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Do adolescents' experiences of the barriers to and facilitators of physical activity differ by socioeconomic position? A systematic review of qualitative evidence

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Summary

This review aims to systematically identify and synthesize qualitative data on adolescents' experiences of the barriers to and facilitators of physical activity to understand whether these differ by socioeconomic position. Multiple databases (MEDLINE, Web of Science Core Collection, PsycINFO, and ERIC) were searched in August 2020. Duplicate title/abstract and full text screening was conducted. Studies were included if they reported qualitative data collected from adolescents (aged 10–19), a measure of socioeconomic position and focused on physical activity. Studies not published in English or published before 2000 were excluded. Relevant data were extracted and methodological quality assessed (in duplicate). Data were analyzed using Thomas and Harden's methods for the thematic synthesis. Four analytical themes emerged from the 25 included studies: (1) social support, (2) accessibility and the environment, (3) other behaviors and health, and (4) gendered experiences. These themes appeared across socioeconomic groups; however, their narratives varied significantly. For example, provision and access to local facilities was discussed as a facilitator to middle and high socioeconomic adolescents, but was a barrier to low socioeconomic adolescents. These findings can be used to inform how different socioeconomic groups may benefit from, or be disadvantaged by, current interventions.

KEYWORDS
adolescence, physical activity, socioeconomic position

1 | BACKGROUND

Globally physical activity levels of 11- to 17-year-olds are low,[1] with less than one in 10 adolescents meeting the physical activity guidelines of 60 min per day.[1,2] Low physical activity levels during adolescence, defined as 10- to 19-years-olds in line with the World Health Organization (WHO), are linked to many health problems including obesity.[3] Obesity prevalence is highest in western and industrialized countries,[4] with socioeconomically deprived groups being more affected.[4,5] Research suggests that children with lower socioeconomic recourses are more likely to have a higher body mass index (BMI) and are at an increased risk of obesity in adulthood, indicating poorer current and future health.[6] This disparity is likely due to socioeconomic differences in the key behaviors that drive obesity, such as diet and physical activity.

Abbreviations: CASP, Critical Appraisal Skills Programme; PE, Physical Education; US, United States; UK, United Kingdom; SEP, socioeconomic position.

Restrictions in response to the Covid-19 pandemic, including national and regional lockdowns, social distancing restrictions, and the closure of schools and sports clubs,[7] have exacerbated inequalities in obesity and physical activity.[8] As we move toward recovering from the pandemic the challenge for public health professionals is to identify effective and equitable strategies to prevent obesity, through, for example, promoting physical activity. Understanding socioeconomic variation in physical activity is important to achieving this goal, as it may represent a pathway by which socioeconomic position (SEP; socially derived economic factors that influence what position individuals or groups hold with society[9]) leads to overweight and obesity.[10] However, while a positive relationship exists between SEP and physical activity in the adult population,[11,12] it is much less discussed with regard to adolescents.

At present, within the relatively small body of literature that has directly examined the association between SEP and physical activity, findings are equivocal. A systematic review of this evidence suggests that a higher SEP is associated with higher levels of physical activity in adolescents.[13] However, 42% of studies reported no association or an inverse association between SEP and activity levels. Reasons for these results are that studies used (1) varying indicators of SEP, (2) subjective, self-reported measures of physical activity, and (3) varying domains (e.g., active travel and leisure time) of physical activity. However, the relationship between SEP and physical activity remains unclear even when using a standardized measure of SEP and harmonized accelerometer data.[10]

It is possible our incomplete understanding of this relationship is contributing toward the reported limited efficacy of interventions to promote physical activity among this population.[14] Social ecological models describe the interactive characteristics of individuals and their environments that underlie observed health outcomes and have long been recommended to guide public health practice.[15] This aligns with the conclusions of previous research, which suggests there is no single explanation for a relationship between physical activity and SEP during adolescence.[13]

It is therefore important to identify and understand factors related to physical activity behavior and how they vary by young people's personal circumstances.[16] Investigating the correlates of physical activity has contributed to this, and there are several systematic reviews of quantitative evidence[17–20] based on the behavioral epidemiology framework and socioecological models.[21,22] However, as the need to listen to young people has become increasingly emphasized in public and political debate,[23] there has been an increase in qualitative studies offering a distinct understanding of adolescents' perspectives and experiences of physical activity.[23] Understanding these experiences and how the barriers and facilitators of physical activity might be shaped by circumstance and context may provide new insight on this complex relationship.[24]

In response, this review aims to systematically identify and synthesize qualitative data on adolescents' experiences of the barriers and facilitators of physical activity to understand whether these experiences differ by socioeconomic position.

2 | METHODS

A protocol for this systematic review was registered on PROSPERO on June 30, 2020 (CRD42020179997). The Enhancing transparency in reporting the synthesis of qualitative research (ENTREQ) checklist was followed to guide this review paper.[25]

There are numerous ways to describe and measure socioeconomic conditions. This becomes especially evident in research with children and adolescents where proxy measures such as parental education or income are used.[26] In this review, we use the term SEP to refer to numerous exposures, resources, and susceptibilities that may affect health, acting as an overarching definition for multiple indicators.[27]

2.1 | Searches and screening

A systematic search of peer-reviewed literature was conducted in the following databases: MEDLINE via Ovid, the Web of Science Core Collection (Thomson Reuters) PsycINFO, Global Health and ERIC via EBSCOhost on the August 1, 2020. Terms relating to physical activity (e.g., [Physical activit*], [Exercise*]), adolescence (e.g., [Adolescen*], [Youth*]), SEP (e.g., [Socioeconomic*], [Deprived]), and qualitative methodology (e.g., [Qualitative], [Narrative*]) were combined to search the databases. Search strategies were developed in consultation with a librarian. Search strategies for each database can be found in Additional file 1. The lead author's personal reference library was searched for additional papers.

One author ran the database searches. Search results from each database were exported into ENDNOTE X7 citation management software (Thomson Reuters, Philadelphia, PA, USA) where duplicates were removed. The remaining articles were uploaded into Covidence systematic review software (Veritas Health Innovation, Melbourne, Australia) for screening. Two authors screened 10% of the articles to ensure adequate agreement[28] before independently screening the title and abstract of all articles against the inclusion criteria and exclusion criteria (Table 1). The full-texts of the remaining articles were obtained for duplicate screening. Due to a high volume and heterogeneity of studies remaining, the review team agreed on revised in/exclusion criteria (specified in Table 1) and rescreened all included articles. Conflicts were discussed at all stages, and a third member of the review team was consulted if a consensus could not be reached.

2.2 | Quality appraisal

The methodological quality of included studies was assessed using the Critical Appraisal Skills Programme (CASP) qualitative checklist.[30] The CASP checklist was selected as it is user friendly and widely used, allowing the results to be compared with other reviews.[31]

Two authors independently appraised 10% of the studies as a calibration exercise and to check agreement. One author appraised the remaining articles against the criteria outline in Table 2. While

TABLE 1 Inclusion and exclusion criteria of study eligibility

Inclusion criteria	Exclusion criteria
Healthy adolescents (10- to 19-years-old, as defined by WHO)[29]	Any other age group; clinical populations; data not collected from adolescents', e.g., parent/teacher proxy
Studies taking any theoretical approach (e.g., grounded theory, framework analysis) where qualitative data (e.g., interviews, focus group) are collected and analyzed	Any other study design, e.g., RCTs, quasi-experimental studies, clinical trial, pre-post studies
Studies that analyze by SEP or focus on a specific socioeconomic subgroup (e.g., low-SEP). SEP defined as detailed above, including numerous exposures, resources and susceptibilities that may affect health[9]	Studies which do not analyze by SEP
Studies that have physical activity as a primary focus	Studies where physical activity is not a primary focus, e.g., a study which includes physical activity as a theme but focuses on sedentary behavior
Additional criteria[a]	
Studies published in high income countries[a]	Studies published in low and middle income countries[a]
Studies published from 2005 onwards[a]	Studies published before 2005[a]
Studies published in English[a]	Studies published in any other language[a]

Note: This table outlines the inclusion and exclusion criteria applied during screening.
[a]Additional criteria added to cope with the high volume and heterogeneity of studies after initial full text screening.

TABLE 2 Summary of quality appraisal of included qualitative studies[30]

	Number of studies (%)		
Items assessed	Yes	No	Can't tell
1. Was there a clear statement of the aims of the research?	24/25 (96)	1/25 (4)	
2. Is a qualitative methodology appropriate?	25/25 (100)		
3. Was the research design appropriate to address the aims of the research?	24/25 (96)		1/25 (4)
4. Was the recruitment strategy appropriate to the aims of the research?	25/25 (100)		
5. Was the data collected in a way that addressed the research issue?	25/25 (100)		
6. Has the relationship between researcher and participants been adequately considered?	12/25 (48)	1/25 (4)	12/25 (48)
7. Have ethical issues been taken into consideration?	19/25 (76)		6/25 (24)
8. Was the data analysis sufficiently rigorous?	22/25 (88)		3/25 (12)
9. Is there a clear statement of findings?	24/25 (96)		1/25 (4)
10. How valuable is the research?	24/25 (96)		1/25 (4)

Note: This table summarizes the quality of included studies.

CASP is widely used, there is still no commonly agreed upon appraisal tool; therefore, studies were not excluded based on this.

2.3 | Data extraction

The following data were extracted into a data extraction template using excel: bibliographic information (author and country date), study aims, methods (participants, data collection, and analysis), measure and level of SEP, presentation of results, barriers to physical activity, facilitators of physical activity, and conclusions and implications for policy and practice. The table also included a "notes" section where authors could highlight potentially additional useful information from the introduction and discussion of each article to support data interpretation. Data extracted under the "barriers" and "facilitators"

headings were extracted verbatim from the "Results" section of each paper. This included first-order (adolescents' quotes) and second-order constructs (researcher interpretation, statements, assumptions, and ideas).[32,33]

Two members of the review team independently piloted the extraction form. After modifications were made, the same two reviewers independently extracted data from 10% of the articles. A high level of agreement was reached (authors extracted the same information from both articles, with some variation in the level of detail); therefore, both reviewers continued to work independently to extract data from the remaining articles.

2.4 | Data analysis

One member of the review team analyzed the extracted data following Thomas and Harden's[33] methods for the thematic synthesis of qualitative research in systematic reviews. This method was chosen as the synthesis product is conducive to producing recommendations for policy and practice.[34] The synthesis involved the steps described below.

In step 1, one author re-read the extracted results from each paper to become familiar with the data and allow codes to emerge inductively. This informed an initial bank of codes based on common barriers and facilitators identified across studies. In step 2, the same author read each study, line-by-line, and coded data relevant to the research question, updating the code bank where necessary and rereading already coded data to check for the new themes. For step 3, the author developed descriptive themes, which involved translating concepts from one study to another. During this stage, the initial codes were reviewed and organized into subthemes. Until this point, the synthesis remained close to the original findings of the included studies. For step 4, the author used the descriptive themes to develop higher order analytical themes that went beyond the content of the original data to generate additional concepts, understandings, and hypotheses. While presented in steps, it should be noted that the analysis was an iterative process.

3 | RESULTS

3.1 | Literature search and selection

The search strategy identified 8620 unique references. The main reasons for exclusion during full text screening were (1) wrong population, for example, articles where data were not collected directly from adolescents, and (2) wrong source format, for example, books, conference abstracts, and dissertations. A total of 25 articles were included (see Figure 1).

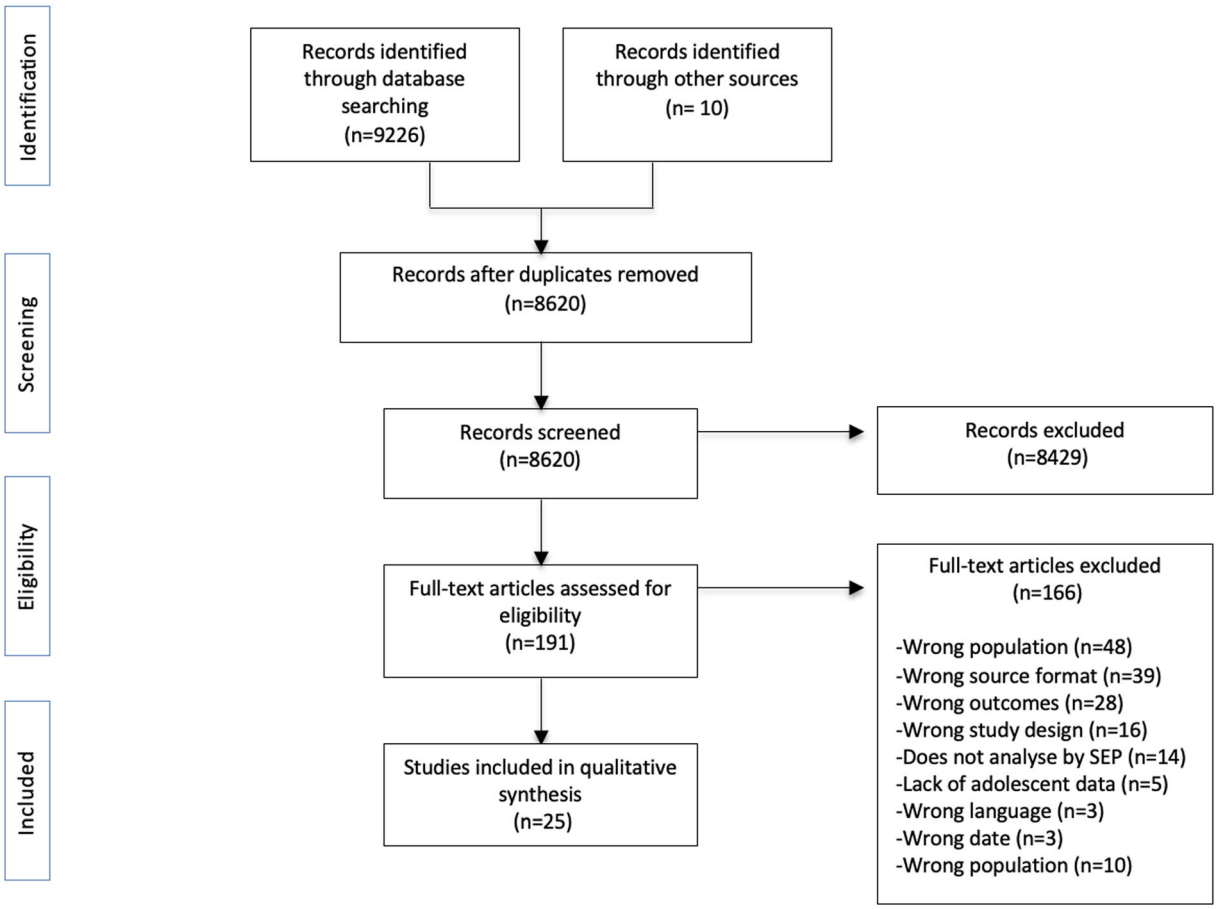

FIGURE 1 PRISMA flow diagram of study selection

TABLE 3 Characteristics of included qualitative studies (presented in alphabetical order by lead author's last name)

Bibliographic information	Location	Stated study aim	Methods (design, data collection, analysis)	Participants	Measure and level of SEP
Anderson et al., 2016	USA (Baltimore City)	To provide in-depth information on the social roles that youths' parents and friends play related to eating and physical activity behaviors and to explore the impact of other social relationships on youths' eating and physical activity behaviors.	Mixed-methods, interviews, guided by principles of content analysis	48 adolescents living in a low-income African American food dessert, aged 11–13 (28 males, 20 females)	Area level SEP Low income neighborhood Low-SEP
Blanton et al., 2013	USA (Michigan)	To investigate perceptions and opinions of a nature-based physical activity intervention designed for low-income urban adolescents.	Qualitative, focus groups, hierarchical content analysis	20 primarily African American adolescents, aged 11–14 (13 males, 7 females)	School level SEP Free school meal uptake Low-SEP
Boshoff et al., 2007	Australia (South Australia)	To expand the knowledge base about the attributes of children in neighborhoods defined as low SES who display healthy behaviors in their eating and physical activity.	Mixed-methods, focus groups, inductive thematic analysis	23 physically active adolescents, aged 10–13 (11 males, 12 females)	Area level SEP n/a "low-income neighborhood" Low-SEP
Bragg et al., 2009	USA (North Carolina)	To identify motivators and barriers relative to engagement in physical activity as reported by culturally diverse low-income adolescents and adults.	Qualitative, focus groups, content analysis	41 culturally diverse adolescents, aged 12–15 (21 males, 20 females)	Individual level SEP Family income less than $40,000 Low-SEP
Charlton et al., 2014	UK (South Wales)	To examine clustering of factors associated with low fitness in adolescents in order to best target public health interventions for young people.	Mixed-methods, focus-groups, grounded theory analysis	20 students from deprived schools in South Wales, aged 13–14 years (10 males, 10 females)	School level SEP Deprived schools according to deprivation of the catchment area and free school meal eligibility Low-SEP
Cooky, 2009	USA (Los Angeles)	To use qualitative methodologies and the sociology of accounts to examine a recreational sport program for low-income minority girls in the metropolitan Los Angeles area.	Qualitative, interviews, tri-level analysis	13 "at risk" minority adolescents, aged 13–15 (13 females)	Individual level SEP Family Income Low-SEP
Dagkas and Stathi, 2007	UK (Midlands)	To explore the social factors that influence young people's participation in school and out of school physical activities.	Qualitative, Interviews, coding using inductive and deductive procedures	52 adolescents from two secondary school, ages 16 (26 males, 26 females)	School level SEP Location of the school and provision of free school meals Middle-high SEP and low-SEP
Duck et al., 2020	USA (Mississippi)	To identify and explore factors that influence physical activity in	Qualitative, photovoice and focus groups, content analysis	5 adolescents from a predominantly black population, ages 10–14 (3 males, 2 females)	School level SEP 100% eligible for free/reduced school meals

(Continues)

TABLE 3 (Continued)

Bibliographic information	Location	Stated study aim	Methods (design, data collection, analysis)	Participants	Measure and level of SEP
		children in a low-income neighborhood.			Low-SEP
Hecke et al., 2016	Belgium (Brussels, Gent, Antwerp)	To determine which social and physical environmental factors affect adolescents' visitation and physical activity in Public Open Spaces in low-income neighborhoods.	Qualitative, interviews, thematic analysis	30 adolescents from neighborhoods in Brussels, Ghent and Antwerp, aged 12–16 (19 males, 11 females)	Area level SEP Low SES neighborhoods/ communities selected based on population density, unemployment rates, welfare index and per capita income Low-SEP
Humbert et al., 2006	Canada	To illuminate the factors that youth from low- and high-SES areas consider important to increase physical activity participation among their peers.	Qualitative, focus groups, content analysis	160 adolescents from 2 schools in a midsized Canadian city, aged 12–18 (80 males, 80 females)	Area/school level SEP Demographic and social characteristics of the neighborhoods in which the schools were located Low- and high-SEP
Jonsson et al., 2017	Sweden (Gothenberg)	To illuminate factors that undermine the healthy habits of adolescents from a multicultural community with low socioeconomic status (S.E.S.) in Sweden with regard to physical activity (P.A.) and food, as stated in their own voices.	Qualitative, focus groups, content analysis	53 adolescents from a school with a large number students from a foreign background, ages 12–13 (21 males, 32 females)	Area level SEP According to Swedish standards, based on average income, proportion of people of foreign origin, long-term financial assistance, long-term unemployment, low voter turnout, low educational level, poor self-reported health, and poor life expectancy Low-SEP
Jonsson et al., 2017	Sweden (Gothenberg)	To illuminate what adolescents in a multicultural community of low socioeconomic status (SES) in Sweden convey concerning facilitators of PA.	Qualitative, focus groups, content analysis	53 adolescents from a school with a large number students from a foreign background, ages 12–13 (21 males, 32 females)	Area level SEP According to Swedish standards, based on average income, proportion of people of foreign origin, long-term financial assistance, long-term unemployment, low voter turnout, low educational level, poor self-reported health, and poor life expectancy Low-SEP
Kiley and Robinson, 2016	Canada (Alberta)	To investigate why-when female students attending an affluent private school opted out of PE class when they transitioned from	Qualitative, interview, transcription and coding	Six adolescents in grade 10 enrolled in PE, aged 15–16 (6 females)	School level SEP Students attending a fee paying school (base tuition exceeding $17,000 per year)

TABLE 3 (Continued)

Bibliographic information	Location	Stated study aim	Methods (design, data collection, analysis)	Participants	Measure and level of SEP
		middle school to senior high school and PE became optional.			High-SEP
Loptson and Muhajarine, 2012	Canada (Saskatoon)	To use qualitative methods to gain insight into the pathways linking the neighborhood environment with children's activity patterns.	Qualitative, interview, coding list used for theme development	24 adolescents representing a range of residential neighborhood types, ages 10–14 (gender n/a)	Area level SEP Low-income neighborhoods were those with median household incomes below $50,000, and high-income neighborhoods were those with median household incomes above $85,000. Low-, middle-, and high-SEP
Malijak et al., 2014	USA (Midwestern United States)	To examine leaders' and students' perspectives on the challenges faced when implementing physical activity clubs.	Qualitative, interviews, analysis conducted using The Population-Based Health Promotion Model	278 adolescents from 14 high schools in an urban inner city school district, ages 14–18 (gender n/a)	School level SEP Schools in a low-socioeconomic district (approximately 85% of the district received free/reduced price school meals) Low-SEP
Martins et al., 2018	Portugal (Lisbon)	To explore and analyze the perspectives of physically active and inactive adolescent boys and girls with different socioeconomic status, regarding the meanings that PE had on their physical activity lifestyles throughout childhood and adolescence.	Qualitative, interviews, thematic analysis	16 adolescents from two school in contrasting areas, aged 17–18 (8 males, 8 females)	School level SEP Based on the (Portuguese) National Institute of Statistics census (INE, 2003) Low-SEP and middle-high- SEP
Quarmby, 2013	UK (West Midlands)	To explore the discourses on which young people draw their understandings about health and whether family structure mediated individual agency.	Qualitative study, group interviews, analytical framework based on an interpretive perspective	Three adolescents chosen to represent contrasting views, ages 11–12 (1 male, 2 females)	School and individual level SEP IMD of school combined with familial and demographic information Low-SEP
Rivard, 2014	Canada (Quebec)	To describe the perceptions and involvement of 19 participants (students and educators) on health issues within the context of the HSA in a low socioeconomic school in Quebec.	Qualitative, focus groups, content analysis	12 adolescents with avoid average academic performance, ages 11–12 (gender n/a)	School level SEP Rated 9/10 on the socioeconomic environment index (EEI) as calculated by the Ministry (MEQ, 2003) Low-SEP
Roberts, 2019	USA (Washington D.C)	To use an intersectional framework, largely focusing on the race-gender-class trinity, to examine youth active travel within a context of transportation inequity.	Qualitative, focus groups, content analysis	48 adolescents living in the Washington D.C., ages 12–15 (18 males, 30 females)	Individual level SEP Family Income Low-SEP

(Continues)

TABLE 3 (Continued)

Bibliographic information	Location	Stated study aim	Methods (design, data collection, analysis)	Participants	Measure and level of SEP
Schaillee et al., 2017	Belgium (Flanders)	To understand the social mechanisms that allow developmental benefits to occur for this group (urban dance initiatives for disadvantaged girls).	Qualitative, interviews, raw data units clustered into common and higher themes	25 adolescent females enrolled in urban dance program, ages 11–19 (25 females)	Individual level SEP Living conditions based on interview and survey data Low-SEP
Smyth et al., 2014	Australia	To animate discussion around how social class operates with adolescent girls from low socio-economic status backgrounds to shape and inform their decisions about participation in physical activity (PA) inside and outside of school.	Qualitative, group interviews and focus groups, transcripts were thematized using a process of 'portraiture'	138 adolescents in a single secondary school in Australia, ages 15–16 (138 females)	School level SEP Based on the Australian's Socio-Economic Indexes for Areas (SEIFA) and Statistical Local Area (SLA) Index of Relative Socio-economic Advantage and Disadvantage Low-SEP
St. George and Wilson, 2012	USA	To qualitatively explore the parenting context as well as specific family factors (support, rules, monitoring) and peer factors (support) related to weight status, physical activity (PA), and healthy eating in low-income African-American boys versus girls.	Qualitative, focus groups, bioecological framework used for analysis	45 African American adolescents, 51% overweight/obese, age 11–13 (22 males, 23 females)	Area level SEP Two underserved communities in South Carolina (median income ≈ $17,000–$22,000, high crime levels) Low-SEP
Sweeney and Von Hagen, 2016	USA (New Jersey)	To identify similarities and differences in parents' and children's perceptions of the environment that surrounds travel to and from school, how these perceptions form, and how they influence travel mode choice to and from school.	Qualitative, interviews, content and thematic analysis	48 adolescents from three New Jersey communities, aged 11–14 (22 males, 26 females)	Family Income Median household income ($) School 1–78,821 School 2–78,625 School 3–89,99 Middle-SEP
Wilson et al., 2005	USA (South Carolina)	To identify preferences for physical activity (PA) and motivational themes for increasing PA in underserved adolescents.	Qualitative, focus groups, content analysis	51 adolescents, primarily African American, aged 10–13 (25 males, 26 females)	School level SEP Adolescents who received free/reduced school meals Low-SEP
Wright et al., 2010	USA (South Carolina)	To assess how parental role modeling and parental social support influence physical activity in underserved (minority, low-income) adolescents.	Qualitative, focus groups, content analysis	52 adolescents, primarily African American, aged 10–14 (22 males, 30 females)	School level SEP 87% free or reduced school lunch program Low-SEP

Note: This table presents the characteristics of included studies.

3.2 | Characteristics of included studies

Table 3 shows the characteristics of the included studies. Most studies (18/25) were conducted after 2010, 15 studies were conducted in the United States and Canada, two in Australia, three in the United Kingdom, and five elsewhere in Europe. Studies primarily used a qualitative study design ($n = 22$), rather than a mixed-methods design ($n = 3$) and all studies used interviews, focus groups or a combination of the two as their data collection method. Content analysis was the most frequently used analysis method ($n = 12$) followed by thematic analysis ($n = 5$). All articles mentioned some kind of coding and theme development.

Studies generally focused on younger adolescents, with 18 studies reporting a mean sample age of <14 years. Four studies focused on female physical activity with the remaining articles focusing on both genders. We categorized studies by SEP using the original definitions provided in each paper; these broadly fell under three categories: low-SEP, middle-SEP, and high-SEP. Studies largely focused on adolescents with a low-SEP ($n = 19$), four studies contrasted different SEPs, and the remaining two studies included adolescents of a high-SEP and middle-SEP.

3.3 | Quality assessment

Table 2 presents the summary ratings for the quality assessment. Included studies were all of high quality. Notable limitations were that 48% of studies did not report considering the relationship between the researcher and the participant and 24% of studies failed to provide a reflection on the key ethical challenges.

3.4 | Results of the thematic syntheses

Four analytical themes were identified: (1) social support, (2) accessibility and the environment, (3) experiences of health and other behaviors, and (4) gendered experiences. Please see Table S1, which documents how codes where developed into descriptive and then analytical themes. These themes appeared across socioeconomic groups, however the way in which they supported or prevented engagement in physical activity differed by SEP. A summary of the themes by SEP can be found in Table 4.

3.4.1 | Support for physical activity

Low-SEP adolescents

A lack of financial support was a commonly mentioned barrier to physical activity among low-SEP adolescents[35–42] (e.g., "*my parents don't have money … to have membership of a sport club*").[41] Low-SEP adolescents reported that the cost of physical activity made it difficult for them to participate, as it was an additional expense their parents could not afford. For many parents, providing the basics, including school uniform was a struggle, with physical activity viewed as a "non-essential" expense.[35] In general, adolescents were accepting of this and understood that their parents could not provide them with physical activity opportunities requiring fees. However, some adolescents communicated a desire for their parents to be more proactive in signing them up for low or zero cost local activities, "*I wish she would sign me up to play more things at the YMCA*."[43]

A lack of transportation was another commonly mentioned barrier.[44–49] Adolescents explained how their parents' busy work schedules meant they were unable to pick them up from practice or after school clubs. This was compounded by the extra cost of owning and running a vehicle. Some adolescents discussed how their parents encouraged them to be active but did not have the time or financial resources to facilitate this.

> … my mum tries to like push me like to do activities to stay fit and like and for this school, like sixth period but she can't always pick me up after and I can't get a lift off anyone either.[49]

While it was clear that some parents desired their children to be active, many low-SEP adolescents suggested that physical activity was not valued by their family.[35,47,50] One participant described "*Like, cos it's important to live and stuff, but it's not important to me or my family*."[35] In the majority of studies, adolescents did not see this as problematic and were content with more sedentary activities. However, some desired more encouragement than they were currently receiving[40] and described how their parents prioritized other responsibilities, including household commitments and chores such as caring for younger siblings or working a part-time job. For example, "*I have to do house work, make supper, and watch my little cousin all the time … so most of the time, I don't get much time [for physical activity]*."[51]

For some, unstable and changing family structures influenced the amount of support they received.[47] In a few instances, adolescents reminisced about how their family used to be active together, but the absence of one parent now made this difficult, "*Yeah, I used to go swimming every weekend … with my mum, I was like six or something, I was really young [but] I don't know, mum spends a lot of time with my step dad now but I wouldn't want to go anyway*."[47] Single parents were described as "*pushed for time and money*," working multiple jobs to support their children.[36,40,46] The addition of a step-parent also influenced the family dynamic, as adolescents perceived parents to become more partner-centric.[43,47]

While narratives around support were primarily negative amongst low-SEP adolescents, there were some instances where support was described as facilitating physical activity. A few explained the great lengths their parents went to in supporting their physical activity involvement, which often came at the expense of their parents' own activity.

TABLE 4 A summary and synthesis of analytical theme by SEP

Theme	Findings per SEP			Synthesis
	Low	Middle	High	
Social support	Barriers • lack of financial support • lack of support for transportation • physical activity not valued by family • unstable and changing family structure Facilitators • parental support • changing family structure • support from teachers • support from friends	Barriers • less opportunities to commute actively Facilitators • financial support	Barriers • academic pressure • peer pressure Facilitators • financial support • participating with friends • sport club membership • parental support • participating as a family	Across socioeconomic groups parents were perceived as a barrier to physical activity. Low-SEP adolescents attributed this to a lack of time and money and the prioritization of other aspects of life. Middle-SEP parents facilitated less active modes of transport and high-SEP parents prioritized academia. There were stark differences in family participation. Middle/high-SEP adolescents frequently mentioned a "whole family" approach to physical activity. This was not the case for low-SEP adolescents who were more reliant on the support from teachers, coaches and friends. Peer support was important facilitator across all groups, especially for making physical activity more enjoyable.
Accessibility and the environment	Barriers • Lack of/poor quality facilities in local neighborhood • Quality and safety of public transport • Poor school facilities and activity provision Facilitators • Local community centers	Barriers n/a Facilitators • Good facility provision in local neighborhood • Access to the countryside • Neighborhood safety	Barriers n/a Facilitators • Good facility provision in local neighborhood and school • Variety of school provision • Access to the countryside	Low-SEP adolescents' experiences of physical activity accessibility and the environment noticeably contrasted with those of middle- and high-SEP. Low-SEP adolescents discussed the limited provision of facilities in their local area, including transport, and the lack of safety. Middle- and high-SEP adolescents discussed their access to facilities in their local environment, safety and their access to countryside. High-SEP adolescents further describe the variety of physical activities they had access to at school.
Experiences of health and other behaviors	Barriers n/a Facilitators • Understanding of the health benefits of physical activity • Understanding of the environmental benefits of physical activity	Barriers • Prioritizing other behaviors • Social demands Facilitators n/a	Barriers • Prioritizing other behaviors • Lack of free time Facilitators n/a	The health benefit of physical activity was a dominant narrative among low-SEP adolescents, who discussed its positive impact on both long and short-term health. While middle- and high-SEP adolescents recognized the health benefits of physical activity, they tended to

TABLE 4 (Continued)

Theme	Findings per SEP			Synthesis
	Low	Middle	High	
				focus on other behaviors such as sleep, homework or social activities.
Gendered experiences	Barriers • Concerns about appearance (female) • Low self-esteem and anxiety (female) • Parental Stereotyping (female) • Lack of support from friends (female) Facilitators • Sport which demonstrate skill (male) • Mixed-gender activities (male) • Same-gender activities (female)	Barriers • Competition (inactive males and females) • High intensity (inactive males) Facilitators n/a	Barriers • Pressure to perform in front of males (female) Facilitators • Same-gender activities (female)	Gendered experiences focused on the female perspective. Low and high-SEP females explained their preference for a same-sex physical activity environment, however their reasons for this were different. In contrast, middle-SEP adolescents only reported gendered experiences when describing themselves as inactive. Both genders discussed a dislike of physical activity; males attributed this to disliking competitive high-intensity activities, whereas females disliked the pressure of team activities.

Note: This table summarizes each analytical theme by SEP.

> *Harriet admitted that her parents weren't as healthy as they could be, but sacrificed their own health enhancing activity so that they could cater for the needs of Harriet and her three siblings. They did this by actively encouraging her to engage in activities.*[47]

Changes in family structure could also act as a facilitator to physical activity. For some, gaining siblings or other family members helped them become more active, "*When I lived at my dad's place I just moped around but since I went to live with my sister I run around with my nieces*."[43]

Adolescents also identified sources of support which were external to their family. They stressed the importance of peers for companionship and enjoyment[41,47,50,52,53] (e.g., "*For me it is all about playing with my friends and having fun; that's the whole point*"[36]) and for practical support, including walking to/from practice and providing support with scheduling, "*And my friends they text me every morning we have practice or when we gonna have a track meet*."[49] Teachers and coaches were reported to provide encouragement and information about physical activity. One student explained, "*in PE lessons I was good in playing handball. My PE teacher invited me to the SS (School Sport) team and after that helped me to find a club, and that's where I practise today*."[42] Many highlighted the activity opportunities provided to them by teachers or coaches, including links to school and community-based sports teams, field trips to farms and the use of school gardens.[50]

Middle-SEP adolescents

Middle-SEP adolescents described how their parents would drive them to places rather than encourage them to engage in more active kinds of transport.[54] Furthermore, not having friends to walk to school with added to the allure of being driven: "*Mostly I'm driven in the morning but can walk home*."[54]

Financial support from parents to provide adolescents with mobile phones was commonly reported to facilitate physical activity.[54,55] Owning a mobile phone "*in case of an emergency*" increased middle-SEP adolescents' opportunities to be active.[54] Although some were frustrated by the amount they had to check their phones, they understood it allowed them more freedom. Lastly, peer companionship was a perceived facilitator.[42,54,55] Many reported the importance of having friends to be active with and indicated they would not be active if they could not participate with their friends.

> *… if you go alone it's not really fun, you get bored easily and you're just walking around and then if you're with friends you can just talk to them and walk around or go and play a game that you can't really, like, play football by yourself or go play basketball by yourself, so it's not as fun as with a bunch of people.*[55]

High-SEP adolescents

Amongst high-SEP adolescents, parental encouragement to "opt out" of physical activity, and focus on academic attainment/work, was

often communicated as a barrier.[42,56] In one study, all participants confirmed that their decision to opt out of school physical education (PE) was to focus on academic work.[56] These adolescents felt that physical activity was nice to do, but achieving in "academic subjects" was a necessity and felt this kind of academic pressure was far greater in private schools.

> The way that I was raised and the way my parents think, they made me focus on academics … with athletics and arts sort of like they are great to have, but your main focus should be academics …[56]

This academic pressure extended to "CV building" activities.[56] Adolescents reported having little free time to be active amidst their other activities, such as volunteering or band practice. Parents were said to be responsible for timetabling, which acted as an instrumental barrier to becoming more active.

Peer pressure to "opt out" of physical activity was reported as an additional barrier.[56,57] Numerous adolescents suggested they chose not to engage in school based physical activity or enroll in PE because their friends were not taking part, "*I heard a lot of that … you are not taking it, so I don't want to take it either*."[57] Others discussed friends could help them become more active by being more supportive, "*I feel that honestly, if one of my friends had come out and said 'I'm going to take it', there might have been a possibility that other people would have, a chain reaction maybe*."[56]

While academic pressure was common amongst high-SEP adolescents, the narrative in this group tended to focus on the support they received to be active. Financial support from parents was a frequently mentioned facilitator.[47,55,57] This support was required for specialized clothing, equipment, and club membership, "*My parents pay for it (specialized clothing and equipment) so I suppose without their help I wouldn't be able to attend my training sessions*."[47] Furthermore, participating with friends was reported to make physical activity more enjoyable.[36,41,55,56]

High-SEP adolescents explained how their parents encouraged them toward certain types of physical activity. These activities took the form of organized sports clubs where parents were also involved,[41,56] "*I got involved (in netball) because my sister used to do it when she was young … I used to go and watch her … it looked good fun*."[41] Parental transport was a facilitator for many adolescents.[41] Parents often stayed for the duration of the sports practice or match, offering further support and encouragement.[47] Participation in family activities such as walks in the countryside were also frequently mentioned.[41,55]

Comparing and contrasting across the socioeconomic groups

Support for physical activity was identified as a key theme, however its role differed by SEP. Adolescents reported their parents to have the largest influence over their activity behavior, but for many parents, physical activity was low on their list of priorities. For low-SEP adolescents, this was due to a lack of time and money and the prioritization of other aspects of life, for example, spending time with a partner or needing their child to help around the house. For middle-SEP adolescents, this was due to their parent's prioritization of less active modes of transport, and for high-SEP adolescents due to their parent's prioritization of academia.

One of the starkest differences across socioeconomic groups was family participation. Middle/high-SEP adolescents frequently mentioned a "whole family" approach to physical activity. This was not the case for low-SEP adolescents who were more reliant on support from teachers and coaches.

Peer support was an important facilitator across all groups, especially for making physical activity more enjoyable. In addition, low-SEP adolescents relied on their friends for additional kinds of support e.g. scheduling reminders.

3.4.2 | Physical activity accessibility and the environment

Low-SEP adolescents

Low-SEP adolescents commonly mentioned the limited provision of facilities in their local neighbourhood.[35–37,41,45,52,57] and often referred to facilities outside their local area, in more affluent neighborhoods.

> "There aren't many options within our community. There's some martial arts, but that's it." Another low-SES student commented, "There's no place like that around here, we have to go to the other side of town."[36]

Adolescents' access to these facilities was impacted by the quality and safety of local public transport. Many described fear and anxiety around modes of transport such as taking the bus.[36,45,46,48] They felt unsafe waiting at a bus stop, especially in the dark, and reported negative experiences such as theft and fighting, "I try to stay away from the bus cuz my phone got snatched while I was standing at the bus stop… There are too many fights on the bus and kids causing unnecessary trouble."[46] Others discussed how they regularly watched other bus riders being assaulted. The unreliability of public transport acted as a further barrier. At busy times, adolescents could not guarantee there would be space for them on the bus. Others needed to get multiple buses due to the distance they lived from the facility.

Adolescents described the appearance and quality of local facilities they could access as poor.[36,45] Poor maintenance, vandalism and litter were common themes, for example: "*Better basketball courts are needed around the community … they are all chain link fence, with no nets, and broken cement*."[36] Adolescents felt these barriers would persist even if they were provided with better facilities, "*If we had a nice weight room, people would steal the weights, and the room would get trashed. People wouldn't respect it*."[36]

Lack of/poor quality facilities meant many low-SEP adolescents took to being active in the streets around where they lived. However, this presented them with additional barriers. Safety concerns in their local area were commonly mentioned, with adolescents reporting shootings, kidnapping, theft and loose animals.[44,52,55,57] Further

frustration was voiced about traffic interrupting their physical activity and the risk of getting run over.[57] Adolescents also expressed concerns about residents' intimidating behaviors including drinking and taking drugs.

> *I think it is a bit scary when there are people lying on the ground with booze … There are also sometimes people doing drugs here. This is why I would not come here in the evening ….*[45]

In addition to their local environment and facility access, low-SEP adolescents reported that similar barriers existed in their school environment.[41,46,57,58] This included a lack of school facilities leading to limited physical activity options and opportunities, or a complete absence of physical activity in their school.[40,42] "*My school hasn't got playing fields so we are limited to what we can do in terms of sports and playing*."[41]

While narratives about the lack of and poor quality of local facilities were far more common, some low-SEP adolescents stressed the facilitating role of local community centers and the provision of free physical activity opportunities,[41] "*I don't want to stop boot camp now because I don't want the weight to come back on. I can go for free because I am under 16 so I don't have to pay*."[43]

Middle-SEP adolescents

Middle-SEP adolescents were extremely positive about their local environment and their access to facilities.[42,54,55] Many discussed the extensive provision of local facilities and their access to the countryside, reporting adolescents in their area to be very active as a result. Adolescents also emphasized the importance of neighborhood safety as it meant their parents allowed them more freedom.

> *The kids around here are very active because there're so many parks around here and it's a really nice neighbourhood … It's one of the most safe neighbourhoods, so I could walk outside, like really late at night*.[55]

High-SEP adolescents

A common narrative among high-SEP adolescents was the variety of physical activities they had access to, at school and in their local neighbourhoods.[36,42,55,56] School provision covered activities ranging from team sports such as basketball, rugby and hockey to more exclusive activities including ski trips and mountain biking. One adolescent explained, "*the school has links with a lot of clubs so it is easier to join*."[41] Adolescents discussed how their schools promoted physical activity outside of school hours by encouraging their students to join sports clubs.[41]

Regarding their local neighborhood, high-SEP adolescents explained how where they lived facilitated their involvement in physical activity.[55] This included their access to the countryside and the provision of sports clubs and facilities in their local area.[36,41]

> I think this area (around School A) gives plenty of opportunity to take part in physical activity, there is a local swimming pool… plenty of parks to play football… tennis courts… plenty of local private clubs….[41]

Comparing and contrasting across socioeconomic groups

Low-SEP adolescents' experiences of physical activity accessibility and the environment noticeably contrasted with those of middle- and high-SEP. Low-SEP adolescents discussed the limited provision of facilities in their local area, how poor public transport impacted their ability to access facilities elsewhere and how the facilities they could access were of a low quality. Further barriers existed when discussing their local environment, where they perceived the streets to be unsafe due to concerns about crime, traffic, and the behavior of other residents including drinking and taking drugs. The provision and access to school facilities appeared largely the same.

By comparison, middle- and high-SEP adolescents positively discussed their access to physical activity facilities and their environment. Both groups described the extensive provision of the physical activity facilities in their local area, their access to the countryside and the safety of their local area. High-SEP adolescents further describe the variety of physical activities they had access to at school.

3.4.3 | Experiences of health and other behaviors

Low-SEP adolescents

Among low-SEP adolescents there was some confusion around the definition of physical activity, for example, "*playing video games by using fingers makes your hands tired*."[57] However, in general low-SEP adolescents discussed their understanding of the health benefits of physical activity as a facilitator and communicated a good understanding of the mental and physical health benefits.[40,48,50] Burning calories was a frequently reported motivator which encouraged adolescents to engage in physical activity,[43,48] "*If you walk, like maybe a mile or two to the nearest grocery store, you lose calories*."[48] Low-SEP adolescents also described how being active was good for the environment and reported this to further facilitate their motivation to be active: "… *trying to be more active for the environment … and help with environment and pollution and stuff like that and health-wise*."[48] Physical activity was positively discussed in relation to mood, with active individuals perceived to be happier.[43,58]

Middle-SEP adolescents

There was little discussion around the health benefits of physical activity among middle-SEP adolescents. Other behaviors were discussed to take priority[54] and physical activity was viewed as a barrier to these. Other engagements were also discussed as a barrier to physical activity and included new social demands and changing groups of friends.[42,54]

High-SEP adolescents

The health benefits of being active were recognized by high-SEP adolescents, however physical activity was viewed as a barrier to other behaviors which adolescents prioritized. Free time was discussed as a limited commodity due to academic and extra-curricular demands and time which was considered valuable for activities such as sleep or getting caught up on homework.[36,42,56]

Comparing and contrasting across socioeconomic groups

The health benefit of physical activity was a dominant narrative among low-SEP adolescents, who discussed its positive impact on both long and short-term health as a facilitator. This was not the case for middle- and high-SEP adolescents who saw physical activity as a barrier to other behaviors.

3.4.4 | Gendered experiences

Low-SEP adolescents

Low-SEP adolescents considered how their gender acted as a barrier to or facilitator of physical activity. When discussing physical activity, females voiced concerns about their appearance, body image and self-confidence.[38,42,58] For some girls, reports of bullying and attacks on their weight lead to negative experiences of physical activity.

> *I don't like PE because I am self-conscious and a lot of the boys hang things on you. When my friend Sally is running and that, the boys say that is gross.*[43]

Low-SEP adolescents also reported low self-esteem and anxiety around physical activity.[38,58] When considering why female peers were inactive, low-SEP adolescents discussed their concerns about appearance, not wanting to ruin their makeup and hair and not wanting to get sweaty, "*They only care about makeup, if their makeup would go away, if they get sweaty and their mascara goes away*."[38] This acted as a barrier to low-SEP adolescent females engaging in physical activity. Females also voiced concerns about being objectified and stranger danger.[45,48] This was reinforced by the parents of adolescent girls, who were reported to discourage their daughters from engaging in active transport for the afore mentioned reasons.[48]

Gendered parental attitudes extended beyond active transport, with parents reported to place unequal demands on females when it came to household chores and homework, leaving them less time to be active.[36,38,44,58] Adolescents also spoke of how their parents viewed sport as "not for girls" and how females had fewer opportunities to be active due to a lack of female role models and activity provision, "*There is more for boys; soccer, for example, that is a sport for boys, I think … You see more guys playing soccer on TV*."[37]

Linking with themes around stereotyping, low-SEP females felt insufficiently supported by their family to be physically active.[38] They also reported a desire for their friends to be more supportive.[49] However, this was not the case for males, who expressed satisfaction with the support they received from peers and felt encouraged to be active by their parents and relatives.[38,59]

Low-SEP males described sports where they could demonstrate skill to facilitate their likelihood to engage in physical activity, "*If the whole thing was sports, I would go*," "*Oh, like if I practise a lot, I want to show it off*."[51] This aligned with the perceptions of females, who discussed how they disliked being physically active with boys, as they were only interested in performing and showing off, "*Boys want to be ball hogs…*," "*Boys think they can do things better than girls*."[51] While females voiced a preference for participating in physical activity with other females, males did not have the same preference and enjoyed mixed-gender activities,[51] "*I think it should be good to do it with girls in the group because they know all the stuff*."[51]

Middle-SEP adolescents

Among middle-SEP adolescents, it was those who described themselves as inactive who discussed gendered experiences.[42] Less active adolescents tended to have lower perceptions of competence, which they related to decreased enjoyment of physical activity and PE. Inactive males reported disliking competition and high-intensity activities. Whereas inactive females disliked competitive team activities, because they felt the pressure to win limited opportunities to learn and have fun.

> I didn't like any of the middle school PE activities. It was all so boring. We have to dress up in those gym clothes, and then run. Those lessons were too intense, we sweat and I didn't like it. I wasn't good at doing all those activities so I never tried that hard. It was too competitive and not important to me.[42]

High-SEP adolescents

Gendered experiences among high-SEP adolescents focused on the female perspective.[42,56] Females indicated they had a preference for same gender activities, as male peers could be intimidating. High-SEP females discussed feelings of discomfort and pressure to perform in front of male peers.

> *The whole performing in front of boys, playing with boys is another factor. Some people have a huge problem with that and even though you are separated in grade 7-9, I don't think that's long enough.*[56]

The preference for a female only environment extended to school staff; with high-SEP females suggesting this helped them feel more comfortable while being active.

> *I don't think I would be comfortable doing it [PE] with the boys and I think it is better having a girl as a teacher because you feel more comfortable doing the exercises….*[56]

Comparing and contrasting across socioeconomic groups

Gendered experiences of physical activity were discussed across socioeconomic groups, with a focus on the female experience. Low- and high-SEP females explained their preference for a same-sex physical activity environment, however their reasons for this were different. Low-SEP females disliked being active with male peers due to their focus on performance and showing off. High-SEP females, on the other hand, disliked the presence of males, as they felt pressured to perform and found males to be intimidating. Low-SEP females reported further barriers to participation, including anxiety around body image, feeling self-conscious and parental imposed gender stereotypes.

In contrast, middle-SEP adolescents only reported gendered experiences when describing themselves as inactive. Both genders discussed a dislike of physical activity; males attributed this to disliking competitive high-intensity activities, whereas females disliked the pressure of team activities.

4 | DISCUSSION

This review thematically synthesizes 25 papers reporting the barriers to and facilitators of physical activity among adolescents of different socioeconomic backgrounds. Four common themes were identified across studies covering all levels of the socio-ecological model: (1) social support, (2) accessibility and the environment, (3) experiences of health and other behaviors, and (4) gendered experiences. However, how these themes were discussed as barriers or facilitators to physical activity varied by SEP. Included studies focused on low-SEP adolescents, who reported experiencing more barriers to physical activity participation. Promoting and enabling physical activity among this group, therefore, is more pertinent and will form the focus of this discussion, with the experiences of middle and high-SEP adolescents used as contrasting points of view.

Lack of social support was described as a key barrier to participating in physical activity, this was especially felt by low-SEP adolescents who experienced an absence of parental support. Previous findings align with the experiences of high-SEP adolescence, where an absence of parental support was due to parent's prioritization of academic success.[60–62] Our findings add by expanding on the reasons adolescents might not feel sufficiently supported by their parents to be active. When discussing social support as a facilitator, low-SEP adolescents relied more heavily on external sources of support including friends, teachers and coaches. Whereas middle- and high-SEP adolescents focused on the support they received from their family. This demonstrates how the type of, and access to, support differs across socioeconomic groups. This has received little attention in current interventions, yet aligns with emergent evidence highlighting the disconnect between public health recommendations and the everyday realities for adolescents and their parents.[63]

In recent years, environmental influences on adolescent physical activity have received increasing attention.[16,20,64] Our findings support quantitative evidence reporting physical activity participation to be lower among low-SEP adolescents due to fewer and worse recreational areas, longer distances to get to physical activity grounds and neighborhood safety concerns.[13,65,66] This review highlights the benefits middle- and high-SEP adolescents experience from having access to varied and high quality facilities in their local area.

Across the literature, adolescents from more affluent families are reported to have an increased knowledge of the health benefits associated with physical activity.[13] Our findings contradict this, with low-SEP adolescents communicating a good understanding of the mental, physical and environmental benefits of being active. This suggests knowledge of the benefits of physical activity does not appear to be a barrier to participation in low-SEP adolescents.

As highlighted in previous literature, adolescents' experiences of physical activity differed by gender, as well as SEP.[67,68] Pressure to perform was a commonly reported barrier; low- and high-SEP females discussed how a female-only environment relieved this pressure, while middle-SEP males discussed competition as a barrier. Creating a low-pressure environment aligns with previous review findings, which report the value of a mastery motivation climate in adolescent PE lessons.[16,69,70] Low-SEP females reported anxiety around body image, feeling self-conscious and parental imposed gender stereotypes. This aligns with commonly reported perceptions around the concept of being feminine and practicing physical activity (e.g., physical activity is not for girls).[60,61,71,72] Among quantitative literature, body image anxiety is not a consensual correlate of physical activity.[18,73] It is possible this is because previous literature has not considered socioeconomic differences. Our findings, however, support wider literature reporting perceptions of body image to be an important factor associated with female participation.[74–77]

4.1 | Strengths and limitations

This review responds to identified gaps in current evidence.[16] As the first review to systematically assess socioeconomic difference in adolescents' perspectives of the barriers to and facilitators of physical activity, we provide contextual information broadening current understanding of the relationship between SEP and physical activity during adolescence. Strengths include the use of multiple databases, systematic and rigorous review methods and the assessment of methodological quality. We acknowledge several limitations. Only peer-review studies published in English were included and this may have led to the exclusion of relevant articles. As there is no commonly agreed upon appraisal tool for qualitative research,[78] we did not apply an exclusion criterion based on quality, but all included articles were deemed to be high in quality. In line with recommended methods,[33] our data extraction included all data in the "Results" section of each paper. As the data reported in these studies may have been selective or biased, this may have affected our synthesis. Furthermore, the majority of included studies used area-level indicators of SEP (neighborhood or school level) as a proxy for individual-level SEP. This is common in adolescent literature where individual-level SEP is difficult to determine,[9] but this may lead to the assumption of socioeconomic

homogeneity within areas, raising the question of "ecological fallacy."[13]

4.2 | Recommendations for future research

Going forward, more research is needed which considers how interventions can be developed to target the multi-level needs of different socioeconomic groups. Our review suggests this research should be focused toward low-SEP adolescents. Research exploring the impact of Covid-19 will help inform strategies to tackle underlying health inequalities linked with physical activity and childhood obesity that may have been exacerbated by the pandemic. Our review focused on high-income countries, we advocate conducting and reviewing qualitative research in low-to-middle-income countries to help inform intervention efforts in different contexts. Efforts should also be made to use appropriate measures of SEP,[13] individual-level composite measures such as the Family Affluence Scale are potentially useful for this age group.[79]

4.3 | Implications for policy and practice

Various policy documents have called for the development of effective strategies to increase physical activity in adolescents, to help halt or reverse the increase in obesity and improve other aspects of health.[80] The convergence of the childhood obesity epidemic and the Covid-19 pandemic increases the urgency to respond to these recommendations and supporting those of low-SEP should be recognized as a priority.

This review identifies inequalities in barriers to and facilitators of physical activity across individual, social, environmental and societal levels and supports the ecological approach to behavior change.[81,82] To effectively promote physical activity, professionals should consider intervening on multiple levels while accounting for the contrasting needs of socioeconomic groups. Specific emphasis should be placed on inequalities in structural environmental or policy changes supporting increased facility provision and environmental regeneration in more deprived areas.

This review also highlights the public health potential of multicomponent approaches which include the family, by considering how parental factors and the home environment influence physical activity.[16,63] For low-income families this involves considering parents' lack of time and resources. Furthermore, this review highlights that PE professionals can have a significant role in creating physical activity opportunities and establishing links with the community, especially for low-SEP adolescents. In order to facilitate this, schools with a high proportion of low-SEP adolescents should be recognized by policy makers and public health professionals as having an important role to play in improving young people's physical activity.[83] Peralta et al.[83] suggest low-SEP schools achieve this through a whole school approach to overcome student inequality, with a focus on each of the three domains of the health-promoting schools framework: (1) health education in the curriculum; (2) changes to the school ethos and physical environment; and (3) involving families and/or communities to support health promotion.[84]

In addition to SEP, intervention development and policy decisions should consider gender differences in this age group. Our findings support the need for continued investment in interventions targeted at females,[16,85,86] which help challenge gender stereotypes and encourage positive perceptions of body image.

5 | CONCLUSION

Adolescents' perspectives of their experiences of common barriers to and facilitators of physical activity vary by SEP. Low-SEP adolescents focused primarily on the barriers they experienced to participating in physical activity, highlighting their status as a high-risk group. As we aim to build back from the Covid-19 pandemic, supporting those of low-SEP should be prioritized in order to tackle underlying inequalities linked with childhood obesity and protect the wellbeing of young people and their future health.[8]

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CONFLICT OF INTEREST

No conflict of interest statement.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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