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Community and built environment for physical activity in Brazilian children and adolescents: an updated systematic review for the 2026 Report Card Brazil

Ambiente construído e comunitário para a atividade física em crianças e adolescentes brasileiros: uma atualização de revisão sistemática para o Report Card Brasil 2026

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Abstract – The built and community environment is a key determinant of physical activity (PA) in youth. This study updated evidence on environmental indicators associated with PA among Brazilian children and adolescents to inform the 2025 Brazil Report Card. A systematic review was conducted following PRISMA guidelines. LILACS, SciELO, and MEDLINE/PubMed were searched for studies published between January 1, 2020, and December 31, 2024. Eligible studies included Brazilian samples aged 0–19 years assessing at least one community or built environment indicator related to PA. Two reviewers independently screened, selected, and extracted data. Environmental domains comprised access and availability, infrastructure quality, proximity, safety, environmental quality, and social environment. Fourteen studies met inclusion criteria, including one nationally representative study. Evidence was concentrated in the South, Southeast, and Northeast, with no studies from the North or Center-West. Most studies combined perceived and objective measures (e.g., GIS, MAPS, PARA, NEWS-Y). Findings identified structural barriers: limited active transport infrastructure (e.g., low prevalence of bike lanes), long home–school distances, insufficient public spaces within 500 meters of residence, and poor-quality facilities. School environments often lacked specialized PA infrastructure. Perceived neighborhood safety was a consistent barrier, especially among girls. Despite methodological advances, environmental inequalities persist across Brazilian regions. Inadequate infrastructure, poor accessibility, and safety concerns remain major barriers to youth PA. Policies improving the built environment are essential to promote equitable opportunities for active living.

Key words: Built environment; Physical activity; Youth; School environment.

Resumo – *O ambiente construído e comunitário é determinante da atividade física (AF) em crianças e adolescentes. Este estudo atualizou evidências sobre indicadores ambientais associados à AF entre jovens brasileiros para subsidiar o Report Card Brasil 2025. Realizou-se revisão sistemática seguindo as diretrizes PRISMA. LILACS, SciELO e MEDLINE/PubMed foram pesquisados para estudos publicados entre 1º de janeiro de 2020 e 31 de dezembro de 2024. Foram incluídos estudos com amostras brasileiras de 0 a 19 anos que avaliaram ao menos um indicador do ambiente comunitário ou construído relacionado à AF. Dois revisores realizaram independentemente a triagem, seleção e extração dos dados. Os domínios ambientais incluíram acesso e disponibilidade, qualidade da infraestrutura, proximidade, segurança, qualidade ambiental e ambiente social. Quatorze estudos atenderam aos critérios, incluindo um estudo com representatividade nacional. As evidências concentraram-se nas regiões Sul, Sudeste e Nordeste, sem estudos no Norte ou Centro-Oeste. A maioria combinou medidas percebidas e objetivas (por exemplo, GIS, MAPS, PARA, NEWS-Y). Os achados identificaram barreiras estruturais: infraestrutura limitada para transporte ativo (baixa prevalência de ciclovias), longas distâncias entre casa e escola, acesso insuficiente a espaços públicos em até 500 m da residência e instalações de baixa qualidade. Ambientes escolares frequentemente careciam de infraestrutura específica para AF. A percepção de insegurança no bairro foi barreira consistente, especialmente entre meninas. Apesar de avanços metodológicos, persistem desigualdades ambientais no Brasil. Infraestrutura inadequada, baixa acessibilidade e insegurança permanecem barreiras importantes à AF entre jovens. Políticas de melhoria do ambiente construído são essenciais para promover oportunidades equitativas de vida ativa.*

Palavras-chave: *Ambiente construído; Atividade física; Jovens; Ambiente escolar.*

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INTRODUCTION

Promoting physical activity in childhood and adolescence is a global public health priority; however, recent data remain alarming[1,2]. Globally, more than 80% of adolescents do not meet the physical activity guidelines recommended by the World Health Organization (WHO), and this prevalence increases with age, leading to significant lifelong health consequences[3,4]. These findings underscore the urgent need to promote daily moderate-to-vigorous physical activity within supportive environments that facilitate active behaviors[5].

To understand the multiple factors influencing these behaviors, ecological models, such as the one proposed by Sallis et al.[6], offer a robust theoretical framework. This model posits that physical activity is determined by a complex interplay of factors at multiple levels, ranging from individual (psychological, biological) and social (family, friends) to environmental and policy factors[6,7]. Within this framework, increasing attention has been directed toward structural and contextual determinants embedded in community settings[1,6]. Accordingly, the built environment, which includes urban design, transportation infrastructure, the availability and quality of public spaces, and perceived safety, emerges as a critical structural determinant capable of either facilitating or inhibiting an active lifestyle[8,9]. Environments that provide access to parks, safe sidewalks, bike lanes, and quality recreational spaces are consistently associated with higher levels of physical activity in youth[10,11].

In Brazil, pronounced social and regional inequalities, urban heterogeneity, unequal distribution of resources, and high levels of violence exacerbate structural barriers to physical activity, particularly among vulnerable populations. Previous systematic reviews for the Report Card – Brazil, conducted by Manta et al.[12] and Victo et al.[13] had already mapped this landscape. The work by Manta et al.[12] consolidated evidence up to 2018, identifying a concentration of studies in the South and Southeast regions and a lack of data from the North and Center-West regions, while also noting the predominance of self-reported perception instruments and a lack of standardization in environmental measures[12]. The update by Victo et al.[13] covering the period 2018-2019, confirmed the persistence of these regional gaps and the importance of indicators such as road safety and school environment characteristics, while also highlighting a methodological advancement with the inclusion of studies combining perceived and objective measures[13].

Given the rapid transformation of environments and the continued growth of research in this field, periodic updates are essential to monitor progress and identify persistent gaps. Tracking the evolution of scientific evidence not only highlights emerging trends but also supports the development of more effective and equitable public health policies aimed at promoting physical activity among Brazilian youth. Therefore, this study aims to update evidences regarding the built environment and physical activity, with data from 2020 to 2024.

METHODS

Study design

The review updates previous systematic reviews conducted as part of the Brazil Report Card initiative, specifically building on the work of Manta et al.[12] and Victo et al.[13]. The review was conducted in accordance with the Preferred

Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The protocol for this review was developed a priori and follows established methodological standards for systematic reviews of observational studies. This study updates the systematic review of community and built environment indicators of physical activity among Brazilian children and adolescents (2020–2024) to inform the 2026 Brazil Report Card.

Outcome definition

For this review, community and built environment outcomes were defined as environmental attributes associated with opportunities for and participation in physical activity within community settings. Following the framework established in previous reviews, we considered the following environmental domains: access and availability; infrastructure quality; proximity; safety; environmental quality; and social environment.

Indicators were assessed using either perceived (subjective) or objective measures. As in previous reviews, we excluded studies examining social indicators (eg, socioeconomic status or educational level) or social support variables (eg, encouragement from family or friends) when assessed in isolation and not in conjunction with environmental factors.

Search strategy

A comprehensive search was conducted in three electronic databases: LILACS (Literatura Latino-Americana em Ciências da Saúde), SCIELO (Scientific Electronic Library Online), and MEDLINE/PubMed. The search was conducted on July 4, 2025, and was limited to studies published between January 1, 2020, and December 31, 2024, to update the evidence base from the previous reviews.

The search strategy employed three main blocks of descriptors combined using Boolean operators: Block 1 (Environment): "environment" OR "community" OR "built environment" OR "ambiente" OR "comunidade" OR "ambiente construído"; block 2 (Physical Activity): "physical activity" OR "motor activity" OR "atividade física" OR "atividade motora"; block 3 (Population): "child" OR "adolescent" OR "preschool" OR "criança" OR "adolescente" OR "pré-escolar"; and geographic Filter: "Brazil" OR "Brasil". The Boolean operator "AND" was used to combine the three main blocks and the geographic filter. Database-specific truncation symbols were applied as appropriate. Searches were conducted using descriptors in both English and Portuguese to ensure comprehensive coverage of the literature.

Eligibility criteria

Studies were eligible if they met all of the following criteria: (i) original research articles published in peer-reviewed journals; (ii) included children and/or adolescents aged 0–19 years; (iii) studies should have been conducted with Brazilian populations or in Brazilian settings; (iv) the health status of samples should not have specific diseases or clinical conditions as primary inclusion criteria; (v) the publication period should be between January 1, 2020, and December 31, 2024; (vi) studies should have been published in Portuguese or English; and (vii) outcome measures should assess at least one community or built environment indicator related to physical activity as defined above.

The exclusion criteria eliminated (i) theses, dissertations, monographs, conference abstracts, editorials, commentaries, or review articles; (ii) studies conducted exclusively with adult populations (≥20 years) or with populations outside of Brazil; (iii) studies that examined only social indicators (e.g., socioeconomic status, education level) or social support variables in isolation, without assessment of built environment factors; and (iv) studies for which full text could not be obtained after reasonable efforts to contact authors or access through institutional resources.

Study selection process

The study selection process was conducted in two phases by pairs of independent reviewers. In the first phase, two reviewers independently screened all titles and abstracts identified through the database searches against the eligibility criteria using the systematic review management software Rayyan[14]. Studies were included for full-text review if they appeared to meet the inclusion criteria or if there was insufficient information in the title and abstract to make a definitive decision.

In the second phase, the same pairs of reviewers independently assessed the full texts of all studies included from the first phase. Disagreements at both phases were resolved through discussion between the reviewers, and when consensus could not be reached, a third reviewer was consulted to make the final decision. Before beginning the selection process, all reviewers participated in a calibration exercise using a sample of studies to ensure consistent application of the eligibility criteria.

Data extraction

The extracted data included: study name, location (city), sample, sampling strategy, age group, percentage of girls, instrument used to assess the environment, environmental indicators, and prevalence of each indicator. Data were extracted for the total sample and all reported subgroups. Two authors (DO; LA) independently conducted data extraction, with disagreements resolved by two additional reviewers (DS; RS).

The included studies were organized, and results were grouped according to the following indicators: facilities, programs or spaces available for physical activity; presence of sidewalks or bike lanes; residential proximity; quality and physical activity-related attributes of public open spaces; and safety.

RESULTS

A total of 81 duplicates were identified, and 48 records were excluded. The remaining 381 titles and abstracts were screened for inclusion, with 19 articles selected for full-text review. After full-text screening, duplicate papers and studies lacking relevant information were removed. Reasons for exclusion are detailed in Figure 1. Ultimately, 14 articles were included in this systematic review.

The synthesis of recent data (2020–2024) revealed 14 studies with the following characteristics: Nationally representative (n=1)[15]. South: Curitiba, PR (n=2)[16,17]; Porto Alegre, RS (n=2)[18,19]; Jacarezinho, PR (n=1)[20]. Northeast: Feira de Santana, BA (n=1)[21]; Recife, PE (n=1)[22], Fortaleza, CE (n=1)[23]; Lagoa do Carro, PE (n=1)[24]. Southeast: São Paulo, SP (n=1)[25]; Viçosa, MG (n=1)[26]; Diamantina, MG (n=1)[27]; São Caetano do Sul, SP (n=1)[28].

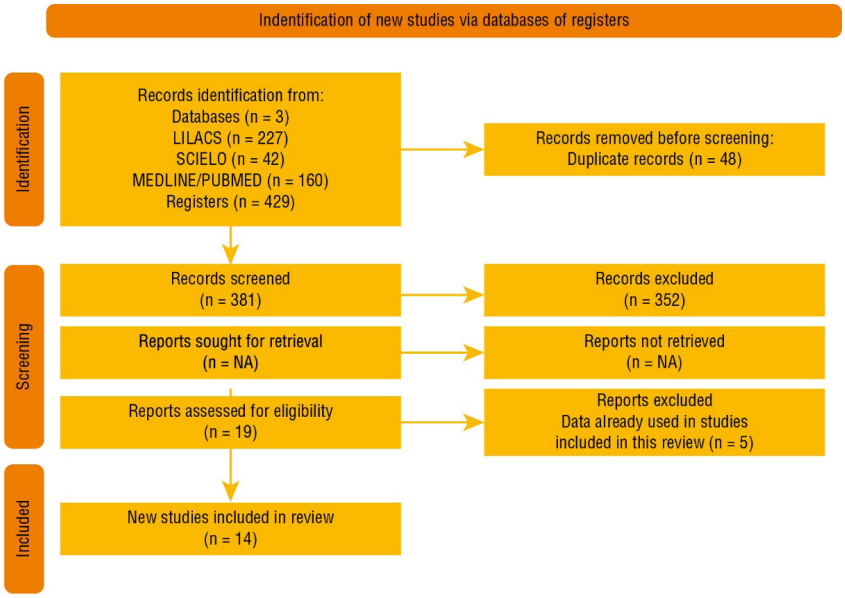

Figure 1. Results of the search process according to the PRISMA flowchart.

The age groups investigated varied, including preschoolers (3–5 years), children (5–11 years), and adolescents (10–20 years). Sample sizes ranged widely, from 51 preschool children in one study to more than 61,000 adolescents in a study based on PeNSE data (Table 1).

Table 1. Description of studies on the environment for physical activity (PA) among Brazilian adolescents (n=14).

Study (Author)	Location	Sample (n)	Age range
Ferrari et al.[25]	São Paulo, SP	2,610	14-15 years
Dias et al.[21]	Feira de Santana, BA	2,384	7-12 years
Nobre et al.[27]	Diamantina, MG	51	3-5 years
Oliveira Barbosa et al.[20]	Jacarezinho, PR	553	12-15 years
Queiroz et al.[22]	Recife, PE	668	5-7 years
Dias et al.[18]	Porto Alegre, RS	1,130	14-20 years
Caetano et al.[26]	Viçosa, MG	309	14-16 years
Silva et al.[16]	Curitiba, PR	493	12-17 years
Silva et al.[23]	Fortaleza, CE	1,085	11-18 years
Sales et al.[28]	São Caetano do Sul, SP	515	9-11 years
Mello et al.[19]	Porto Alegre, RS	236	14-18 years
Silva et al.[15]	Brazil	61,145	12-17 years
Antoniassi et al.[17]	Curitiba, PR	1,200	10-19 years
Correia et al.[24]	Lagoa do Carro, PE	289	10-18 years

It is important to note that one study used nationally representative data (Brazil) from the National School Health Survey (PeNSE), with 61,145 adolescents. Most studies used the school environment to recruit and/or assess youth, focusing on students or the surroundings of schools, although some relied on large population-based datasets or objectively measured urban factors.

School-based Studies / School Environment (n = 9): Nine of the 14 studies had a clear focus on the school environment or the surroundings of schools, using students as participants. These include studies conducted in São Paulo, SP[25], Feira de Santana, BA[21], Recife, PE[22], Curitiba, PR[16,17], Fortaleza, CE[23], São Caetano do Sul, SP[28], Viçosa, MG[26], and Diamantina, MG[27] that evaluated individual, family, school, and neighborhood factors.

Population-based / Urban / National Studies (n = 5): Five studies were classified as having a population, urban, or national focus, without relying exclusively on the immediate school context; including the study with 61,145 adolescents using PeNSE data and geoprocessing; and studies that assessed urban environmental and biological variables in Porto Alegre, RS[18], as well as public facilities using GIS in Lagoa do Carro, PE[24].

Table 2. Results of studies on the environment for physical activity (PA) among Brazilian youth (n = 14).

Author	Location (Year)	(% of girls)	Assessment tools for environment	Indicators of environment	Prevalence
Ferrari et al.[25]	São Paulo, SP (2021)	47.8%	Physical Activity Environment Perception Questionnaire and School Access (separately)	Perceived environment (physical activities facilities and access to school)	92% of schools did not have swimming pools; 73,9% did not have locker rooms; most schools were municipal public schools (40.0%)
Dias et al.[21]	Feira de Santana, BA (2023)	53.2%	School Environment Perception Questionnaire and provided lists	Built environment at school and in the neighborhood	Most frequent facilities in the neighborhood: public squares (96.2%); sports courts (88.5%)
Nobre et al.[27]	Diamantina, MG (2022)	47.0%	Home Observation Questionnaire (EC_HOME)	Multicriteria index of physical opportunities in the environment	78% live in moderately stimulating environments; 19.2% in highly stimulating environments
Oliveira Barbosa et al.[20]	Jacarezinho, PR (2024)	53.1%	Scales of intrapersonal, interpersonal, and environmental factors associated with physical activity	Perceived environmental factors and their mediation by autonomous efficacy	Median total perceived environmental score: 2.1 (scale 1-4 points)
Queiroz et al.[22]	Recife, PE (2020)	37.5%	Population-based questionnaire ELOS-Pre e QEdu	Presence of public spaces, including courts and places to play or practice sports	Perceived environment (presence of one of the spaces – school or external): 51.0%
Dias et al.[18]	Porto Alegre, RS (2020)	52.7%	NEWS-Y and Geographic Information Systems (GIS)	Environmental indicators (distance to facilities, safety, aesthetics, and neighborhood infrastructure)	Presence of bike paths: 11.9%; presence of bike lanes: 1.5%; sidewalks present: 81.9%
Caetano et al.[26]	Viçosa, MG (2024)	57.0%	Neighborhood Walkability Scale for Youth (NEWS-Y)	Perception of walkability and safety conditions in the neighborhood surroundings	Overall environmental score – High (favorable): 16.4%; perceived environment (crime): 55.6%
Silva et al.[16]	Curitiba, PR (2020)	51.2%	Observational checklist + geoprocessing (ArcGIS)	Environmental factors	Households with public lighting (96.11%); paved streets (82.35%); sidewalks (67.45%)
Silva et al.[23]	Fortaleza, CE (2024)	48.5%	School and neighborhood environment perception questionnaire	Perception of the school and neighborhood environment	Mean intervention score (better perception): 53.7% of the maximum score

Table 2. Continued...

Author	Location (Year)	(% of girls)	Assessment tools for environment	Indicators of environment	Prevalence
Sales et al.[28]	São Caetano do Sul, SP (2023)	57.7%	School Environment Questionnaire (ISCOLE)	School internal environment	They provided access to: gymnasium (79.2%); art room (75.0%); playground (61.8%)
Mello et al.[19]	Porto Alegre, RS (2020)	61.9%	Physical Activity Resource Assessment (PARA)	Urban environmental and biological variables	Approximately 60% of adolescents did not have a public space within a 500-meter radius; only 26% of those with a public space had attributes for physical activity
Silva et al.[15]	Brazil (2023)	50.8%	Geoprocessing software and IBGE Census	Built and social environment of Brazilian state capitals	Distance from home to school ≥ 1,501 m: 60.0%; distance ≤ 500 m: 12.5%
Antoniassi et al.[17]	Curitiba, PR (2024)	49.1%	Microscale Audit of Pedestrian Streetcapes (MAPS)	Built environment for physical activity around schools	MAPS score (environmental quality) – Low: 30.6%; Medium: 38.0%; High: 31.5%
Correia et al.[24]	Lagoa do Carro, PE (2024)	47.1%	Geographic Information System (SIG)	Public facilities in the municipality. Built environment	Perception of safety from crime (Girls: 37.0% vs. Boys: 21.7%); 76.4% of the sample had no built environment

The studies combined perceived and objective measurements of the environment. Objective assessment was conducted using tools such as Geographic Information Systems (GIS), frequently associated with ArcGIS and Brazilian Census (IBGE) data, to map built and social environments. Field audit protocols, such as the MAPS (micro-scale) and PARA (physical resources) instruments, complemented these approaches by providing concrete data on infrastructure quality. In parallel, perceived environmental assessment, using scales such as NEWS-Y and the ISCOLE questionnaire, captured subjective barriers such as safety and aesthetics, which have a direct impact on the use of public spaces (Table 2).

The school environment, often a focal point for youth PA, presents significant structural limitations. In neighborhood environments, the prevalence of basic recreational facilities, such as public squares sports courts, and soccer fields, is high in some localities. However, analyses of access and quality reveal serious weaknesses in active mobility infrastructure.

Additionally, accessibility to spaces is a major obstacle: approximately 60% of adolescents in Porto Alegre[18] did not have a public space within 500 meters of their homes. In Lagoa do Carro[24], 76.4% of the sample reporting no built environment for PA.

Safety emerges as a crucial negative environmental indicator, with clear sex-based differences in perception. Perceived crime risk was significantly higher among girls. Likewise, perceived neighborhood unsafety was about twice as high among girls as among boys. The main negative prevalence indicator in school environments highlights the scarcity of specialized facilities for PA practice, such as running/athletics tracks, swimming pools; and usable locker rooms.

Table 3. Regional distribution of studies on the environment for physical activity among Brazilian youth (n=14).

Region	Locations	Age range	Evidence
National	Brazil (PeNSE data)[15]	12 to 17 years	National representativeness
South	Curitiba (PR)[16,17], Porto Alegre (RS)[18], Jacarezinho (PR)[20]	10 to 20 years	Focus on mobility and urban infrastructure
Southeast	São Paulo (SP)[25], São Caetano do Sul (SP)[28], Viçosa (MG)[26], Diamantina (MG)[27]	3 to 5 years; 9 to 16 years	Focus on daycare/school environment and perception of crime
Northeast	Feira de Santana (BA)[21], Recife (PE)[22], Fortaleza (CE)[23], Lagoa do Carro (PE)[24]	5 to 18 years	Focus on Community access and public facilities

The regional distribution of studies reveals an asymmetrical pattern of scientific production regarding the built environment and physical activity among Brazilian youth, with a greater concentration of evidence in the South, Southeast, and Northeast regions, in addition one nationally representative surveys (Table 3).

DISCUSSION

This systematic review updated the evidence on community and built environment indicators associated with physical activity among Brazilian children and adolescents, incorporating 14 studies published between 2020 and 2024. The findings confirm and extend prior reviews[12,13], demonstrating increased scientific attention to the topic while highlighting persistent structural challenges, including regional disparities in research coverage, methodological heterogeneity, and inadequate environments that do not adequately support physical activity.

The distribution of studies included in this update remained concentrated in the South (n=5), Southeast (n=4), and Northeast (n=4) regions, a pattern consistent with the reviews by Manta et al.[12] and Victo et al.[13]. The absence of research from the North and Center-West regions remains a critical gap, limiting the generalizability of the findings to the entire national territory and masking distinct environmental realities, such as those in rural and Amazonian contexts. This centralization of scientific production may perpetuate inequities in public policymaking by excluding regional specificities[29]. International literature also documents this phenomenon, with systematic reviews in middle-income countries pointing to a concentration of research in urban centers[30], suggesting this is not just a Brazilian challenge but a structural one in contexts of inequality.

From a methodological standpoint, a positive advancement was observed. Compared to previous reviews, which noted a predominance of self-reported perception instruments, this update revealed a greater combination of subjective and objective measures. The use of Geographic Information Systems (GIS), field audit protocols like MAPS (Microscale Audit of Pedestrian Streetscapes) and PARA (Physical Activity Resource Assessment), and the geoprocessing lend greater robustness to the evidence. This progress aligns national research with an international trend that recognizes the importance of multidimensional approaches to capture the complexity of the person-environment interaction[10].

However, the diversity of instruments and the lack of standardized indicators still hinder direct comparisons between studies and the performance of meta-analyses, a challenge already noted in international reviews and which remains a significant barrier to more robust syntheses[11].

The school environment continues to be the most investigated context, reflecting its potential as a strategic space for physical activity promotion. However, the findings are concerning. Studies such as Ferrari et al.[25] in São Paulo (SP) reveal a critical lack of support infrastructure, with 92% of schools lacking swimming pools and 74% without adequate changing rooms. The absence of these facilities, combined with the underutilization of spaces like courtyards and a lack of diverse materials, transforms the school into an environment that can reinforce sedentary behavior. Such deficiencies are even more pronounced in public schools, deepening inequalities in access to practice opportunities[13]. International literature corroborates that the quality and diversity of school facilities are significant predictors of physical activity in youth[31], highlighting that infrastructure is a fundamental structural determinant.

The studies also reflected marked socioeconomic heterogeneity, including municipalities with contrasting Human Development Index (HDI) levels, such as São Caetano do Sul (SP)[28], one of the highest in Brazil, and Lagoa do Carro (PE)[24], classified as medium HDI. These disparities likely influence the availability and quality of school and community infrastructure, reinforcing the role of structural inequalities in shaping environmental support for physical activity.

Outside the school walls, infrastructure for active transport and access to public leisure spaces remain structurally inadequate. Data from PeNSE, analyzed by Silva et al.[15], indicate that 60% of adolescents live more than 1,500 meters from school, a distance that in itself discourages walking or cycling. When combined with precarious routes such as the low presence of bike lanes (11.9%) in contrast to sidewalks (81.9%) in Porto Alegre (RS)[18], active transport becomes unfeasible or dangerous. Inaccessibility is another critical factor: in Porto Alegre, 60% of adolescents did not have a public space within a 500-meter radius of their homes, and in Lagoa do Carro (PE)[24], 76% of the sample had no built environment for practice. These data suggest that the physical inactivity of many young people is not an individual choice but a rational response to hostile environments devoid of opportunities[8]. This finding aligns with international literature, which demonstrates that proximity to quality public spaces is a consistent predictor of physical activity in children and adolescents[32], and that lack of access functions as a structural barrier that cannot be overcome by isolated individual interventions.

Safety emerged as a consistent determinant of public space utilization, particularly among girls. Studies conducted in Viçosa (MG)[26] and Lagoa do Carro (PE)[24] substantially higher perceptions of neighborhood crime among girls, in some cases nearly double those of boys. Perceived insecurity operates as a gendered barrier to mobility and physical activity, limiting independence and access to public spaces[33,34]. Similar patterns have been reported in other settings characterized by urban violence[35], underscoring the importance of safety as both a public health and equity issue.

Collectively, these findings support a critical interpretation: physical inactivity among Brazilian youth should not be framed solely as an issue of individual motivation or knowledge, but as a response to structurally constrained environments. Barriers such as inadequate infrastructure, excessive distance, and perceived insecurity operate independently of individual agency.

Accordingly, interventions focused exclusively on education or behavior change are unlikely to be effective without concurrent improvements in the built environment.

This review has limitations. The regional concentration of studies, the predominance of cross-sectional designs that prevent causal inference, and methodological variability are factors that restrict the generalization of the results. The absence of studies from the North and Center-West regions also limits the ability to make specific recommendations for these populations. Nevertheless, the study has strengths, such as the systematic and rigorous search across multiple databases, and the recent update of the evidence base, contributing to a current and contextualized overview of national scientific production on the topic.

CONCLUSION

In summary, proximity, infrastructure quality, active mobility conditions, safety, and school environment remain central determinants of physical activity among Brazilian youth. Advances in methodological approaches reflect greater sophistication in examining environment–behavior relationships; however, regional gaps and inequities in access to supportive environments persist. The built environment should not be understood merely as a backdrop to urban life, but as a structural determinant that shapes opportunities for an active life and, therefore, for health and well-being.

COMPLIANCE WITH ETHICAL STANDARDS

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Data Availability Statement

All data are available from the corresponding author upon reasonable request.

Ethical approval

This research is in accordance with the standards set by the Declaration of Helsinki.

Conflict of interest statement

The authors have no conflict of interests to declare.

Author Contributions

Conceptualization: DNO, LAN, RNOL, DRPS, RACS; Data curation: DNO, LAN, DRPS, RACS; Formal analysis: DNO, LAN, DRPS, RACS; Funding acquisition: ERV, GF, DRPS, RACS; Investigation: DNO, LAN, RNOL, DRPS, RACS; Methodology: DNO, LAN, RNOL, DRPS, RACS; Project administration: DNO, LAN, RNOL, DRPS, RACS; Resources: DNO,

LAN, RNOL, DRPS, RACS; Supervision: DRPS, RACS; Validation: DNO, LAN, RNOL, DRPS, RACS; Visualization: DNO, LAN, RNOL, TKFF, ERV, GF, DRPS, RACS; Writing – original draft: DNO, LAN, RNOL, DRPS, RACS; Writing – review & editing: DNO, LAN, RNOL, TKFF, ERV, GF, DRPS, RACS. All authors have reviewed and approved the final version of the manuscript.

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