (aged 10-19 years), identified or discussed barriers to physical activity participation, were primary studies (quantitative, qualitative, mixed), research reports, published in English, published between 2020 - 2024. Conversely, exclusion criteria were populations other than adolescents, only discussed the benefits of physical activity without barriers, were editorials, letters, conference abstracts without full papers, or book chapters that did not provide original data, or were not accessible in full text were excluded.

Data from each study meeting the inclusion criteria will be extracted using a standard data extraction form. The synthesis process will include grouping barriers into broader categories or themes, descriptive analysis of the characteristics of included studies, and a comprehensive descriptive narrative highlighting consistency and variation in findings. The synthesis will also aim to identify gaps in the literature, indicating areas requiring further research.

## RESULTS DAN DISCUSSION

### Results

Figure 1 below is the result of work using the PRISMA-ScR framework, the findings of articles based on the entire database are 2,715 articles. Selection based on title and abstract produced 986 articles, then selection of article content based on exclusion criteria produced 154 articles, the last selection is based on exclusion criteria produced 12 relevant articles.

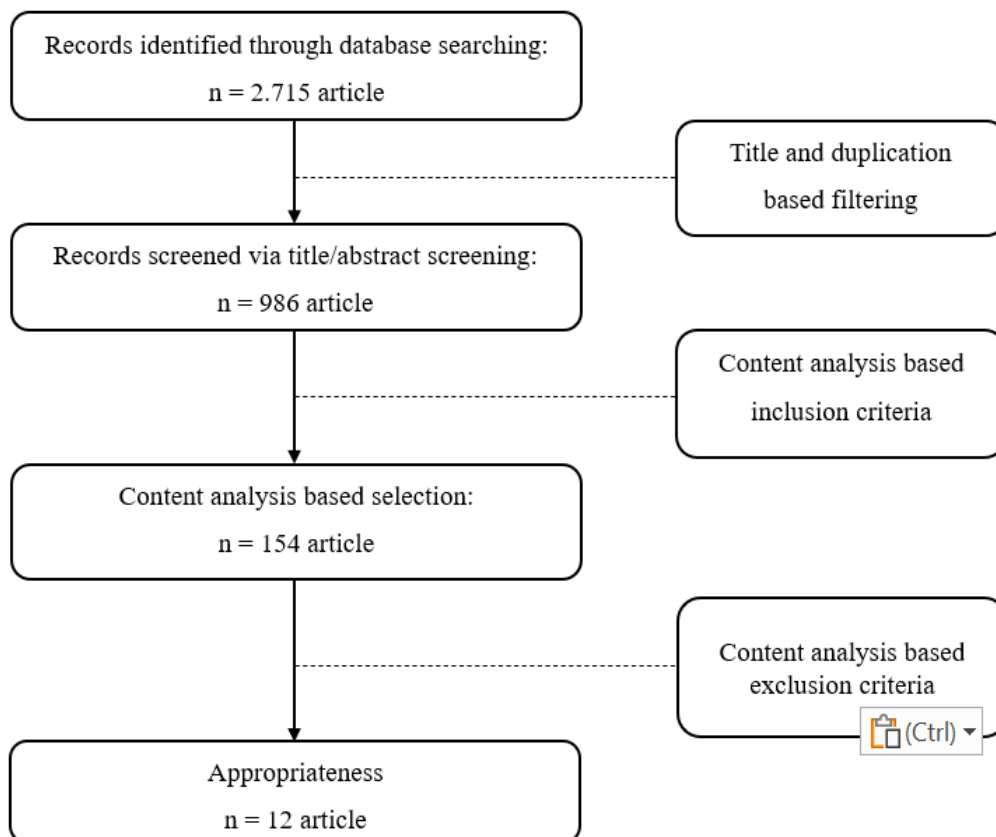


Figure 1. Research framework



Then, after the article is worthy of analysis, the next stage is analysis based on each article. Below is table 1 of article analysis.

Table 1. Results of review of eligible articles

Title (name and year)	Research purposes	Method of collecting data	Factors Inhibiting Physical Activity	Research Gap or Expectation
Individual, social and environmental correlates of active school travel among adolescents in India (Kingsly et al., 2020)	To explore barriers or correlates of active commuting to school (AST) among adolescents in India	Cross-sectional study reporting travel mode to school, environmental correlates, and barriers to AST	The distance to school is too far, parents do not allow their children to walk or cycle (parental restrictions)	Active travel to school among adolescents should be encouraged, and there is significant scope for improvement.
Network effects on adolescents' perceived barriers to physical activity (Prochnow et al., 2020)	To analyze the distribution of perceived barriers to physical activity across adolescents' friendship networks and the relationship of barriers to physical activity.	Self-reporting of frequency of experiencing physical activity barriers and friends' names; accelerometers for objective physical activity measurement.	Body-related barriers, social barriers, fitness barriers, convenience barriers, and resource barriers. Social and fitness barriers were specifically inversely related to steps per day. Adolescents' perceived barriers to physical activity were significantly related to their friends' perceived barriers	Researchers and practitioners aiming to reduce barriers to physical activity among adolescents may need to assess the effects of peer reinforcement
Barriers and facilitators to changes in adolescent physical activity during COVID-19 (Ng et al., 2020)	To examine how adolescent physical activity changed during school closures, identify key barriers and facilitators of these changes during lockdown, and understand how to positively manage future crisis situations to prevent	Online cross-sectional study with open-ended question format	COVID-19, club training cancellations and timing	Highlighting the need for collaboration between parents, schools, public health, communities and industry to prevent physical inactivity in times of crisis, especially for vulnerable groups



physical  
inactivity.

Socioeconomic inequities in youth participation in physical activity and sports (Tandon et al., 2021)	To describe and compare adolescents' experiences of sport and physical activity based on socioeconomic factors.	Cross-sectional survey	Not wanting to get hurt, not feeling accepted on the team, too expensive, and transportation (disproportionately reported by children from low-income families)	Disproportionately reported barriers to sport participation are modifiable; cross-sector solutions can help promote equity of play
The Perspective of Physical Education Teachers in Spain Regarding Barriers to the Practice of Physical Activity among Immigrant Children and Adolescents: A Qualitative Study (Marconnot et al., 2021)	To describe the perspectives of Spanish physical education teachers on physical activity practices among children, immigrant children and youth	Qualitative exploratory study; semi-structured interviews and field notes	Economic resources, integration, family, religious beliefs and practices, and gender differences	The findings help identify barriers to physical activity for immigrant children and adolescents and may contribute to the creation of physical activity-based interventions in social and educational contexts
The knowledge, barriers and opportunities to improve nutrition and physical activity amongst young people attending an Australian youth mental health service:	To determine knowledge and attitudes towards nutrition and physical activity, barriers and enablers to improving behaviour, and preferred providers/sources of information among young people (15-25	Mixed methods study; quantitative survey, structured interviews, focus groups	Mental health issues themselves are a major barrier to participation in physical activity, demonstrating the complexity of the issue among groups with mental health problems.	There is a clear need to improve dietary and physical activity habits in this at-risk group; adolescent mental health services could provide further interventions; specialist staff (nutritionists, exercise



<p>a mixed-methods study (Mawer et al., 2022)</p>	<p>years) attending adolescent mental health services.</p>			<p>physiologists) could provide additional benefits.</p>
<p>Barriers to Physical Activity in Spanish Children and Adolescents: Sex and Educational Stage Differences (Delfa-De-La-Morena et al., 2022)</p>	<p>To identify gender and educational level differences in barriers to meeting physical activity requirements and guidelines. international in Spanish children and adolescents throughout the educational pathway</p>	<p>Kuesioner International PA Questionnaire (Short Form) dan Scale of Perceived Barriers</p>	<p>Higher dislike and time barriers were reported by females; elementary school students showed lower dislike and time barriers.  but higher security barriers compared to junior high and college students. Female college students showed higher dislike and time barriers than female junior high school students. Gender and educational level be a determinant of time constraints and dislike of physical activity</p>	<p>Promotion strategies must carefully consider adolescent girls and the transition to secondary school.</p>



<p>Adolescents' Perceived Barriers to Physical Activity during the COVID-19 Pandemic (Mata et al., 2022)</p>	<p>To analyze and compare the barriers perceived by adolescents during the COVID-19 pandemic based on gender, education level, physical activity level, and BMI.</p>	<p>Survey</p>	<p>COVID-19 pandemic, lack of time, and taking time away from learning. The number of perceived barriers was higher among girls, younger age, and inactive participants.</p>	<p>Providing information on barriers to adolescent physical activity during the COVID-19 pandemic and drawing attention to the negative effects of restrictive measures on adolescent physical activity levels, demonstrating the need for interventions that target these barriers</p>
<p>Barriers and facilitators of physical activity among school attending adolescents in Lagos State, Nigeria: A qualitative study exploring views and experiences of decision-makers in secondary schools (Adebusoye et al., 2023)</p>	<p>To identify and explore obstacles and facilitator physical activity in school-going adolescents in Lagos State, Nigeria, from the perspective of a Decision Maker</p>	<p>Qualitative studies using semi-announced interviews - structured with decision makers in schools</p>	<p>Student characteristics, parental objections, lack of prioritization of physical activity, inadequate resources, and challenges with school initiatives</p>	<p>The study findings can help in designing interventions to increase physical activity among school-going adolescents in Lagos, Nigeria, given the information gap on factors influencing adolescent participation in school-based physical activity programs in Nigeria.</p>
<p>Barriers and facilitators to physical activity and</p>	<p>To investigate physical education teachers'</p>	<p>Qualitative study with physical education</p>	<p>We identified 21 barriers that crossed all categories of the COM-B model</p>	<p>Recommends the use of findings to design interventions for</p>



<p>further digital exercise intervention among inactive British adolescents in secondary schools: a qualitative study with physical education teachers (Moore et al., 2023)</p>	<p>perceptions of barriers and facilitators of physical activity, and further digital sport interventions among inactive British adolescents in secondary schools, based on the COM-B, BCW and TDF models.</p>	<p>teachers using a deductive thematic analysis approach</p>	<p>(physical opportunities, reflective motivation, social opportunities, psychological capabilities, and physical capabilities), with many of these being consistent with adolescents' own views.</p>	<p>inactive adolescents to achieve recommended levels of physical activity, as well as suggesting further development of digital exercise interventions, including conversational AI, for personalized support.</p>
<p>Facilitators and barriers to physical activity among English adolescents in secondary schools: a mixed method study (Moore et al., 2023)</p>	<p>To investigate students' perceptions of barriers to physical activity among inactive British adolescents in secondary schools based on the COM-B, BCW and TDF models, and to compare the barriers faced by active and inactive groups.</p>	<p>Mixed methods study; large-scale pre-intervention online survey</p>	<p>52 barriers and 68 behavioral barriers were identified. Psychological and social barriers (lack of self-confidence and self-awareness) were most common, affecting all activity levels, genders, and ethnic groups. Girls were more likely to experience major barriers than boys, and inactive boys were more likely to face these obstacles compared to active boys</p>	<p>Highlights the need for further research to address barriers to physical activity among adolescents, particularly inactive ones, and suggests investigating the effectiveness of novel digital exercise interventions and policies, including conversational AI solutions for personalized tools</p>
<p>Perceived exercise benefits and barriers and their association with physical activity time in Chinese Han children and adolescents aged 9 to 18 years (Ma et al., 2023)</p>	<p>To analyze perceived benefits and barriers of exercise and their relationship to physical activity time in Han Chinese children and adolescents aged 9 to 18 years.</p>	<p>Data extracted from the 2019 China National Survey on Students' Constitution and Health</p>	<p>Perceived exercise barriers scores were higher in children/adolescents living in rural areas, girls, older age, and those with less than 1 hour of physical activity per day. Increased perceived exercise barriers were negatively correlated with the likelihood of meeting</p>	<p>The implication is that addressing perceived barriers is critical to increasing physical activity time in children and adolescents in China.</p>



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physical activity

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Source: data proceed

## Discussion

This scoping review comprehensively identifies the barriers that prevent adolescents from engaging in physical activity, demonstrating that these barriers are multidimensional and require a holistic understanding for the development of effective interventions.

The synthesis of the results of various studies categorized barriers into three main groups: individual/personal, social/interpersonal, and environmental/structural/policy. At the individual level, perceived barriers such as dislike of physical activity, time constraints, lack of energy, and willpower, were especially dominant in adolescent girls (Delfa-De La-Morena et al., 2022). In addition, specific conditions such as the COVID-19 pandemic significantly disrupted adolescents' physical activity routines through activity cancellations and time constraints (Ng et al., 2020; Mata et al., 2022). Interestingly, improving mental health can also be a barrier, suggesting a complex interaction between mental and physical well-being (Mawer et al., 2022), although other studies on hypoglycemia fear have shown that perceptions of barriers do not always align with actual behavior (Diactive-1, 2020).

Social and interpersonal barriers also play a crucial role. Parental objections and family issues, including economic constraints, religious beliefs, and gender differences in the family context, as well as security concerns, have been reported as barriers to participation (Adebusi et al., 2023; Marconnot et al., 2021; Investigating the barriers preventing adolescents from physical activities in urban green spaces). The peer environment is also very influential; the obstacles that teenagers feel are closely related to those felt by their friends (Prochnow et al., 2020), while teens from lower socioeconomic backgrounds are more likely to feel unwelcome on sports teams (Tandon et al., 2021). This underscores the need for interventions that take into account social dynamics and peer support.

Environmental, structural and policy factors are significant categories of barriers. Lack of accessibility of facilities, poor quality and safety issues in urban sports facilities or green spaces are real barriers (Adebusi et al., 2023; Investigating the barriers preventing adolescents from physical activities in urban green spaces). Comparative literature confirms the urgency of this issue; Guerra et al. (2024) highlighted the importance of school recreational facilities and public parks to increase youth physical activity, while Majid Khan et al. (2021) and Karkhur & Kumar (2021) indirectly supports that the provision of adequate sports infrastructure has a great influence on participation and achievement. However, Maciá et al. (2021) revealed that many school sports facilities do not meet safety and accessibility standards, creating physical risks and architectural barriers. In addition, barriers such as the distance to the school are too far (Kingsly et al., 2020) and the high costs and transportation problems (Tandon et al., 2021) disproportionately affects adolescents from disadvantaged backgrounds. Lack of prioritization of physical activity in school policies (Adebusi et al., 2023) is also a policy barrier that needs to be addressed, in line with Dahlan's review et al. (2022) which emphasizes the crucial role of schools and physical education in the sports ecosystem.

Overall, this review reinforces that physical activity participation in adolescents is influenced by a complex interaction of individual, social, and environmental/structural barriers. A key research gap lies in the development and evaluation of interventions that specifically target these barriers, particularly for vulnerable groups. Interventions should be tailored, involve multi-sectoral support, and consider innovative solutions such as AI-based digital interventions for personalized support (Moore et al., 2023). Understanding how these barriers vary across gender, age, socioeconomic background, and global context is critical to designing more effective and inclusive promotion strategies in the future.



## CONCLUSION

This scoping review successfully identified and mapped a complex set of barriers to adolescent physical activity engagement. These barriers are multidimensional, divided into individual/personal, social/interpersonal, and environmental/structural/policy categories. Individual barriers include lack of motivation, personal preferences, time and energy constraints, and self-esteem issues, which are often more pronounced in girls or those facing mental health challenges. Socially, family influences (e.g., parental objections, issues economic) and peer group dynamics (such as the effects of friendship networks or feelings of exclusion) can significantly inhibit participation. Meanwhile, environmental and structural factors include lack of accessibility or quality of sports facilities, safety concerns in public spaces, and cost and transportation constraints. School or community policies that do not prioritize physical activity also contribute to barriers. A thorough understanding of this spectrum of barriers is crucial to designing effective and relevant interventions. This study underscores the need for a tailored, multi-component approach involving individuals, families, schools, communities, and policymakers. The research gap highlights the urgent need for intervention studies that target specific barriers, especially in vulnerable populations. In addition, cross-sector collaboration and innovation in promotion strategies, such as the use of digital technologies, are needed to create environments that are more supportive of active lifestyles.

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## Conflict of Interest

The authors of this study declare that they have no conflicts with other authors.

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