

Systematic Review

# A Metareview of Research on Educational Inequality and Socioeconomic Disadvantage

Jennifer E. Symonds <sup>1</sup>, Yekaterina Chzhen <sup>2</sup>, Neil Kaye <sup>1</sup>, Jay Dominy <sup>1</sup>, Charlotte Campbell <sup>1</sup>, Catherine Sykes <sup>1</sup>, Sude Işıl Baştuğ <sup>1</sup>, Sara Fiasconaro <sup>3</sup> and Ilyar Heydari Barardehi <sup>2,\*</sup>

<sup>1</sup> Social Research Institute, Institute of Education, University College London, 55-59 Gordon Sq, London WC1H 0NU, UK; j.symonds@ucl.ac.uk (J.E.S.); neil.kaye@ucl.ac.uk (N.K.); j.dominy@ucl.ac.uk (J.D.); charlotte.campbell@ucl.ac.uk (C.C.); katiesykes05@gmail.com (C.S.); isil.bastug.21@ucl.ac.uk (S.I.B.)

<sup>2</sup> Department of Sociology, Trinity College Dublin, 3 College Green, Trinity College, D02 PN40 Dublin, Ireland; chzheny@tcd.ie

<sup>3</sup> Department of Sociology and Social Research, University of Trento, Via Giuseppe Verdi, 26, 38122 Trento, Italy; sara.fiasconaro@studenti.unitn.it

\* Correspondence: heydari@tcd.ie

**Abstract:** Socioeconomic inequalities in educational achievement are pervasive across societies. To inform a European Commission-funded project on educational inequalities in children, adolescents, and young adults, we used a scoping review methodology to synthesise the methods, topics, and coverage of reviews of empirical studies published in the past five years (2019–2024). Our systematic search of the Web of Science database identified 498 unique records, which were screened for eligibility. Of these records, 57 progressed to full-text screening, with 29 included in the metareview. We extracted data on the reviews' methodologies, overarching conceptual perspectives, conceptualisations of socioeconomic inequalities and educational achievement, and educational stages covered. Our analysis found gaps, including a lack of qualitative reviews, a lack of focus on primary education and on tertiary education outside of university (e.g., further education college), scarce coverage of the impact of broader contextual indicators of socioeconomic inequality (e.g., school and neighbourhood contexts) on educational outcomes, and a narrow focus on academic achievement. To conclude our metareview, we synthesise and expand the review topics into an interdisciplinary conceptual diagram that illustrates the breadth and depth of research needed in this field.

**Keywords:** achievement; economically disadvantaged; literature reviews



Academic Editor: Clara Sabbagh

Received: 9 May 2025

Revised: 4 June 2025

Accepted: 9 June 2025

Published: 13 June 2025

**Citation:** Symonds, J. E., Chzhen, Y., Kaye, N., Dominy, J., Campbell, C., Sykes, C., Baştuğ, S. I., Fiasconaro, S., & Heydari Barardehi, I. (2025). A Metareview of Research on Educational Inequality and Socioeconomic Disadvantage. *Education Sciences*, 15(6), 740. <https://doi.org/10.3390/educsci15060740>

**Copyright:** © 2025 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. A Metareview of Research on Educational Inequality and Socioeconomic Disadvantage

Education is an essential foundation of most societies, but there are inequalities in access to education and in the distribution of educational outcomes. Research has documented that educational inequality is a driver of broader societal inequalities in income, health, life satisfaction, and civic participation (Blanden et al., 2023), a force behind political conflict (Piketty, 2020), a predictor of population health (Kawachi et al., 2010), and a nexus of cumulative disadvantage processes (Dupre, 2008; Kaye, 2024). Behind educational inequality are social stratification processes, which create systemic differences in educational experiences and opportunities for people from different cultural groups, including disability, gender, ethnic/migrant and social origin. Educational inequality is, therefore, a subject of considerable scholarly interest in many disciplines, including educational

research, economics, history, politics, philosophy, psychology, and sociology. Perhaps the most important time in the life course to examine educational inequalities is during the first 25 years of life, as educational inequalities reliably predict adult occupational outcomes and wellbeing (Symonds et al., 2016, 2023).

What we know about this field is best encapsulated by the many reviews of educational inequality. These reviews have been conducted by researchers working within and across social sciences disciplines, for example, Liu et al.'s (2020, 2022) psychological research on socioeconomic inequality and educational achievement, Schmutz's (2024) sociological research on early childhood education, and Shi and Bangpan's (2022) educational research on inequalities and vocational education. These three reviews employed meta-analysis, systematic narrative reviewing, and qualitative synthesis, demonstrating the range of evidence synthesis techniques used. This diversity of approaches creates an excellent opportunity for a meta-synthesis to highlight cross-disciplinary differences in the reviews' perspectives and outcomes and to identify methodological gaps. The results of this meta-synthesis may benefit researchers focusing on overlooked areas of educational inequalities and assist policymakers in understanding the biases, limitations, and opportunities within the research field that inform their decisions. Accordingly, our research team aimed (1) to scope all evidence syntheses of socioeconomic disadvantage and educational inequalities using a systematic search methodology; (2) to map the empirical coverage of these reviews; and (3) to map and synthesise the conceptual perspectives taken by the reviews to create an integrated interdisciplinary perspective of socioeconomic disadvantage and educational inequality.

## 2. Socioeconomic Disadvantage and Educational Inequality

In this review, we focus on socioeconomic disadvantage, whilst recognising that there are many intersecting drivers of educational inequality. When understood from a socioeconomic disadvantage perspective, educational inequality is a stratification process in which better-off families pass on advantages to their children (Bloome et al., 2018). Family socioeconomic position, or status (SES), is a complex concept that encompasses different aspects (Bradley & Corwyn, 2002). It is usually measured using indicators of household income, parental education and occupational social class. These indicators are correlated, however, and each indicator can also have unique associations with different aspects of family processes and child development outcomes (Conger & Donnellan, 2007). Importantly, SES indicators vary in the extent to which they change over time: household income tends to be the most volatile, particularly at times of economic turbulence. Moreover, the economic domain of SES may overlap with poverty, which is itself a multidimensional concept that can be measured using indicators of low household income/consumption, enforced deprivation of socially perceived necessities, and subjective financial strain. Together, poverty, lower SES, and strain from economic uncertainty make some students more vulnerable to unequal learning conditions and cultures (Hanappi et al., 2015).

## 3. Educational Inequality

Although socioeconomic gradients in educational achievement manifest throughout the life course, they begin in early childhood and can cascade across childhood and adolescence. Evidence from longitudinal studies in rich countries shows that by the time children start compulsory schooling, those from lower socioeconomic backgrounds are already behind their more advantaged peers in cognitive test scores (Chzhen & Bruckauf, 2016; Skopek & Passaretta, 2021). These gaps tend to persist throughout the years of schooling. International assessments of student learning find large SES gaps in children's achievement in primary and secondary school in all countries (Werfhorst & Mijs, 2010).

Socioeconomic differences in secondary school achievement are further reflected in access to tertiary education. Post-compulsory education is increasingly key to both individual prosperity in knowledge-based economies and overall social progress, but children from more privileged backgrounds are more likely to access and complete higher education (Palmisano et al., 2022). Qualitative research with university students from different social class backgrounds suggests that lower SES students face not only economic but also social and cultural barriers to educational achievement (Lynch & O’Riordan, 1998).

#### 4. Reviews of Educational Inequality

Overall, there is a large body of literature documenting the impact of socioeconomic disadvantage on educational inequalities. The growth of this evidence base has enabled reviews of different aspects of educational inequalities including achievement (Yazdani et al., 2024), cognitive test scores (Williams et al., 2022), and student retention (Mishra et al., 2020). However, it is possible that these reviews are missing critical aspects of the evidence base, such as specific educational stages or indicators of educational inequality, meaning that the field is only partially mapped. Furthermore, the reviews could cluster within a specific research field, i.e., sociology, and use theories only relevant for that field, meaning that only a narrow set of mechanisms and perspectives is emphasised in their conclusions. The content and framing of the reviews present an important issue for the quality of the evidence base and for the translation of research findings into practice and policy. This is because educational and government organisations are more likely to make decisions based on evidence syntheses compared to individual research articles, which can be biased towards the views of the authors or specific research fields, i.e., sociology or psychology.

Existing conceptualisations of the relationship between socioeconomic status and educational inequality vary significantly across disciplines, each offering valuable but partial insights. For instance, in sociology, frameworks often emphasise structural determinants such as social class, cultural capital, and institutional bias, highlighting how unequal access to resources and opportunities perpetuates stratification across generations (Bourdieu, 2011). Psychology, by contrast, tends to focus on individual-level processes such as cognitive development, motivation, stress, and the influence of home environments on learning (Wigfield & Eccles, 2000). Other conceptual perspectives, such as human development, life course, and rational choice theory, introduce alternative important temporal and contextual lenses, emphasising how the timing and accumulation of disadvantage affect outcomes across the life course (Elder, 1998; Heckman & Mosso, 2014). While each approach contributes to understanding how SES shapes educational experiences, a major gap in the literature lies in the fragmentation of these insights. Our synthesis aims to bring these conceptual strands together to promote a more holistic, systematic understanding of how educational inequality is produced and sustained. Accordingly, we conducted a review of reviews, i.e., a metareview, to synthesise the coverage that these other reviews have achieved. With our review, we provide a clear overview of gaps in the evidence synthesis of socioeconomic disadvantage and educational inequality.

#### 5. Current Study

Socioeconomic variation in educational experiences is a key predictor of adult occupational and wellbeing outcomes (Symonds et al., 2016, 2023). The corresponding evidence base is varied and has been reviewed using different perspectives and methodologies. At the metalevel, a review of reviews is necessary for informing researchers and social policy about the approaches to mapping this evidence base, which will help identify gaps where evidence has yet to be mapped or interpreted using alternative disciplinary per-

spectives. The aim of the current study was, therefore, to map and synthesise reviews of socioeconomic disadvantage and educational inequalities.

In line with our research aims presented in the Introduction, we used a systematic review methodology to ask the following: (1) How many reviews are there and how many studies are covered by them? (2) Which educational stages are represented across the reviews, and what are the trends and gaps? (3) Which socioeconomic disadvantage indicators are represented across the reviews, and what are the trends and gaps? (4) Which educational inequality outcomes are represented across the reviews, and what are the trends and gaps? (5) Which conceptual perspectives are represented across the reviews, and what are the trends and gaps? To address these questions and efficiently synthesise the existing evidence within a clearly defined scope, we employed a scoping review, which allows for a streamlined yet systematic mapping of key trends and gaps, details of which are provided in the Section 6 below.

## 6. Methods

### 6.1. Scoping Review

We selected a scoping review methodology to provide a broad examination of the existing literature, identify available evidence, clarify key concepts, and assess how research is conducted in a specific field (Munn et al., 2018). Scoping reviews are distinct from other types of systematic reviews as they do not seek to answer specific research questions, such as the effectiveness of a treatment. Instead, they focus on mapping and synthesising existing research in a niche area. A scoping review brings coherence to the field, drawing on studies across the social sciences and humanities to provide an interdisciplinary map and synthesis of reviews of socioeconomic disadvantage and educational inequalities. Our review adhered to the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement (Page et al., 2021), which provides a flexible yet standardised methodology for systematic reviews.

### 6.2. Eligibility Criteria

Our search aimed to synthesise reviews of empirical studies on the impact of socioeconomic disadvantage on educational inequality. All review types were included (e.g., systematic narrative reviews and meta-analyses, and non-systematic reviews). Reviews were included if they were published in peer-reviewed academic journals and books, in the past five years (May 2019–June 2024). By focusing on peer-reviewed academic publications, we generated a corpus of reliable high-quality reviews, which bolstered the quality of our meta-synthesis. Furthermore, the five-year timeframe (2019–2024) meant that we reviewed more recent reviews that are likely to include a larger number of studies and represent current research perspectives and techniques and are, therefore, a better indicator of the shape and scope of the field. We limited our search to reviews published in English because English was the common language of the researchers.

### 6.3. Information Sources

We conducted several test searches in EBSCO Host, ProQuest, Scopus, and Web of Science. There was nearly 100% overlap in the records retrieved from Web of Science and the other databases; therefore, we used only Web of Science to create greater parsimony in the search process.

## 7. Search Strategy

Table 1 presents search terms consisting of synonyms for key concepts (e.g., educational achievement) and displays how these were combined using Boolean operators into a

search string. The search terms and string were carefully developed following several test searches using alternative terms and combinations of terms. In this development phase, we discovered that it was preferable to use synonyms for educational achievement/attainment, rather than search for terms and phrases representing educational inequality. This was for two reasons. First, we restricted our search to reviews that had titles including terms for review and educational achievement. This decision was in line with our logic that the reviews had to focus on educational inequalities, rather than on other topics that may be loosely related to educational inequalities and outcomes in the abstracts. Second, we anchored the search on socioeconomic disadvantage by requiring these synonyms to be in the abstracts. This combination of key constructs across the titles and abstracts resulted in many highly relevant results, demonstrating that the search had both sensitivity and comprehensiveness.

**Table 1.** Search string.

Construct	Search Terms	Field	Boolean Operator
Reviews	(review OR synthesis OR “meta-analysis”)	Title	AND
Educational achievement	(education OR educational OR achievement OR attainment OR academic OR GPA)	Title	AND
Socioeconomic inequality	(disadvantage OR equality OR equity OR exclusion OR “economic advantage” OR gradient OR inequality OR “low income” OR SES OR socioeconomic OR “social class” OR unemployed OR unemployment OR “social justice” OR poverty OR unequal)	Abstract	AND
CAYA	(child OR children OR childhood OR teenager OR teenage OR youth OR “young person” OR adolescent OR adolescence OR “young adult” OR “emerging adult” OR “early years” OR student OR pupil)	Abstract	AND

## 8. Selection Process

The records were retrieved from Web of Science on 6 June 2024. One researcher performed the searches and exported the results into Microsoft Excel, combined the records, and removed duplicate records to create a clean dataset for screening.

In the first step, each record was screened independently by two researchers using the inclusion criteria to identify whether the publication (1) was a review of empirical evidence or theory, (2) explicitly focused on socioeconomic-based inequalities in learning outcomes obtained across a general population of school or college students, and (3) focused on individuals aged between the start of pre-school (age 3/4 years) and the end of young adulthood (age 24 years).

To determine the screening assignment, records were randomly assigned across six researchers. Each person screened a third of the records, so that each record was independently screened twice. Records were assessed against the inclusion criteria and scored “yes” (definitely meets), “maybe” (unable to tell whether meets), or “no” (definitely does not meet) for each criterion. Following this step, the percentage agreement of records that should proceed to full-text screening was 92%, and the interrater reliability was assessed as good (Cohen’s  $\kappa = 0.66$ ) (Gisev et al., 2013). Disagreements between researchers were resolved by a senior researcher who triple screened the relevant records and cast a veto vote on whether the record should proceed to the second step.

The second step comprised full-text screening of all records shortlisted in the previous step. All records were retrieved from the search databases and downloaded as PDFs, and the full text was screened using a further iteration of the inclusion criteria. At this step, a further criterion was added to ensure that records also included one or more

named conceptual perspectives to underpin the review of educational socioeconomic inequalities. The full-text records were randomly assigned to one of four researchers, who read through the texts and scored them as a “yes” or a “no” for inclusion against the expanded criteria. Full texts were only screened once. Documents that passed full-text screening were transferred to the list of included records for the present review.

## 9. Data Collection Process

Data were collected from the reports using a data extraction framework described in the following section. Microsoft Excel was used to process the data. Four researchers extracted the data, covering a fourth of the 29 reports each. The reports were randomly assigned to the four researchers. Random checks on the quality of the data extraction were conducted by a fifth researcher.

## 10. Data Items

The research team jointly constructed a data extraction framework, which was piloted on five papers and then refined, to ensure that it was a good fit to the dataset. The data extraction framework had three components. The first component focused on extracting study characteristics, including the type of review, size of the review (i.e., number of studies included), and the field of the journal in which the review was published. These data were stored in short format, i.e., one row of data per review.

The second component of the data extraction framework coded the full set of educational stages covered, the main indicators of socioeconomic disadvantage studied, main educational outcomes studied, and main conceptual perspectives used, for each review. The data were input using free text for the purpose of developing a coding framework after data collection. These data were stored in a long format, because multiple stages, indicators, outcomes, and perspectives were used within individual reviews. Conceptual perspectives were input if they were described in one or more sentences with a citation from the literature. These could be found anywhere in the review (i.e., in the Introduction, Methodology, or Discussion sections).

The third component was a quality review of how the review authors used theory, i.e., the quality of the conceptual perspectives underpinning the reviews. We scored each of the papers as “1 = no”, “2 = partially”, or “3 = yes” in response to the following questions: ‘Are one or more theories clearly described with appropriate citations?’ and ‘To what extent do the authors synthesise the theories?’ A further question—‘Do the authors propose their own theoretical perspective?’—was coded with binary “yes”/“no” response options.

Reviews were assigned ID numbers to ensure data from the two sheets could be matched and data from any individual review could easily be identified. The coding frames for each of the two data extraction frameworks are provided in the appendices.

## 11. Risk of Bias and Effect Measures

Because this study was a scoping review (i.e., aimed to assess the scope of coverage of all available literature rather than specific research findings) with a narrative synthesis, no risk of bias or effect measures were considered.

## 12. Synthesis Methods

Study characteristics data and the quality assessment items were analysed using counts and descriptive statistics. The qualitative data in long format, i.e., the data on educational stages, indicators of socioeconomic disadvantage, educational outcomes, and conceptual perspectives, were analysed using semantic thematic analysis described in detail below. The qualitative analysis was performed by a senior researcher with assistance from a

second senior researcher and mid-career researcher. First, each long-format list was cleaned (copy edited) and read through to achieve familiarisation with the data. Second, the lists were sorted alphabetically to identify similar and identical words (e.g., achievement). Third, similar terms were grouped and given an overarching code by using expert knowledge of educational systems and theory (e.g., test scores were coded as ‘achievement’, and all forms of social, cultural, and economic capital were coded as ‘capital’). Quantitative summaries of the main themes were produced and are included in the results as text and in figures.

## 13. Results

### 13.1. Study Selection

The study selection process is summarised in Figure 1. There were 743 records retrieved, which contained 245 duplicates. After duplicates were removed, 498 records remained for title and abstract screening. This step rejected 441 records, leaving 57 reports for full-text screening. All reports were retrieved and screened. Of these reports, 29 met the eligibility criteria and proceeded to the data extraction stage.

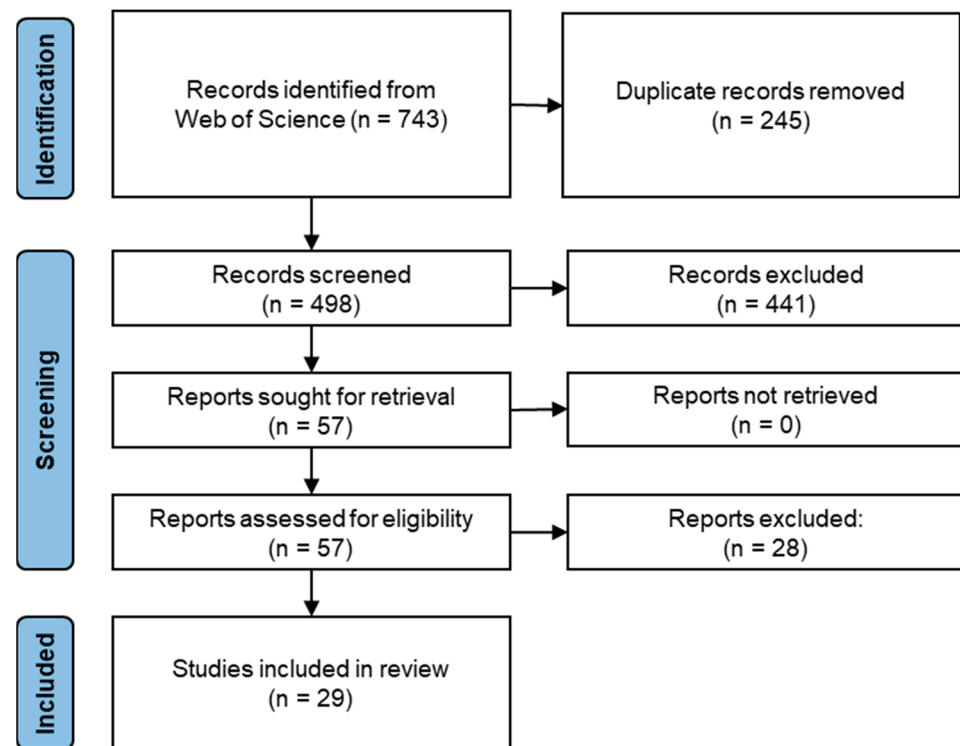


Figure 1. PRISMA diagram of the search and selection process.

### 13.2. Study Characteristics

There were 29 reviews that covered a total of 1950 empirical studies of socioeconomic disadvantage and educational inequalities (study coverage: min = 14, max = 326,  $M = 75$ ,  $SD = 68.59$ ). The reviews spanned a five-year period, with 2021 having the most reviews ( $N$ : 2019 = 4, 2020 = 11, 2021 = 2, 2022 = 6, 2023 = 4, 2024 = 2). The reviews either focused on a specific geographic area ( $N = 11$ : Scandinavia = 1, Australia = 1, China = 2, UK = 3, USA = 4), on low- and middle-income countries ( $N = 2$ ) or were international in scope ( $N = 16$ ). Of the 29 reviews, 11 (39.93%) were systematic narrative reviews. These reviews used systematic search methods to identify publications and then analysed their results using a narrative approach (i.e., writing about the results, rather than analysing extracted data using qualitative or quantitative methods). There were nine meta-analyses (31.03%) that produced a quantitative report of study findings. Further, there were four scoping

reviews (13.97%) and four conceptual reviews (13.97%) that reviewed the literature without using systematic techniques. One other review (3.45%) was produced using a combination of a systematic search and a snowball search, followed by a narrative review. Of note, there were no systematic reviews of qualitative studies, presenting a major gap in the approach to data synthesis.

Most reviews ( $N = 17$ , 58.62%) were published in educational research journals, indicating that at the broadest level, they were in the field of educational research, although at a lower level, they had further subject specialisations including psychology and sociology. There were fewer reviews published in subject-specific journals. The most common specific field was psychology ( $N = 6$ , 20.69%), followed by sociology ( $N = 3$ , 10.34%). One review (3.45%) was published in a social policy journal, and one review (3.45%) was published in a medical research journal. There were no reviews published in economics, demography, or anthropology journals.

## 14. Results of Synthesis

### 14.1. Educational Stage

The reviews either focused on a single educational stage (e.g., primary school) or on combined educational stages (e.g., all school aged children). We first analysed the educational stage or stages represented within reviews (Table 2). This analysis found that there were no reviews that focused solely on primary education or on tertiary-level education that was not university (e.g., polytechnic, further education college). The most represented educational stages within individual studies were all school-aged children, university education, middle/secondary school, and early years.

**Table 2.** Educational stage within reviews.

Educational Stage	N Reviews	% Reviews	N Studies	% Studies
<i>Single stage</i> *				
Early years	5	17.24	215	11.03
Primary school	0	0.00	0	0.00
Middle or secondary school	5	17.24	362	18.56
Tertiary education—non-university	0	0.00	0	0.00
Tertiary education—university	6	20.69	452	23.18
<i>Combined stage</i>				
Early years and primary	0	0.00	0	0.00
All school-age children	8	27.59	692	35.49
Early years and all school age	2	6.90	87	4.46
Middle/secondary and non-university	1	3.45	31	1.59
All tertiary education (non-university and university)	1	3.45	33	1.69
All school age and university	1	3.45	78	4.00
Total	29	100.00	1950	100.00

Notes: \* = Italics are used to distinguish between studies focusing on a single educational stage and those that span multiple stages, to clarify differences in study scope and sample composition.

A slightly different picture emerged when analysing the educational stage represented across the 29 reviews (Table 3). Here, middle/secondary school was the best represented, followed by primary school, university education, and early years. Similar to the within-review analysis, there was very little representation of non-university third-level education, presenting another interesting evidence gap for future research to examine.

**Table 3.** Educational stage across reviews.

Educational Stage	N Reviews	% Reviews
Early years	7	15.91
Primary school	11	25.00
Middle or secondary school	16	36.36
Tertiary education—non-university	2	4.55
Tertiary education—university	8	18.18
Total	29 *	100.00

Notes: \* = many individual reviews have multiple educational stages, total number of reviews given.

#### 14.2. Indicators of Socioeconomic Disadvantage

Family SES (including social class and occupation), family income, and parental education were the most prevalent indicators of socioeconomic disadvantage used in the reviews, ranging from a third to a half of reviews taking these perspectives (Table 4). Present in one review each was an interesting set of other indicators, including classroom disadvantage, economic disadvantage, educational opportunities, family material assets, neighbourhood deprivation, regional income, school SES, and widening participation. These results present a trend of reviews focusing on individual-level factors (e.g., within the family) that are well established in the literature. The broader context of socioeconomic disadvantage present in schools, neighbourhoods, communities, and societies was presented in a more diverse way and, less frequently, across reviews, signalling another gap that future evidence syntheses could focus on (such as a review of classroom-level disadvantage on educational outcomes).

**Table 4.** Socioeconomic disadvantage indicators across reviews.

Socioeconomic Disadvantage Indicators	N Reviews	% Indicators	% Reviews
Family SES (including social class, occupation)	15	36.59	51.72
Family income	10	24.39	34.48
Parental education	8	19.51	27.59
Classroom (disadvantage) composition	1	2.44	3.45
Family economic disadvantage	1	2.44	3.45
Lack of learning opportunities	1	2.44	3.45
Family material assets	1	2.44	3.45
Neighbourhood deprivation	1	2.44	3.45
Regional income	1	2.44	3.45
School SES	1	2.44	3.45
University access programmes	1	2.44	3.45
Total	29 *	100.00	100.00

Notes: \* = many individual reviews have multiple indicators, total number of reviews given.

#### 14.3. Educational Inequality Outcomes

The most common educational outcome studied from an inequality perspective across the reviews was academic achievement (Table 5). This was represented across 16 reviews, mainly by school/college grades and test scores. This result is not surprising, considering that academic achievement (and synonyms) was a key focus of the search. The second most common outcome studied across eight reviews was educational engagement. Indicators of engagement included student emotional engagement (i.e., aspirations and goals) and behavioural engagement (i.e., drop out, student retention, and student participation rates). Cognitive ability was studied in three reviews. Socioeconomic outcomes of education (e.g., student employment) were studied in two reviews, as were socioemotional skills (e.g., relationship skills and emotional regulation as an outcome of early childhood education). Outcomes only studied in one review each were academic readiness, academic resilience,

achievement motivation, classroom instructional quality, educational social mobility, and educational trajectories.

**Table 5.** Educational inequality outcomes across reviews.

Inequality Outcomes	N Reviews	% Outcomes	% Reviews
Academic achievement	16	41.03	55.17
Educational engagement	8	20.51	27.59
Cognitive ability	3	7.69	10.34
Access to early childhood education	2	5.13	6.90
Social/economic outcomes of education	2	5.13	6.90
Socioemotional/non-cognitive skills	2	5.13	6.90
Academic readiness	1	2.56	3.45
Academic resilience	1	2.56	3.45
Achievement motivation	1	2.56	3.45
Classroom instructional quality	1	2.56	3.45
Educational social mobility	1	2.56	3.45
Educational trajectories	1	2.56	3.45
Total	29 *	100.00	100.00

Notes: \* = many individual reviews have multiple outcomes, total number of reviews given.

#### 14.4. Conceptual Perspectives

A total of 62 conceptual perspectives were extracted from the reviews and were coded into broad domains by the lead researcher, then cross-checked in discussion with the second, third, and fourth researchers (Table 6). The most common type of conceptual perspective used across 15 reviews regarded processes of capital accumulation and reproduction (e.g., cultural, social, and economic capital theories). Bourdieu's (cf. Bourdieu, 2011) perspective of social, economic, and cultural capital was the most prevalent capital theory. Other perspectives included the network theory of social capital (Lin, 2017) and Becker's (1964) human capital. Ebenezer's (2013) perspective on social justice was also coded into the capital domain, given that social justice can be understood as a capital-oriented perspective on equality.

**Table 6.** Conceptual perspectives across reviews.

Domain	N Reviews	% Theories	% Reviews
Capital perspectives	15	24.19	51.72
Ecological systems	8	12.90	27.59
Family processes	8	12.90	27.59
Individual choice	8	12.90	27.59
Psychological development	7	11.29	24.14
Cultural processes	3	4.84	10.34
Gender	3	4.84	10.34
Life course	3	4.84	10.34
Social structures	3	4.84	10.34
Transactional	2	3.23	6.90
Economic processes	1	1.61	3.45
Social mobility	1	1.61	3.45
Total	29 *	100.00	100.00

Notes: \* = many individual reviews refer to multiple conceptual domains, total number of reviews given.

The reviews also emphasised theories regarding socioecological and sociocultural development. Bronfenbrenner's (cf. Bronfenbrenner, 1979) ecological systems theory was the next most frequently used conceptual perspective, demonstrating the field's commitment to socioecological perspectives across eight reviews. Theories regarding family processes,

including attachment theory (Ainsworth, 1979), family stress theory (Conger et al., 1994), and sociocultural theory (Vygotsky, 1978), were also present in eight reviews, signalling a sociocultural developmental focus in the field.

Perspectives on individual agency and psychological development were also present across the reviews. In eight reviews, several theories of individual choice were cited, including rational choice theory (Boudon, 1974) and the college choice model (Hossler et al., 1989). Theories of psychological development were present in seven reviews, including expectancy value theory (Wigfield & Eccles, 2000), identity dissonance (Monrouxe, 2010), minority students' survival in college (Nagasawa & Wong, 1999), and the socioecological concept of resilience (Ungar, 2013).

Less prevalent, although perhaps no less important, were theories about cultural processes, gender, life course theory (e.g., Elder, 1998), social structures (Giddens, 1979), transactional theory (Sameroff, 2009), economic processes (Heckman & Mosso, 2014), and social mobility (Kaufmann et al., 2004), present in one or two reviews each.

Contrary to the analysis presented earlier, which demonstrated that the reviews focused more on individual disadvantage indicators and less on context, the conceptual perspectives across studies emphasise the role of the broader context in shaping individual development. This presents a mismatch between the indicators of socioeconomic disadvantage studied in the reviews and the conceptual perspectives used to frame the reviews. Accordingly, more measured indicators of broader contextual socioeconomic disadvantage, such as classroom composition and neighbourhood deprivation, could be usefully used to augment future reviews in this field.

## 15. Overarching Synthesis: Educational Inequality and Socioeconomic Disadvantages

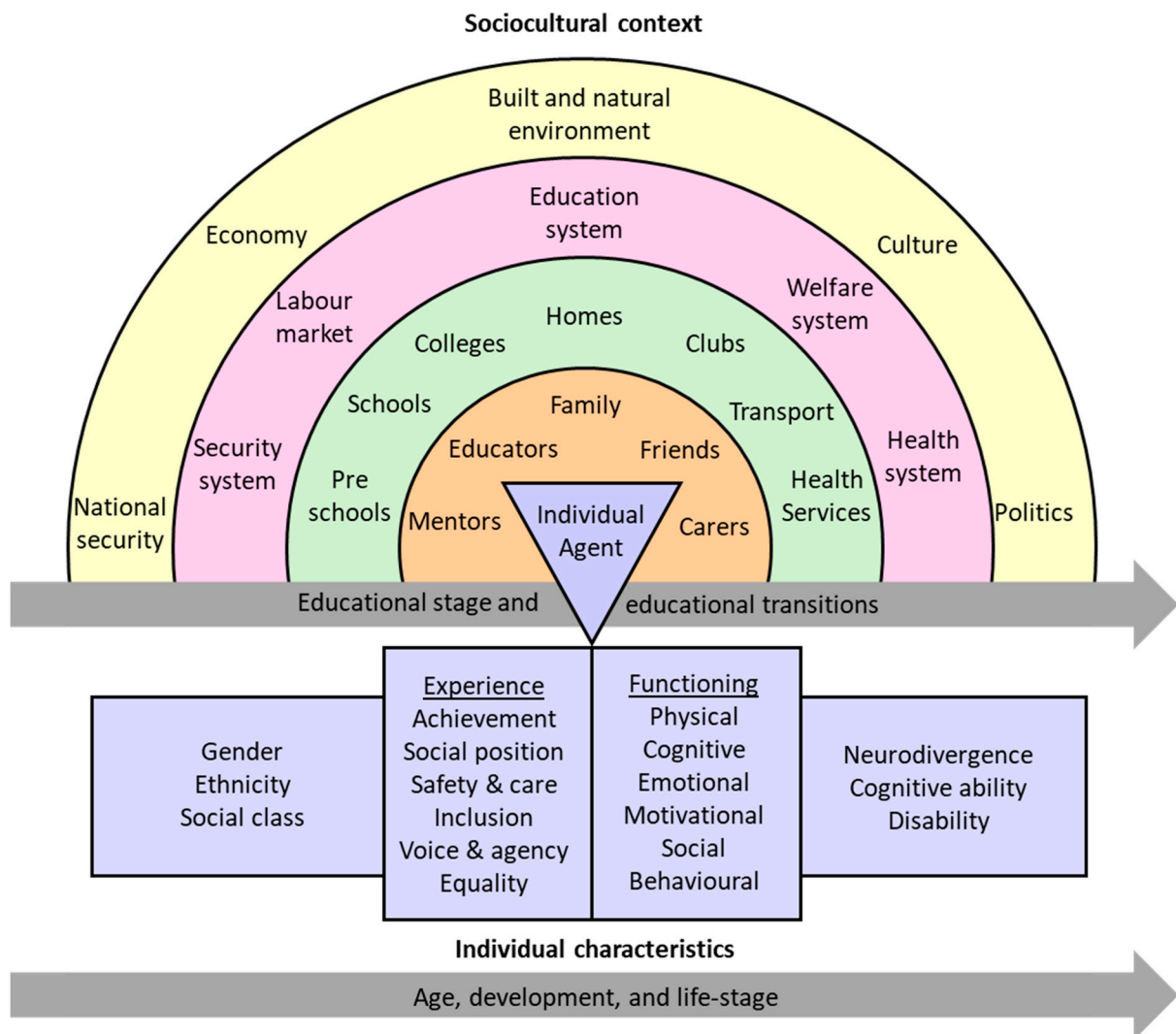
Our synthesis of the theories reveals a strong socioecological and sociocultural perspective on individual agency that is grounded in capital and transactional processes and accounts for time, age, and educational stages and transitions. We attempted to represent this synthesis in a diagram (Figure 2) that includes each core dimension. Drawing on our academic expertise in psychology, human development, and sociology, and on other models of sociocultural and socioecological influences on students' wellbeing and development (e.g., Gromada et al., 2020), we provided further detail on the factors making up each dimension for researchers to consider.

Figure 2 illustrates a multi-layered model of the influences shaping educational outcomes and inequalities for children and young adults. It is structured around concentric layers that reflect different but interrelated levels of influence. At the centre is the CAYA agent, embedded in immediate relational contexts—family, educators, friends, carers, and mentors—who directly shape daily experience. Surrounding this core are institutional and community settings, including pre-schools, schools, colleges, homes, and clubs. These reflect the meso-level environments where educational engagement and transitions occur. Encompassing these are broader systemic structures, grouped under the socioecological context, which include the education system, labour market, economy, health and welfare systems, culture, and the built and natural environment. Though labelled socioecological, this layer incorporates political and institutional structures such as national security and governance, acknowledging their critical influence on educational opportunity.

Beneath the figure, the sociocultural context highlights key dimensions of inequality and diversity, such as gender, ethnicity, and social class. This section is further divided into experience and functioning, alongside recognition of neurodivergence, cognitive ability, and disability as distinct factors. The horizontal axis underscores that these influences unfold across educational stages and transitions and across age, development, and life

stages, reinforcing the dynamic and cumulative nature of educational (dis)advantage over time.

The included factors are not exhaustive and are intended to enhance the utility of the synthesis by making abstract theoretical concepts more tangible and applicable for researchers. They extend beyond any single conceptual framework used in the reviews, reflecting the breadth of influences identified across disciplines. At the time of writing, there are several international wars occurring (in Ukraine and Gaza), drawing our attention to the important role of national security and climates of war and peace in the process of socioeconomic disadvantage and educational inequality (as represented in Figure 2).



**Figure 2.** Factors involved in educational inequality and socioeconomic disadvantage.

## 16. Discussion

A large body of evidence has documented socioeconomic inequalities in education, resulting in a growing number of literature reviews on the topic. Using a systematic search methodology focused on identifying reviews of socioeconomic inequalities in academic achievement, we identified 29 reviews published between 2019 and 2024 that met our inclusion criteria. Our metareview mapped and synthesised this evidence base across these reviews in terms of the number of studies, educational stages, indicators of socioeconomic disadvantage, indicators of educational inequality and theoretical perspectives used. After analysing these data, we identified several gaps in the evidence synthesis

on socioeconomic disadvantage and educational inequality, which we discuss below. We also synthesised the conceptual perspectives used by the reviews to create a conceptual diagram to inform a project on educational inequalities and to provide a starting place for the academic community to imagine a more integrated, cross-disciplinary approach to researching educational inequalities.

Of our main results, first, there were no systematic reviews of qualitative studies. This suggests that the rich qualitative evidence on socioeconomic educational inequalities in childhood and young adulthood is largely absent from the kind of syntheses that inform academic studies and policy on the subject. This is a major shortcoming in the evidence base for this review, as several key sociological studies of educational inequalities have used qualitative methods such as ethnography and interviews (Calarco, 2018; Lareau, 2011). Related to this is the relatively narrow disciplinary focus of the reviews, with the majority published in educational research journals. While several reviews were published in psychology or sociology journals, there were none in economics, demography or anthropology.

Second, there were major gaps in the coverage of educational stages. Of the reviews that focused on a single stage of education, none included primary or non-university third-level education. Instead, they were equally divided between early years (e.g., pre-school), middle or secondary school and university. Of the reviews that combined stages of education, by far the most common focus was on all school-age children. When we look instead at stages of education stages presented in the 29 studies, 13 of which covered several stages, middle or secondary school was best represented, followed by primary school. Non-university third-level education was the least common stage, appearing in only two studies with a broader focus.

Third, the indicators of socioeconomic disadvantage used by the reviews tended to focus narrowly on family-level factors rather than broader areas such as classrooms, schools or neighbourhoods. Of all the indicators present in the studies, the vast majority included parental social class or occupation, family income or parental education. Non-family indicators, such as school SES or neighbourhood deprivation, were only included in one review each. This suggests that future reviews could focus on the less common non-family indicators of socioeconomic disadvantage.

Fourth, the reviews tended to define educational outcomes in terms of academic achievement and, to a lesser extent, engagement. This narrows the conceptual scope of what can be considered an educational outcome and limits policy to what is more easily measured. Thus, academic achievement was based on indicators of grades or test scores. Engagement included aspirations and goals (i.e., emotional engagement) or participation/retention (i.e., behavioural engagement). A minority of studies focused on cognitive ability. A more varied list of outcomes, included in only one study each, comprised academic readiness, academic resilience, achievement motivation, social mobility, and educational careers.

Fifth, there was incomplete coverage of the conceptual perspectives by the indicators of socioeconomic disadvantage used by the reviews. The most common grouping of conceptual perspectives was capital theories, such as Bourdieu's social, cultural and economic capitals (Bourdieu, 2011). The next most common perspective was Bronfenbrenner's (1979) ecological systems theory, which emphasises the different contexts that influence children's development, from family and school to wider culture. In contrast, the indicators of socioeconomic disadvantage used in the reviews rarely extended past the experiences of individuals within families, despite both capital and ecological theories emphasising the role of broader contexts such as classrooms, schools, and neighbourhoods. Meanwhile, the sheer number of different conceptual frameworks identified in this study—66 named

theories and models across 20 reviews—suggests the need for an integrated, interdisciplinary perspective.

We attempted a synthesis of these perspectives using a diagram (Figure 1) to encourage researchers to work on combining perspectives into a richer, more comprehensive approach. The diagram signals how using multiple perspectives and concepts can enrich individual studies and also reviews of educational inequalities. For example, sociologists, traditionally focused on gender, migration, and social class, may usefully expand their research to consider issues of neurodiversity and disability and individual social, cognitive, and behavioural functioning. Likewise, psychologists could broaden their approach to researching individual's experiences of social systems typically studied in sociology, such as experiences of equality, care, and agency. Educational researchers could combine both sociological and psychological approaches when designing studies from the outset, including theories of capital and human development. And, furthermore, all disciplines could take a longitudinal approach to understanding the multiple influences and pathways that shape individual lives and the experiences of groups of individuals nested within different strata of society.

## 17. Limitations

This study used a scoping review approach to map the evidence base on socioeconomic inequality in education. Our restriction of the search for reviews published in the last five years (2019–2024) is that we omitted older reviews that might otherwise have met our inclusion criteria. However, some of the reviews in our study included evidence dating back up to 30 years, to 1995 (e.g., [Broer et al., 2019](#)). This means that our overall corpus of reviews represents evidence far outside of the five-year inclusion window (2019–2024). We also limited our search to reviews published in English, which was the common language of the researchers. With more time and resources, it would have been possible for us to screen reviews published in other languages, if these were identified using our search strategy. It is possible that some of the gaps identified in this scoping review may have been covered by earlier research or by reviews published in languages other than English.

Our review of reviews is also subject to the more general limitations of the systematic review approach. Although systematic search procedures are designed to improve objectivity, researchers still have to make subjective decisions ([Uttley et al., 2023](#)). We followed the PRISMA guidelines but still had to make decisions about our search terms. The importance of some of these decisions only became apparent after we completed this study. For example, the fact that we found very few reviews that used cognitive skills as an educational outcome may be because we did not include the term “cognitive” in our search string.

## 18. Conclusions

Our meta-synthesis of reviews on socioeconomic disadvantage in educational outcomes identified several gaps and trends in the recent evidence base. First, the reviews tend to focus on quantitative studies and fail to synthesise the rich findings from qualitative studies. Second, most reviews focused on the primary and secondary school or university level, with few studies including the tertiary non-university level. Third, most indicators of disadvantage included single measures of family resources, such as parental occupation or education, rather than richer measures of family SES or broader contexts, such as schools or neighbourhoods. Fourth, educational outcomes were most often defined in terms of academic achievement or engagement, limiting the scope of what we understand as individual and societal outcomes of education. Finally, the complexity and breadth of the conceptual frameworks underpinning the reviews surpassed their empirical focus on

single indicators of disadvantage and narrowly defined educational outcomes. At the same time, the large number of perspectives informing the reviews allowed us to integrate the conceptual frameworks into a diagram (Figure 1) for the purposes of informing a project and future research endeavours.

Future research informed by an integrated conceptual framework would have the following features. It would incorporate the concept of multiple capitals, arising from social stratification processes in which individual agents accumulate (dis)advantages through their interactions with others. It would focus on children and young adults in nested domains of the socioecological environment, from those closer to the individual to those further away. Agency, represented by individual psychological functioning, would moderate the influence of these contexts, as individuals interact and respond differently to their environments. The framework would also allow for the intersection of different individual and family characteristics, such as gender, ethnicity, ability and family SES, within the sociocultural context where social interactions shape human development. Finally, the framework would account for individual life course stage (e.g., age) and educational stages and transitions (e.g., from school to college) that frame and shape educational experiences. By taking an integrated, interdisciplinary perspective, future reviews of socioeconomic disadvantage and educational inequalities might improve the comprehensiveness of their searches and provide a deeper explanation of the findings of the studies they review.

**Author Contributions:** Conceptualisation (J.E.S., Y.C., N.K.), project management (J.E.S., N.K.), search strategy design (J.E.S., N.K., Y.C., J.D., C.C.), title and abstract screening (J.E.S., Y.C., N.K., J.D., C.C., C.S., S.I.B.), full-text screening (Y.C., N.K., J.D., C.C., C.S., S.I.B.), data extraction (Y.C., N.K., J.D., C.C., C.S., S.I.B., I.H.B.), formal analysis (J.E.S., Y.C., N.K.), writing—first draft (J.E.S., Y.C., N.K.), writing—review and editing (J.E.S., Y.C., S.F., I.H.B.). All authors have read and agreed to the published version of the manuscript.

**Funding:** This study was supported by the European Commission action HORIZON-CL2-2023-TRANSFORMATIONS-01 for the project LEARN (Longitudinal Educational Achievements: Reducing Inequalities) under Grant Agreement 101132531.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** The data presented in this study are available on request from the corresponding author.

**Acknowledgments:** The authors would like to acknowledge the help of Corinna Kleinhart, Doris Hanappi, and Moris Triventi in giving critical comments on an early version of this manuscript.

**Conflicts of Interest:** The authors declare no conflicts of interest.

## References

- Ainsworth, M. S. (1979). Infant–mother attachment. *American Psychologist*, *34*(10), 932. [\[CrossRef\]](#)
- Becker, G. S. (1964). *Human capital*. National Bureau of Economic Research.
- Blanden, J., Doepke, M., & Stuhler, J. (2023). Chapter 6—Educational inequality. In E. A. Hanushek, S. Machin, & L. Woessmann (Eds.), *Handbook of the economics of education* (Vol. 6, pp. 405–497). Elsevier. [\[CrossRef\]](#)
- Bloome, D., Dyer, S., & Zhou, X. (2018). Educational inequality, educational expansion, and intergenerational income persistence in the United States. *American Sociological Review*, *83*(6), 1215–1253. [\[CrossRef\]](#)
- Boudon, R. (1974). *Education, opportunity and social inequality*. Wiley.
- Bourdieu, P. (2011). The Forms of Capital. In M. Granovetter, & R. Swedberg (Eds.), *The sociology of economic life* (3rd ed.). Routledge.
- Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, *53*(1), 371–399. [\[CrossRef\]](#)
- Broer, M., Bai, Y., & Fonseca, F. (Eds.). (2019). A Review of the literature on socioeconomic status and educational achievement. In *Socioeconomic inequality and educational outcomes* (Vol. 5, pp. 7–17). Springer International Publishing. [\[CrossRef\]](#)

- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Calarco, J. M. (2018). *Negotiating opportunities: How the middle class secures advantages in school*. Oxford University Press.
- Chzhen, Y., & Bruckauf, Z. (2016). *Poverty and children's cognitive trajectories: Evidence from the United Kingdom millennium cohort study*. Innocenti working paper, WP-2016–14. UNICEF Office of Research.
- Conger, R. D., & Donnellan, M. B. (2007). An interactionist perspective on the socioeconomic context of human development. *Annual Review of Psychology*, 58(1), 175–199. [[CrossRef](#)]
- Conger, R. D., Ge, X., Elder, G. H., Jr., Lorenz, F. O., & Simons, R. L. (1994). Economic stress, coercive family process, and developmental problems of adolescents. *Child Development*, 65(2), 541–561. [[CrossRef](#)]
- Dupre, M. E. (2008). Educational differences in health risks and illness over the life course: A test of cumulative disadvantage theory. *Social Science Research*, 37(4), 1253–1266. [[CrossRef](#)] [[PubMed](#)]
- Ebenezer, J. (2013). Social justice pedagogy for all science learners. *Studies in Science Education*, 49(2), 252–264. [[CrossRef](#)]
- Elder, G. H., Jr. (1998). The life course as developmental theory. *Child Development*, 69(1), 1–12. [[CrossRef](#)]
- Giddens, A. (1979). *Central problems in social theory: Action, structure, and contradiction in social analysis*. University of California Press.
- Gisev, N., Bell, J. S., & Chen, T. F. (2013). Interrater agreement and interrater reliability: Key concepts, approaches, and applications. *Research in Social and Administrative Pharmacy*, 9(3), 330–338. [[CrossRef](#)]
- Gromada, A., Rees, G., & Chzhen, Y. (2020). *Worlds of influence: Understanding what shapes child well-being in rich countries* (Innocenti Report Card 16). UNICEF Office of Research—Innocenti.
- Hanappi, D., Bernardi, L., & Spini, D. (2015). Vulnerability as a heuristic concept for interdisciplinary research: Assessing the thematic and methodological structure of empirical life course studies. *Longitudinal and Life Course Studies*, 6(1), 59–87. [[CrossRef](#)]
- Heckman, J. J., & Mosso, S. (2014). The economics of human development and social mobility. *Annual Review of Economics*, 6(1), 689–733. [[CrossRef](#)]
- Hossler, D., Braxton, J., & Coopersmith, G. (1989). Understanding student college choice. In J. C. Smart (Ed.), *Higher education handbook of theory and research* (Vol. 5, pp. 589–607). Agathon Press.
- Kaufmann, V., Bergman, M. M., & Joye, D. (2004). Motility: Mobility as capital. *International Journal of Urban and Regional Research*, 28(4), 745–756. [[CrossRef](#)]
- Kawachi, I., Adler, N. E., & Dow, W. H. (2010). Money, schooling, and health: Mechanisms and causal evidence. *Annals of the New York Academy of Sciences*, 1186(1), 56–68. [[CrossRef](#)]
- Kaye, N. (2024). The cumulative impact of socioeconomic disadvantage on educational attainment during austerity: A comparative cross-cohort approach. *Oxford Review of Education*, 50(2), 186–206. [[CrossRef](#)]
- Lareau, A. (2011). *Unequal childhoods: Class, race, and family life*. University of California Press.
- Lin, N. (2017). Building a Network Theory of Social Capital. In R. Dubos (Ed.), *Social capital* (pp. 3–28). Routledge.
- Liu, J., Peng, P., & Luo, L. (2020). The relation between family socioeconomic status and academic achievement in China: A meta-analysis. *Educational Psychology Review*, 32(1), 49–76. [[CrossRef](#)]
- Liu, J., Peng, P., Zhao, B., & Luo, L. (2022). Socioeconomic status and academic achievement in primary and secondary education: A meta-analytic review. *Educational Psychology Review*, 34(4), 2867–2896. [[CrossRef](#)]
- Lynch, K., & O'Riordan, C. (1998). Inequality in higher education: A study of class barriers. *British Journal of Sociology of Education*, 19(4), 445–478. [[CrossRef](#)]
- Mishra, K. G., Bhatia, V., & Nayak, R. (2020). Maternal nutrition and inadequate gestational weight gain in relation to birth weight: Results from a prospective cohort study in India. *Clinical Nutrition Research*, 9(3), 213–222. [[CrossRef](#)]
- Monrouxe, L. V. (2010). Identity, identification and medical education: Why should we care? *Medical Education*, 44(1), 40–49. [[CrossRef](#)]
- Munn, Z., Peters, M. D. J., Stern, C., Tufanaru, C., McArthur, A., & Aromataris, E. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology*, 18(1), 143. [[CrossRef](#)]
- Nagasawa, R., & Wong, P. (1999). A theory of minority students' survival in college. *Sociological Inquiry*, 69(1), 76–90. [[CrossRef](#)]
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., & Moher, D. (2021). Updating guidance for reporting systematic reviews: Development of the PRISMA 2020 statement. *Journal of Clinical Epidemiology*, 134, 103–112. [[CrossRef](#)]
- Palmisano, F., Biagi, F., & Peragine, V. (2022). Inequality of opportunity in tertiary education: Evidence from Europe. *Research in Higher Education*, 63(3), 514–565. [[CrossRef](#)]
- Piketty, T. (2020). *Capital and ideology*. Belknap Press of Harvard University Press.
- Sameroff, A. (2009). *The transactional model*. American Psychological Association.
- Schmutz, R. (2024). Is universal early childhood education and care an equalizer? A systematic review and meta-analysis of evidence. *Research in Social Stratification and Mobility*, 89, 100859. [[CrossRef](#)]

- Shi, Y., & Bangpan, M. (2022). Young people's participation experiences of technical and vocational education and training interventions in low- and middle-income countries: A systematic review of qualitative evidence. *Empirical Research in Vocational Education and Training*, 14(1), 8. [CrossRef]
- Skopek, J., & Passaretta, G. (2021). Socioeconomic Inequality in Children's Achievement from Infancy to Adolescence: The Case of Germany. *Social Forces*, 100(1), 86–112. [CrossRef]
- Symonds, J., D'Urso, G., & Schoon, I. (2023). The long-term benefits of adolescent school engagement for adult educational and employment outcomes. *Developmental Psychology*, 59(3), 503. [CrossRef]
- Symonds, J., Schoon, I., & Salmela-Aro, K. (2016). Developmental trajectories of emotional disengagement from schoolwork and their longitudinal associations in England. *British Educational Research Journal*, 42(6), 993–1022. [CrossRef]
- Ungar, M. (2013). Resilience, trauma, context, and culture. *Trauma, Violence, & Abuse*, 14(3), 255–266. [CrossRef]
- Uttley, L., Quintana, D. S., Montgomery, P., Carroll, C., Page, M. J., Falzon, L., Sutton, A., & Moher, D. (2023). The problems with systematic reviews: A living systematic review. *Journal of Clinical Epidemiology*, 156, 30–41. [CrossRef] [PubMed]
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (Vol. 86). Harvard University Press.
- Werfhorst, G. V., & Mijs, J. J. B. (2010). Achievement inequality and the institutional structure of educational systems: A comparative perspective. *Annual Review of Sociology*, 36, 407–428. [CrossRef]
- Wigfield, A., & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation. *Contemporary Educational Psychology*, 25(1), 68–81. [CrossRef]
- Williams, M. E., Clarkson, S., Hastings, R. P., Watkins, R. C., McTague, P., & Hughes, J. C. (2022). Factors from middle childhood that predict academic attainment at 15–17 years in the UK: A systematic review. *Frontiers in Education*, 7, 849765. Available online: <https://www.frontiersin.org/articles/10.3389/feduc.2022.849765/full> (accessed on 1 October 2024). [CrossRef]
- Yazdani, N., McCallen, L. S., Hoyt, L. T., & Brown, J. L. (2024). Predictors of economically disadvantaged vertical transfer students' academic performance and retention: A scoping review. *Journal of College Student Retention: Research, Theory & Practice*, 25(4), 871–891. [CrossRef]

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.