Work Package 2

Literature Review

Deliverable D2.1

Longitudinal Research on Educational Inequalities in Europe: A Scoping Review of Trends, Gaps, and Methodological Approaches

Delivery date: 28.02.2025

Dissemination level: Public

Lead Beneficiary: University of Oslo

Authors: Diego G. Campos; Yi Ding; Ancuta-Maria Goian; Antti Koskinen; Jacopo Lokken; Thea Mannsaaker; Balázs Munkácsy; Dimitrios Papadopoulos; Panagiotis Patsis; Victoria Rolfe; Edit Tóth; Ronny Scherer; Rolf Olsen

Funded by
the European Union

Disclaimer

Copyright message

MapIE is a Horizon Europe Project funded by the European Commission under the call "HORIZON-CL2-2023-TRANSFORMATIONS-01-06" (grant agreement No 101132474).

Suggested Citation

Please cite this report as follows:

Campos, D., Ding, Y., Goian, A., Koskinen, A., Lokken, J., Mannsaaker, T., Munkácsy, B., Papadopoulos, D., Patsis, P., Rolfe, V., Tóth, E., Scherer, R., & Olsen, R. V. (2025). Longitudinal Research on Educational Inequalities in Europe: A Scoping Review of Trends, Gaps, and Methodological Approaches. https://doi.org/10.31234/osf.io/m4r6x_v1

Version history

Version	Date	Updated by
1.0, first draft	24.04.2024	Diego G. Campos
		Comments and discussions with all partners
2.0, second draft	01.11.2024	Diego G. Campos
		Comments and discussions with all partners
3.0, final draft	27.01.2025	Diego G. Campos
		Draft submitted for internal review
3.1, for submission	20.2.2025	Diego G. Campos; Antti Koskinen; Victoria Rolfe; Balázs Munkácsy; Panagiotis Patsis

Table of Contents

Executive Summary

1. Introduction

MapIE is a 4-year project funded by the European Union through the Horizon Europe framework programme, with a mandate to investigate the development of educational inequalities and effective mechanisms for closing achievement and well-being gaps among European youth by mapping and analyzing longitudinal data sets. The existence of educational inequalities represents a persistent challenge at both the individual and societal levels, with disparities compounding over lifetimes. Past research has often suggested socioeconomic status (SES), immigrant background, ethnicity, geographical location, and gender as main factors of inequalities in education.

The MapIE project is co-located in and focuses on countries representing two distinct geographic clusters - Nordic countries (Finland, Norway, and Sweden), who share the "Nordic model" of education, which is characterized by its later tracking, and Central European countries (Germany, Luxembourg, and Hungary) which represent systems with earlier tracking practices.

The aim of the scoping review is to systematically map relevant longitudinal studies that offer quantitative evidence of inequalities in educational outcomes—including academic achievement, socio-emotional skills, and educational attainment—among K–12 students in Europe. The need for such a scoping review is driven by the lack of systematic synthesis of the factors, contexts and timeframes that constitute the pathways through which educational inequalities emerge. By mapping the availability of relevant longitudinal research on educational inequalities among K-12 students in Europe, the review not only clarifies where current knowledge is concentrated but also highlights critical gaps in the literature.

The scoping review addresses the following lines of enquiry:

(a) the extent to which longitudinal research on educational inequalities is conducted across different European regions;
(b) how research is distributed across the K–12 education period;
(c) the types of research questions addressed in the field of educational inequalities;
(d) which social categories or indicators (e.g., SES, migration background, ethnicity, geography, gender) receive predominant attention in existing research;
(e) the extent to which different educational outcomes (academic performance, socio-emotional skills, educational attainment) have been examined; and

(f) the dominant methodologies—including data sources, sampling designs, and analytic techniques—used to investigate educational inequalities in K–12 students

By mapping these dimensions, this review informs future research by identifying research gaps in inequality studies and highlighting areas where more comprehensive evidence is needed.

2 Review Methodology

The MapIE research team completed a systematic scoping review of the literature on longitudinal research of educational inequality in K-12 education between April and December 2024. The scoping review was conducted, documented, and reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA). The methodology of the study included five key steps: (1) defining core concepts to establish inclusion and exclusion criteria, (2) identifying potentially relevant studies, (3) selecting relevant studies, (4) extracting data, and (5) synthesizing and presenting the results. The software Covidence[1] was used to manage the bibliographic data, facilitate title and abstract screening and full-text assessments, and extract data. R version 4.3.2[2] was used for data cleaning, analysis, and management. A team of 13 researchers representing all partner countries conducted the review, each contributing to one or more of the methodological steps.

To ensure consistent interpretation and application of the inclusion criteria, reviewers double-screened 5% of items in the title and abstract stage and 23% in the full-text screening stage, resolving discrepancies through discussion. Inter-rater reliability at each stage of the review process was excellent ($ICC_{2,k}$>0.90). Prior to commencing the data extraction phase an initial sample of three randomly selected sample papers were used to refine the extraction protocol. During the extraction phase 85 of 161 texts were double screened with discrepancies resolved by reviewer discussions.

The extracted data for the final 161 studies and corresponding analytical scripts are available in the OSF project[3]. The extracted data were analyzed using both narrative and quantitative methods. The results of the systematic scoping review are presented in the Technical Report in a narrative summary that supports the review's objective of mapping evidence on educational inequalities in European countries. All findings are reported following the PRISMA-ScR guidelines[4].

---

[1] Veritas Health Innovation (2024)
[2] (R Core Team, 2023)
[3] https://osf.io/gp6cm/?view_only=b1525f3981ad46eca75dc8adad14313e
[4] (Tricco et al., 2018).

3 Key findings

The systematic search of the literature yielded a total of 5,912 records. After removing duplicates, 5,204 unique records remained for screening. During the title and abstract screening phase, 3,732 records were excluded for not meeting eligibility criteria, leaving 1,472 records for full-text screening. In the full-text screening phase, an additional 1,311 records were excluded, resulting in 161 records being included in the review.

The identified studies were concentrated **geographically** in Western and Northern Europe, with a dominance of studies from the United Kingdom and Germany. Other common study locations included Sweden, the Netherlands, and Norway. Eastern European countries were notably underrepresented in the identified studies.

With the inclusion criteria for analyzed studies requiring data from at least two timepoints within K-12 schooling, the studies covered different educational levels. However, the most frequently investigated **educational level** was ISCED 2 (Lower Secondary Education).

The **research questions** most explored in the identified literature were associational studies, which aimed to identify how the relationship between social categories and educational outcomes changes over time. Descriptive and comparative studies, offering insights into patterns across different populations and time periods, were also frequently found. Our review highlights a gap in research concerning the efficacy of interventions and institutional factors influencing educational outcomes.

Of the **social indicators** of inequality investigated in the studies, socioeconomic differences were the most frequently examined inequality category, reflecting the central role of socioeconomic status on educational outcomes. Gender inequalities and the experiences of migrant or minority ethnic students also appeared prominently in the literature. In contrast, geographical inequalities and inequalities concerning the interaction between multiple social categories were explored less often.

The predominant **educational outcomes** studied were academic outcomes, including subject specific performance and overall student achievement. Less attention was paid in the literature to socio-emotional outcomes and the overall educational attainment of students (i.e. completion of upper secondary education).

Methodologically, longitudinal panel studies were heavily represented in our dataset, with cohort-sequential and trend studies also commonly used. Perhaps representative of the study designs, the analyzed data was commonly selected using two-stage cluster **sampling** or whole population sampling. Addressing the complexity of the issues raised by longitudinal inequality research, the main **analytical methods** used were regression techniques (including logistic, multiple, and multilevel regressions, which allow for

nuanced modeling of relations between predictors and outcomes by accounting for repeated observations of the same participants) and structural equation modeling (SEM).

4 Discussion and conclusions

The aim of this scoping review was to map longitudinal studies that offer quantitative evidence of inequalities in educational outcomes among K–12 students in Europe. Specifically, we aimed to map longitudinal studies of educational inequalities among K-12 students in Europe that focus on socioeconomic status, immigrant background, ethnicity, geographic location, or gender, and report on academic outcomes, socio-emotional skills, or educational attainment. Our results show that while the number of longitudinal studies examining these phenomena has increased substantially, there are still critical gaps and opportunities for future research. Particularly in early childhood education, intervention studies, Eastern European contexts, and research investigating how multiple social categories interact to create unique inequalities.

Our synthesis revealed a substantial expansion of research over the last 15 years. Panel study designs have been common for longitudinal studies, with data often drawn from researcher-collected samples, register data or large-scale international assessments. In terms of educational outcomes and social inequalities, we noticed a dominance of research into the examination of socioeconomic inequalities and academic outcomes. Overall, the research findings from this body of literature, highlight both the substantive and methodological focus of longitudinal studies investigating educational inequalities.

5 Implications for policy and research

The results of this scoping review provide clear directions for future research and policy efforts. Researchers should further investigate the development of educational inequalities in early childhood samples and in samples of students from Eastern Europe. Moreover, they should investigate how multiple social categories interact and create unique inequalities. Finally, they should focus more on intervention research aiming to bridge gaps between students from different backgrounds. By addressing these gaps, future longitudinal research can provide a more holistic perspective on how disparities develop and how they might be mitigated.

Educational leaders and policymakers should support comprehensive longitudinal data infrastructures that capture students' trajectories alongside family, neighborhood, school and national contexts. Ultimately, a more comprehensive and cohesive approach to longitudinal inquiry—encompassing a wider range of educational stages, geographical contexts, and inequality dimensions—will yield a richer understanding of how disparities emerge and can be mitigated. By developing and supporting these data

infrastructures, researchers and policymakers would have important information that improves our understanding of the multiple factors shaping the development of educational inequalities and allow us to evaluate the impact of specific interventions.

6 Report structure

We present the research context and goals of the scoping review in Section 1. Section 2 details the methodology employed in the literature review, including the screening process and quality control procedures followed. The results of our scoping review are presented in Section 3. Synthesis and discussion of the findings are presented in Section 4 in relation to the research question. Section 5 presents the limitations of this study and section 6 presents the overarching conclusions of the scoping review.

Appendix A contains the documentation of the implemented literature search, including full search strings within ERIC, APA PsychInfo, Scopus, and RePEc/IDEAS. Appendix B presents the data extraction protocol implemented in the scoping review.

The Technical Report is accompanied by a Zotero library, which will be utilized for further research within the MapIE project framework. The Zotero library will be hosted at https://www.zotero.org/groups/5873535/mapie_wp2_included_studies and access to and use of the library is available on request to the lead author of the Scoping review, Diego G. Campos.

1. Introduction

Educational inequalities represent a critical challenge for both individuals and societies (Coleman, 1966). At the individual level, students may not be able to fulfill their true potential, and at the societal level, these disparities can reduce social mobility, lead to a less skilled workforce, and create wider economic and social divisions, ultimately hindering overall societal progress and cohesion (Duncan & Murnane, 2014). Gaps in academic performance, socio-emotional skills and educational attainment widen as students' progress through primary and secondary education (Haugan & Myhr, 2019; Scammacca et al., 2020; Van Poortvliet, 2021). Children facing these inequalities often encounter negative outcomes, such as restricted access to higher education, diminished career prospects, and lower overall well-being and life satisfaction (Borghans et al., 2008; Chetty, 2008; Duncan & Murnane, 2011; Guo et al., 2023; OECD, 2023).

Past research has consistently identified socioeconomic status, immigrant background, ethnicity, geographical location, and gender as key drivers of social educational inequalities (e.g., Andon et al., 2014; Liu et al., 2022; Mickelson et al., 2013; Voyer & Voyer, 2014). For example, socioeconomic status influences access to quality education through disparities in resources and educational infrastructure (Gruijters & Behrman, 2020), while migrant or ethnic minority students face social and contextual pressures influencing them to choose lower academic pathways that hinder their academic progress (Busse et al., 2023). Geographical disparities are also created when resource allocation, teacher quality, or infrastructure development varies significantly between regions (OECD, 2023). Understanding the specific pathways by which these factors shape educational inequalities is essential for designing effective interventions and policies that address the underlying causes of this phenomenon.

The European region is particularly relevant for understanding these inequalities because of the diversity of its education systems. For example, some countries have highly standardized educational structures, while others offer different pathways leading to different educational goals and opportunities (Zapfe & Gross, 2021). A deeper analysis of the research base for inequality studies within and between countries in the European Region has considerable potential to inform discussions about educational research, practice, and policy reform (e.g., Sandsor et al., 2023).

In this scoping review, we aim to map relevant longitudinal studies that offer quantitative evidence on educational inequalities among K-12 students in Europe. We focus on longitudinal studies—that is studies that collect data about the same variables over time and enable analysis of duration and timing of educational events, transitions, or trajectories—because of their capability to capture the dynamic nature of educational inequalities and their development over time (e.g., Dekkers et al., 2000; Gorard & Siddiqui,

2019; Sammons, 1995). By mapping the availability of such evidence, this review not only clarifies where current knowledge is concentrated but also highlights critical gaps in the literature. Ultimately, providing new research directions that explore how educational inequalities evolve over time and vary across regions.

1.1 Previous Research

Several systematic reviews and meta-analyses have mapped and synthesized evidence on the extent to which social factors such as socioeconomic status (Schmidt et al., 2015; Van De Werfhorst & Mijs, 2010; Breen & Jonsson, 2005), immigrant background (Andon et al., 2014), and gender (Voyer & Voyer, 2014) contribute to educational inequalities. However, our understanding of how or when these social inequalities emerge and why they persist remains limited. For instance, Sirin (2005) conducted a systematic review and meta-analyses examining the relation between socioeconomic status and academic achievement across different grade levels and found that this relationship tends to strengthen as students' progress through the educational system. However, most of these studies were cross-sectional, capturing only a single point in time rather than unfolding trajectories of student development. Relying on cross-sectional data in research synthesis limits our understanding of how and when socioeconomic status influences educational outcomes throughout a student's academic journey.

Another gap in synthesizing educational inequalities research is the lack of reviews focused on Europe. For example, Liu et al. (2020) conducted a meta-analyses of the literature examining the specific relationship between socioeconomic status and academic achievement in the Chinese context, while Sirin (2005) explored this relationship in the North-American context. Moreover, Stone et al. (2020) investigated the effectiveness of intervention programs to increase early grade literacy in the Latin America and Caribbean region. Although Europe is analyzed as a single geographical region in some meta-analyses (e.g., Voyer & Voyer, 2014), a more detailed analysis of its distinct geographical regions is essential, given the continent's diverse educational systems and sociopolitical landscapes. For instance, the Nordic region has a low-cost and close to universal early education and care (Zachrisson et al., 2024) and a non-tracked 9-10-year basic education model intended to provide equal learning opportunities for every child regardless of their socioeconomic or ethnic background or the area they live in (Antikainen, 2006). In contrast, many countries in Central Europe track pupils into different schools at a much earlier stage, which can lead to pronounced differences in student achievement—both across schools and within them—due to hidden selection mechanisms often tied to pupils' socioeconomic backgrounds (Csapo et al., 2008). This diversity of educational approaches provides a unique opportunity to systematically map longitudinal research evidence that improves our understanding of

how specific factors may shape educational outcomes over time for students in different regions of Europe.

Finally, systematic reviews and meta-analyses examining social inequalities in educational outcomes have focused primarily on academic outcomes (e.g., Andon et al., 2014; Sirin, 2005; Voyer & Voyer, 2014). Despite a growing amount of literature highlighting the importance of students' socio-emotional skills— such as students' self-concept, personality, school engagement, sense of agency, identity, and empowerment—for students' academic performance, well-being, and life satisfaction (Borghans et al., 2008; Chetty, 2008; Guo et al., 2023), few syntheses have looked at the evidence on whether students from different social backgrounds differ in these measures (e.g., Poropat, 2009). Synthesizing the evidence in these non-achievement educational outcomes may provide critical insights into the broader consequences of educational inequalities, including mental well-being, future employability, and social integration.

1.2 Study Objectives

Three critical gaps persist in the literature: (a) a limited use of longitudinal evidence in research synthesis on educational inequalities, (b) an underrepresentation of diverse educational contexts across Europe, and (c) a lack of information on the extent to which educational inequalities can be found in academic, socio-emotional, and attainment outcomes. Addressing these gaps is essential for understanding how inequalities emerge, persist, or are even amplified as students advance through K–12 education.

The purpose of this scoping review is to map relevant longitudinal studies that offer quantitative evidence of inequalities in educational outcomes—including academic achievement, socio-emotional skills, and educational attainment—among K–12 students in Europe. In particular, the review explores: (a) the prevalence of longitudinal research on educational inequalities across different European regions; (b) how research is distributed across the K–12 education period; (c) the types of research questions addressed in the field of educational inequalities; (d) which social-demographic categories or indicators (e.g., SES, migration background, ethnicity, geography, gender) receive predominant attention in existing research; (e) the extent to which different educational outcomes (academic performance, socio-emotional skills, educational attainment) have been examined; and (f) the dominant methodologies used to investigate educational inequalities in K–12 students, including data sources, sampling designs, and analytic techniques. By mapping these dimensions, this review informs

future research by identifying research gaps in inequality studies and highlighting areas where more comprehensive evidence is needed.

Box 1.1 Definitions of Educational Outcomes

Academic Competence:

- Ability to participate effectively as lifelong learners, workers, and engaged citizens.
- Encompasses traditional academic outcomes (e.g., mathematics, science, reading).
- Includes 21st-century skills such as problem-solving, critical thinking, collaborative problem-solving, financial literacy, computer and information literacy, computational thinking, entrepreneurship, citizenship, multilingual competence, and cultural awareness and expression.

Social-Emotional Skills:

- A set of abilities, attributes and characteristics essential for individual success and social functioning.
- Encompasses students' evaluations and life views, school engagement, sense of agency, identity, empowerment, and future goals and ambitions.

Educational Attainment:

- Number of years of education completed at the upper secondary level of education.
- Investigated differences in educational attainment between socially disadvantaged and non-disadvantaged groups

Adapted from Borgonovi & Pál (2016); Care et al., (2018); Cerna et al., (2021); European Commission (2019); OECD, (2018, 2019, 2021); Wigfield et al., (2021)

2. Methodology

This scoping review was conducted following the guidelines outlined by Lely et al. (2023) and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA) (Tricco et al., 2018). Our methodology was based on the framework originally developed by Arksey & O'Malley (2005), further refined by Levac et al., (2010) and informed by the Joanna Briggs Institute (JBI) guidance (Peters et al., 2020). In accordance with these frameworks, we adopted five key steps: (1) defining core concepts to establish inclusion and exclusion criteria, (2) identifying potentially relevant studies, (3) selecting relevant studies, (4) extracting data, and (5) synthesizing and presenting results. We report our findings following the PRISMA Extension for Scoping Reviews (PRISMA-ScR) guidelines (Tricco et al., 2018). We used Covidence software (Veritas Health Innovation, 2024) to manage bibliographic data, facilitate title and abstract screening, conduct full-text assessments, and extract data. The review was completed by a team of 13 researchers, each contributing to one or more of the methodological steps described below.

2.1 Information Sources

To identify primary studies using longitudinal data to investigate educational inequalities among K-12 students in Europe, we developed a comprehensive search strategy focusing on differences in academic competence, socio-emotional skills, and educational attainment related to socioeconomic status, immigration status, ethnicity, geographic location, and gender (see Appendix A).

An initial, limited search of the ERIC database was conducted to identify key terms and concepts. Titles, abstracts, and index descriptors from these articles were used to inform the final search strategy. We then applied and refined this strategy, under the guidance of a research librarian, to the following databases: (a) ERIC; (b) PsycINFO; (c) Scopus; and (d) RePEc/IDEAS. These four databases were selected to ensure comprehensive coverage of a range of disciplines relevant to educational inequalities. Specifically, ERIC (Educational Resources Information Center) focuses on research in education, PsycINFO offers extensive coverage of developmental and psychological studies, Scopus indexes a wide range of peer-reviewed literature across multiple fields, and RePEc/IDEAS is a prominent repository for economic and policy-related research. By querying each of these databases, we aimed to capture a diverse range of studies at the intersection of education, developmental psychology and economics, thereby providing a well-rounded overview of the literature on educational inequalities. The search strategy did not include any geographical or time restrictions, and records in English, German, Finnish, Swedish, Norwegian, Hungarian, or Spanish were considered.

To evaluate the search strategy's effectiveness, we compared the retrieved articles against a list of known key studies expected to appear in the results. We iteratively refined search terms and subject headings to ensure optimal sensitivity and specificity. The final search strategy is included in Appendix A, and the complete search results are stored in the OSF project at https://osf.io/gp6cm/?view_only=b1525f3981ad46eca75dc8adad14313e.

2.2 Study Selection

We conducted the study selection in two stages: (1) title and abstract screening, and (2) full-text screening. The eligibility criteria were developed using the Population, Concept, and Context (PCC) framework recommended by JBI (Aromataris et al., 2020; see Table 1). Results of the reviewing process for each step are presented in Figure 1.

2.2.1 Title and Abstract Screening

To ensure consistent interpretation and application of the inclusion criteria, an initial set of 30 records was independently screened by the full review team. The team discussed each of the 30 records and further refined the inclusion and exclusion criteria to ensure consistency. A good level of inter-rater reliability was achieved at this stage ($ICC_{2,k}$ = 0.90; Koo & Li, 2016). Next, 248 records were double-screened, and any discrepancies were resolved through group discussion; if no consensus could be reached, a third reviewer was consulted for a final decision. The inter-rater agreement at this stage was $ICC_{2,k}$ = 0.93, demonstrating excellent inter-rater reliability (Koo & Li, 2016). All remaining records (n = 4,926) were then single-screened, with any uncertain cases referred for full-text review.

2.2.2 Full-Text Screening

Full-text documents were obtained for all records that met the inclusion criteria during title and abstract screening (n = 1,472). For all documents that could not be retrieved using standard methods, we contacted the corresponding authors directly (n = 68). Ultimately, we retrieved 22 of the 68 missing records, resulting in a total of 1,426 records for full-text review. We then randomly selected 329 of the 1,426 records for double screening. In this phase, each team member screened at least 5 documents with each of the other team members to ensure alignment across all the reviewing team. Discrepancies were resolved through discussion among the involved reviewers. If necessary, a third reviewer made the final decision. The average inter-rater agreement at this stage was $ICC_{2,k}$ = 0.94, demonstrating excellent inter-rater reliability (Koo & Li, 2016). The remaining full-text articles (n = 1,097) were single-screened by individual team members. At the end, 161 relevant documents were selected for data extraction.

2.3 Data Extraction

A data extraction scheme was developed in alignment with the research questions and objectives of this scoping review, following the guidelines provided by Pollock et al. (2023). To systematically map existing research on educational inequalities in academic achievement among K–12 students in European countries, we extracted key information from each of the 161 included studies. This included (a) bibliographic details, (b) authorship, (c) subject/content data, (d) study population/sample characteristics, (e) study design, (f) categories and indicators of inequality, (g) educational outcomes, and (h) findings.

For each category, we established a structured coding framework to classify and organize the extracted data. Recognizing that studies varied in their focus—examining different age groups, utilizing diverse data sources, or addressing multiple educational outcomes—we applied a non-exclusive coding approach. This ensured that each study was categorized under all relevant classifications, allowing for a more comprehensive synthesis of the research landscape. A detailed overview of the data extraction protocol is available in Appendix B.

Table 1. *Inclusion and Exclusion Criteria for Study Selection*

Dimension	Inclusion	Exclusion
Population	• The study sample includes the same or at least comparable subjects or cases from one period to the next.	• University students or early childhood are the primary study samples. • The primary study sample is composed of students with special educational needs. • Study focuses on populations outside Europe.
Comparator / Context	• The abstract indicates the study analyzes quantitative data related to SES, gender, ethnicity, or geographic location. • The study includes SES, gender, ethnicity, or geographic location in the analytic models. • The study explicitly focuses on social (in)equality issues and/or reports information comparing socially advantaged and socially disadvantaged groups (e.g., Low-SES and High-SES, Boys and Girls, Urban and Rural, Minority and Non-minority students) OR includes a comparison between the group of interest and the general student population.	• Study reports contain only a qualitative description of the effects related to educational inequalities.
Outcomes	• The study outcomes are academic competence, socio-emotional skills, or educational attainment.	• The study only reports on constructs that cannot be classified as achievement, socio-emotional skills, or educational attainment, such as labor economic outcomes (e.g., wage levels, employment rates) or health outcomes.
Study Characteristics	• The abstract indicates that the study analyses longitudinal quantitative data. • The study has a longitudinal design with at least two measurement timepoints (at the individual or the system level). • The study contains at least two measurement points of students in kindergarten through 12 grade. • The time between the first and last measurement time point is at least one school year.	
Other	• The study report is written in English, German, Finnish, Swedish, Norwegian, Hungarian, or Spanish.	• Thesis, dissertations, working papers, book chapters, and conference proceedings. • The study is a review article, systematic review, meta-analysis, or any other type of article that synthesizes data originally reported in other studies.

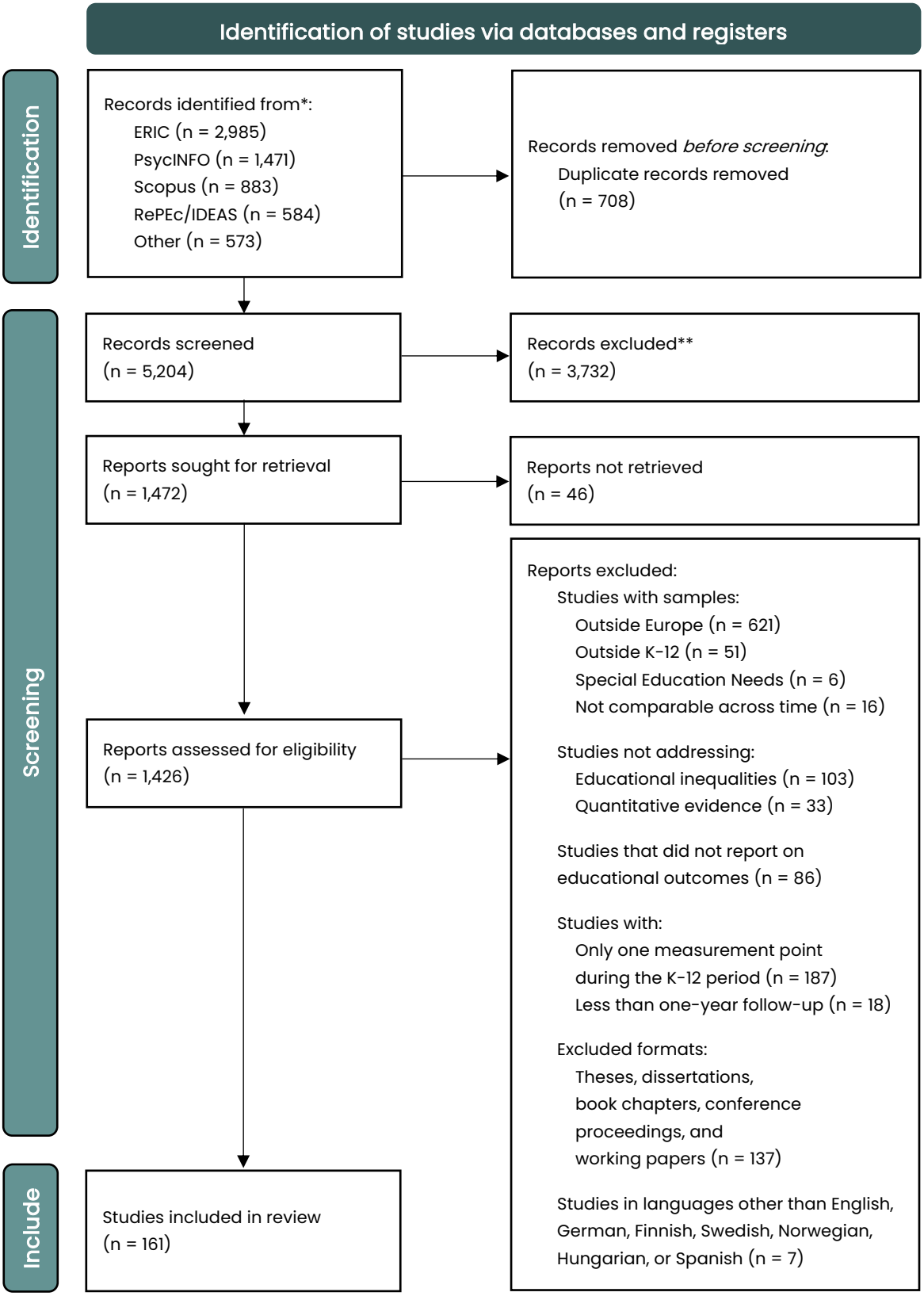
Prior to full data extraction, the review team assessed the scheme and independently extracted data from an initial sample of three randomly selected papers to identify problematic items. After refining the approach, we used Covidence software for the primary data extraction phase. In total, 85 of the 161 records were double-screened, and discrepancies were resolved through coder discussions. Weekly meetings were held to address emerging issues, refine the extraction guide, and ensure consistent coding practices. Any missing or unclear data were labeled as "NA".

2.4 Data Synthesis and Analysis

The extracted data were analyzed using both narrative and quantitative methods. Descriptive statistics, including frequency counts and percentages, were used to provide a numerical overview of the categorical data. To ensure a comprehensive synthesis, studies covering multiple dimensions—such as geographical regions, age groups, study purposes, data sources, analytic methods, or areas of inequality—were classified under all relevant categories. This non-exclusive coding approach enabled each study to be included in multiple classifications.

Results are presented in tabular or diagrammatic formats along with a narrative summary to contextualize the findings in relation to the review questions. All findings are reported following the PRISMA-ScR guidelines (Tricco et al., 2018). R version 4.3.2 (R Core Team, 2023) was used for data cleaning, analysis, and management. The extracted data for the 161 studies and corresponding analytical scripts are available in the OSF project https://osf.io/gp6cm/?view_only=b1525f3981ad46eca75dc8adad14313e.

Figure 1. *PRISMA Flowchart*



Adapted from Moher et al., (2009)

3. Results

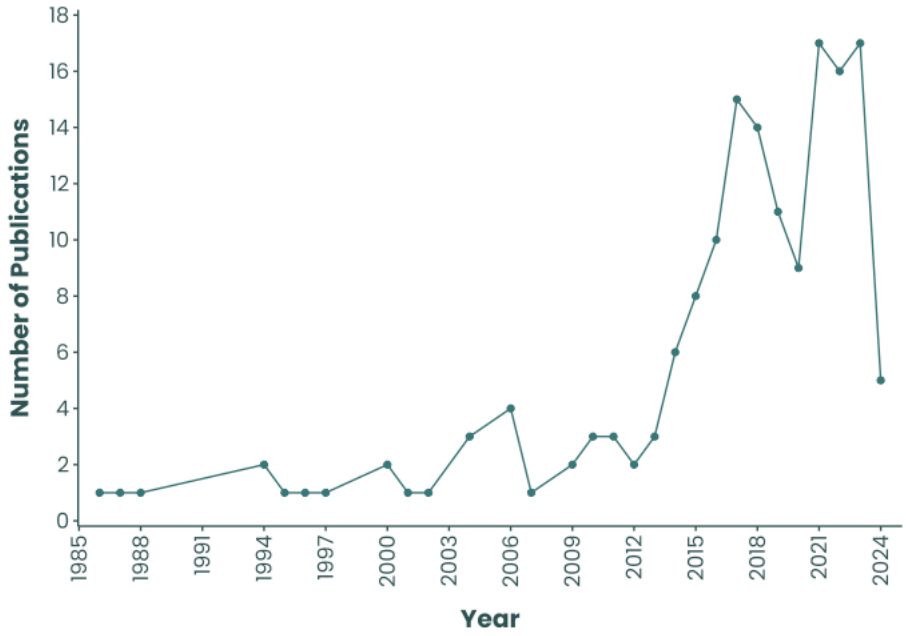
3.1 Screening Results

The systematic search of the literature yielded a total of 5,912 records. After removing duplicates (n = 708, 12.0%), 5,204 unique records remained for screening. During the title and abstract screening phase, 3,732 records (71.7%) were excluded for not meeting the eligibility criteria, leaving 1,426 records (38.3%) for full-text screening. In the full-text screening phase, an additional 1,265 records were excluded, resulting in 161 records (11.2%) being included in the review. The results of the screening process are presented in Figure 1.

3.2 Overview of Included Studies

The included studies provide a comprehensive view of longitudinal research on educational inequalities, spanning a 38-year period from 1986 to 2024. The distribution of publication years reflects a growing interest in this topic over time, with most studies published in 2021 (see Figure 2). The growing trend in studies may reflect an increased concern about educational inequalities in the European region, as well as the increasing availability of data and publications.

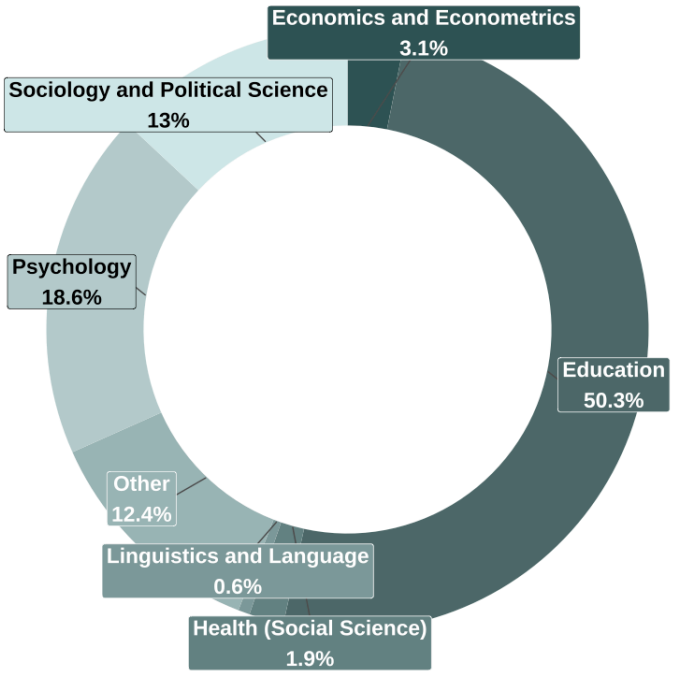
Figure 2. *Trends in the Number of Publications by Year*



We used the Scimago journal database to classify the journals in which the studies were published. Most of the included studies were published in journals within the field of education (n = 81; 50.3%; see Figure 3). Psychology (n = 30; 18.6%) and sociology (n = 21; 13%) journals represented the second and third most common publication outlets.

Additionally, policy reports and studies published by international organizations accounted for a substantial portion of the findings, categorized as "Other" (n = 20; 12.4%). In contrast, studies published in economics, health, and linguistics or language journals constituted the smallest shares.

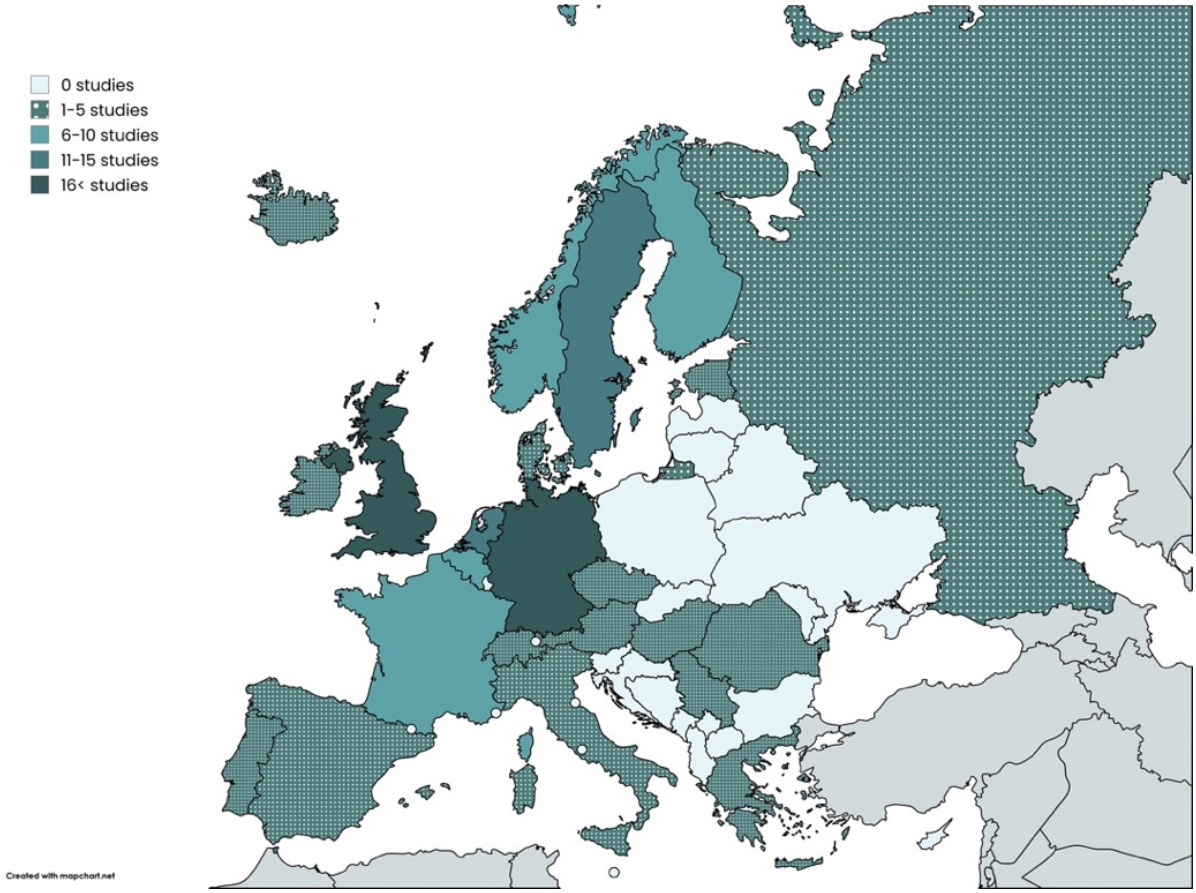
Figure 3. *Distribution of Studies Across Journals by Discipline*



Geographically, most study samples came from Western and Northern Europe. The United Kingdom (n = 49, 26.3%) and Germany (n = 39; 20.5%) contributed the largest number of studies, followed by Sweden (n = 14; 7.4%), the Netherlands (n = 11; 5.8%), and Norway (n = 9; 4.7%). In contrast, Eastern European countries were notably underrepresented, with only a small number of studies conducted in the Czech Republic (n = 4; 2.1%), Romania (n = 1; 0.5%), Hungary (n = 1; 0.5%), and Serbia (n = 1; 0.5%) (see Figure 4).

The included studies used a diverse set of data sources to investigate educational inequalities. Most studies relied on researcher-collected samples (n = 51; 17.4%), followed by census or national register data (n = 31; 10.6%) and international large-scale assessments (n = 26; 8.9%). Additionally, national assessments (n = 18; 6.1%), the National Educational Panel Study (n = 15; 5.1%), and various national longitudinal studies (n = 20; 6.8%) were also used extensively. These sources therefore comprise both large-scale datasets and more focused, context-specific studies, providing a broad spectrum of information about students, schools, and educational systems.

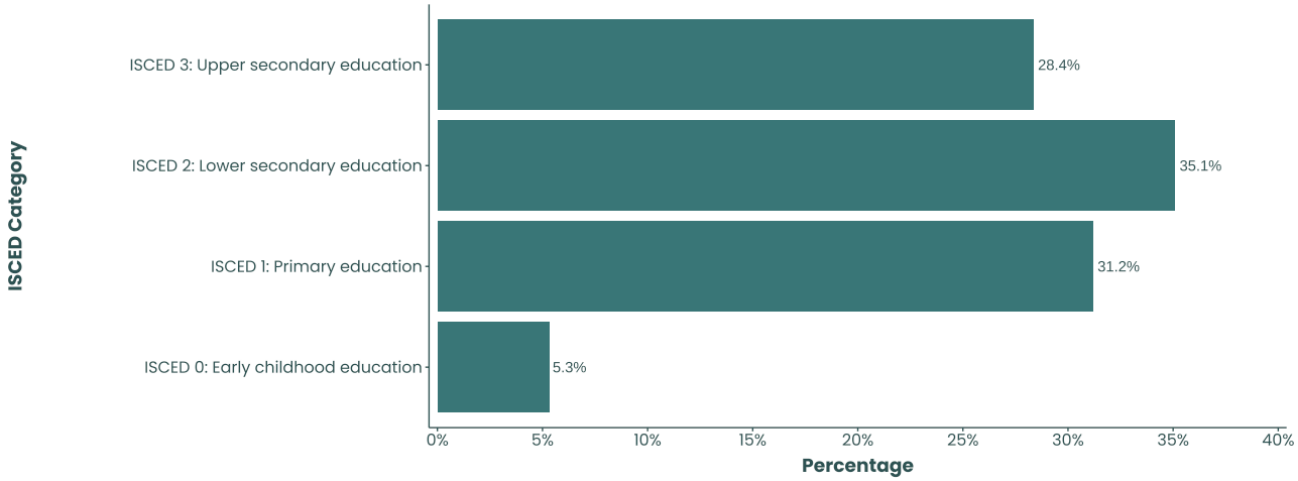
Figure 4. *Geographic Distribution of Studies Across Europe*



Note. Studies that included samples from multiple countries were counted in all relevant categories.

Finally, we used the International Standard Classification of Education (ISCED; Unesco, 2012) to categorize the educational levels represented in the included studies, covering the entire schooling period from kindergarten to 12th grade. The most frequently examined stage was ISCED 2 (n = 99; 35.1%; Lower Secondary Education). Conversely, ISCED 0 (n = 15; 5.3%; Pre-primary education) was the least represented, revealing a gap in the literature in understanding how educational inequalities emerge at the earliest stages of education (see Figure 5). These findings suggest that while considerable effort has been devoted to understanding the middle school years, more comprehensive longitudinal studies are needed across the pre-primary education levels to capture the full picture of when and how educational inequalities develop.

Figure 5. *Distribution of Studies by ISCED Educational Level*

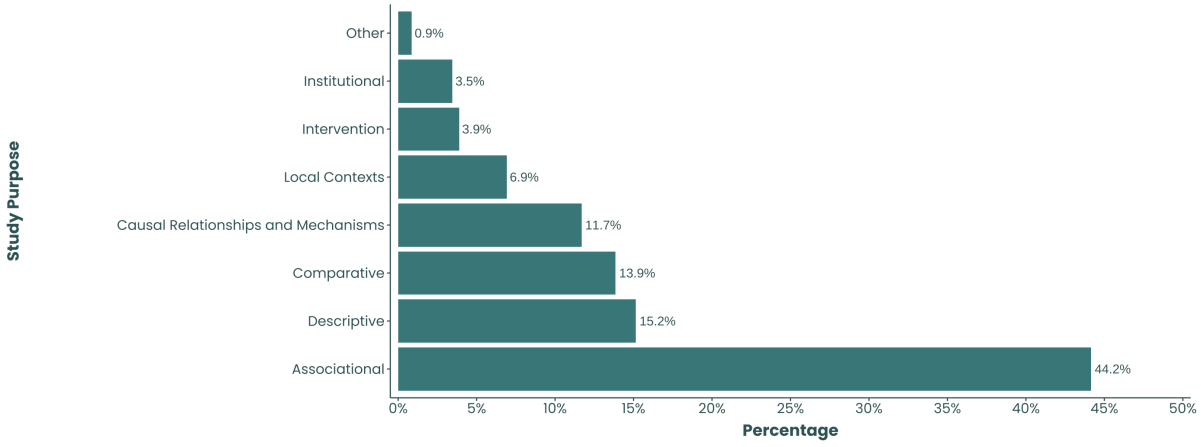


Note. Studies that investigated multiple educational levels were counted in all relevant categories.

3.3 Study Purposes

In this section, we examined the nature of the research questions addressed in the literature. The main objectives of the included studies varied, reflecting diverse approaches to studying educational inequalities (see Figure 6). The most common focus was on associational studies (n = 102; 44.1%), which aimed to identify how the relationship between social categories and educational outcomes changes over time. A substantial proportion of the literature comprised descriptive (n = 35; 15.1%) and comparative studies (n = 32; 13.8%), offering insights into patterns across various populations and time periods. In comparison, intervention studies (n = 9; 3.9%) and studies examining the impact of institutional factors on educational outcomes (n = 8; 3.5%) were significantly less common, highlighting a gap in research aimed at addressing the underlying causes of educational inequalities.

Figure 6. *Distribution of Studies by Study Purpose*



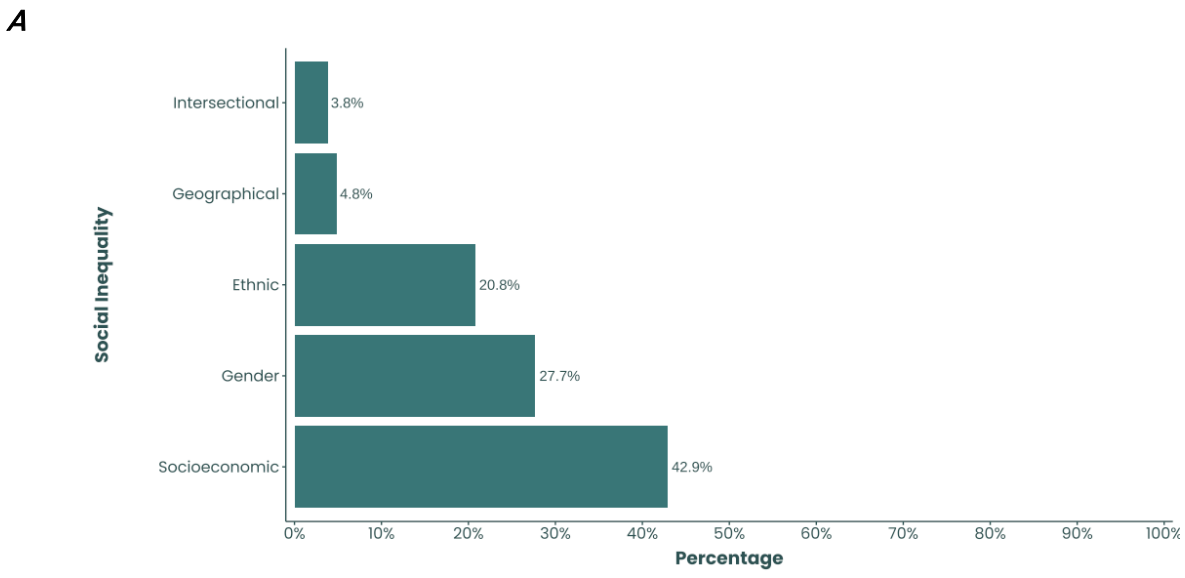
Note. Studies that addressed multiple research questions were counted in all relevant categories. The descriptive category was only coded if the study provided only descriptive information without further analysis.

3.4 Inequality Dimensions and Educational Outcomes

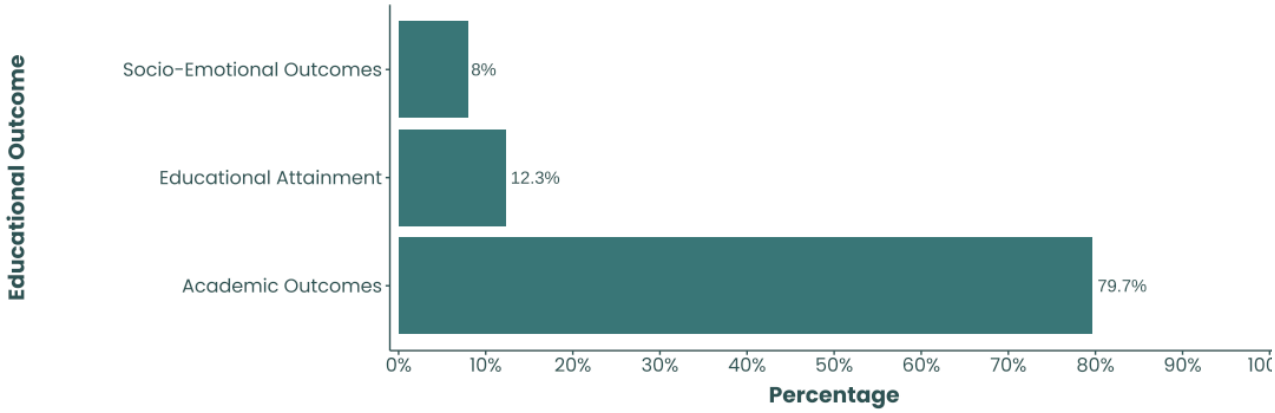
An important purpose of this review was to determine the prevalence of research addressing different types of social inequalities and the types of educational outcomes that have been investigated. Among the studies identified, socioeconomic differences were the most frequently examined inequality category, reflecting the central role of socioeconomic status in educational outcomes. Gender inequalities and the experiences of migrant or minority ethnic students also appeared prominently in the literature. In contrast, geographical inequalities and those involving interactions between multiple social categories (coded as intersectional) were explored less frequently, indicating significant gaps in current research that warrant further investigation (Figure 7A).

The studies also reported on several educational outcomes (see Figure 7B). Achievement in traditional academic subjects was the most examined outcome (n = 337; 79.7%). Achievement in subjects such as mathematics, reading/literacy, and science was examined most frequently, reflecting both their prominence in educational assessments and their strong relationship to long-term academic and career trajectories. In addition, completion of upper secondary education was the second most examined educational outcome (n =52; 12.3%). Socio-emotional outcomes were investigated to a lesser extent (n = 34; 8%), focusing primarily on self-efficacy, self-concept, and self-regulation. The relatively limited attention to socio-emotional skills points to an opportunity for further research into how these factors differ across various populations.

Figure 7. *Distribution of Studies by Types of Social Inequalities (A) and Educational Outcomes (B)*



B



Note. Studies that investigated multiple types of social inequalities or educational outcomes were counted in all relevant categories.

Box 1.2 Definitions of Longitudinal Study Designs

- **Longitudinal Panel:** In this design, persons from a single cohort are observed on multiple measurement occasions.
- **Cohort-Sequential:** A research design that follows multiple cohorts over time, allowing overlapping age ranges to be studied within a defined period.
- **Trend:** Trend studies focus on measuring changes in a specific phenomenon (e.g., public opinion on a social issue) over time, often through repeated surveys of representative population samples.
- **Retrospective:** In this design, data is collected from administrative records after events have occurred, such as retrieving school records once a cohort has graduated.
- **Cross-Sequential:** This design combines multiple longitudinal studies with different cohorts to simulate a single long-term study. For example, a researcher studying ages 5–15 might assess 5- and 10-year-olds in 2025 and reassess them in 2030.
- **Time-Sequential:** In this design, people of different ages (different cohorts) are repeatedly observed. Sequential studies help investigate how social change or policy interventions impact different generations.
- **Time-Series:** A time series design involves repeatedly measuring a behavioral, psychological, or physical response in a single individual or a small group (large T, small N) across multiple time points, allowing for continuous monitoring of changes over time.

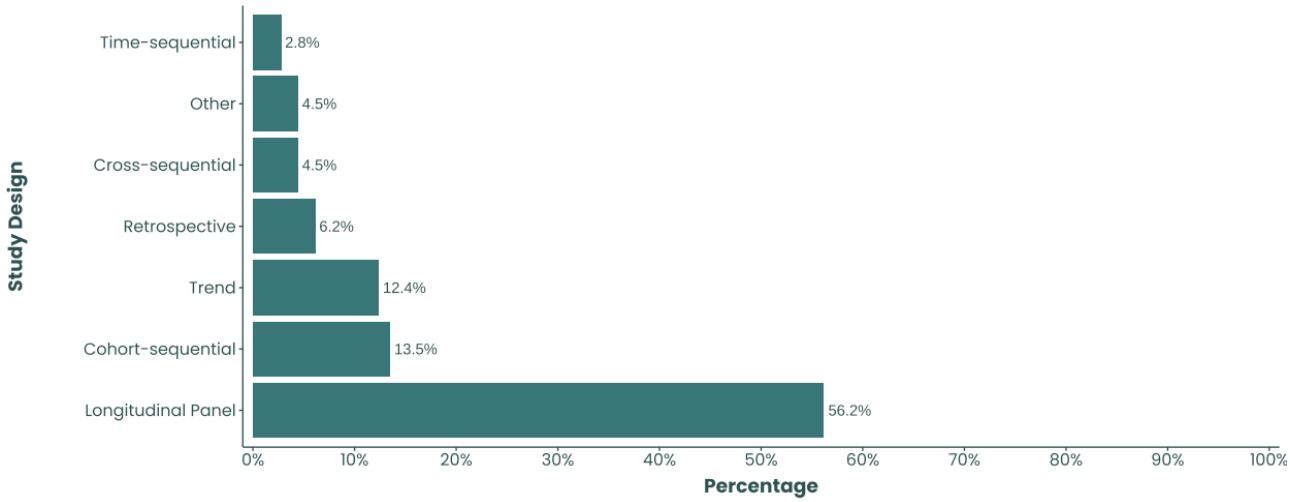
Adapted from Voelkle & Hecht (2017)

3.5 Methodological Approaches

In this section, we examine the methodological approaches used in longitudinal research on educational inequalities, focusing on data sources, sampling methods, and units of analyses. As shown in Figure 8, the data sources of the included articles employed a wide range of study designs. Longitudinal Panel studies with repeated measures were the most frequent (n = 100; 56.2%), offering insights into individual-level changes and illustrating the evolution of educational inequalities over time. Cohort-sequential designs (n = 24; 13.5%) and trend studies (n =22; 12.3%) provided additional evidence on patterns of inequalities across different cohorts. By contrast, time-sequential designs—which observe individuals of various ages over time—were relatively scarce (n = 5; 2.8%), and no study utilized time-series designs. These findings highlight a clear preference for individual-level longitudinal data approaches, while also revealing a gap in the use of other longitudinal methods.

In terms of sampling methods, most studies used two-stage cluster sampling (n = 41; 25.6%), followed by whole population studies (n = 28; 17.5%) and stratified random sampling (n = 21; 13.1%). Less common methods included convenience sampling (n = 9; 5.6%), volunteer sampling (n = 7; 4.4%), and simple random sampling (n = 6; 3.7%). Notably, 33 studies (20.6%) did not report their sampling methods, raising concerns about transparency and replicability.

Figure 8. *Overview of Longitudinal Study Designs in the Included Studies*

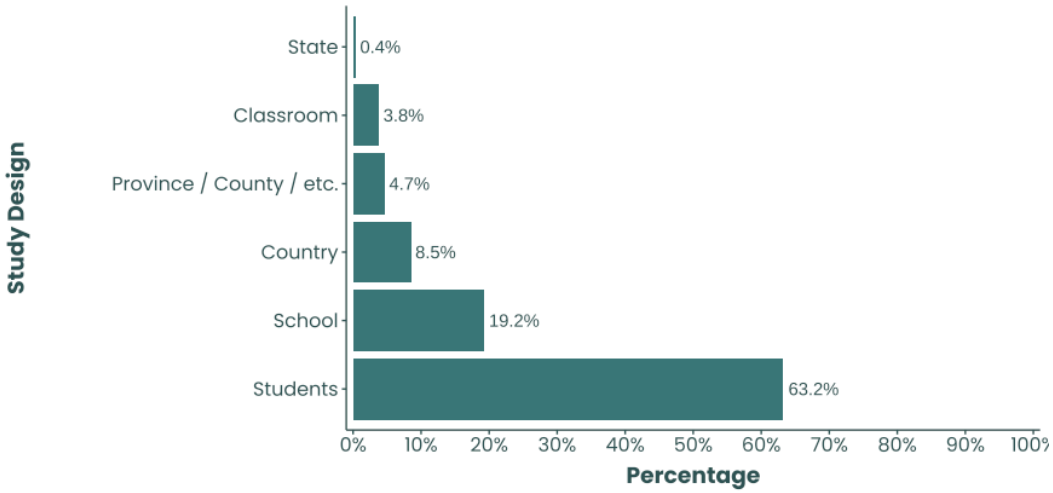


Note. Studies that used data sources from multiple types of longitudinal designs were counted in all relevant categories.

Most of the studies focused on analyzing and reporting information at the student level (see Figure 9), reflecting a primary emphasis on individual outcomes. Fewer studies focused on the school, country, province or county, classroom, or state levels, indicating that broader structural and contextual factors have received comparatively less

attention. This pattern highlights an opportunity for future research to consider institutional and regional dimensions more thoroughly.

Figure 9. *Analytical Focus Across Different Levels in the Included Studies*



Note. Studies that analyzed and reported information at multiple levels were counted in all relevant categories.

Box 1.3 Definitions of Analytic Techniques

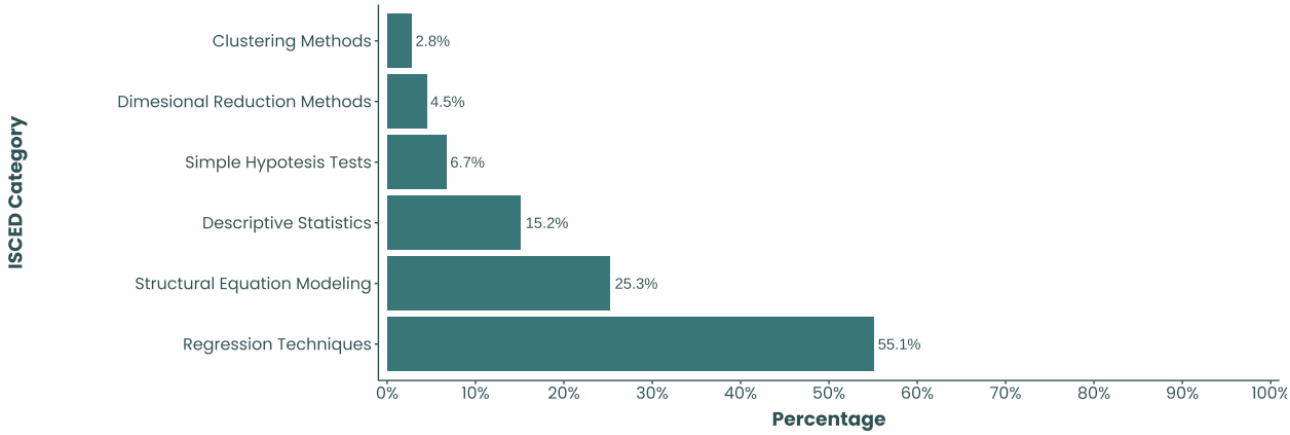
- **Descriptive Statistics:** A set of methods used to summarize and describe the main features of a dataset (e.g., means, standard deviations, frequency counts).
- **Simple Hypothesis tests:** Statistical tests (e.g., t-tests, chi-squared tests) used to determine whether there is enough evidence to reject a particular hypothesis.
- **Regression Techniques:** A broad set of methods for modeling and analyzing relationships between a dependent variable and one or more independent variables (e.g., linear regression; multilevel regression).
- **Structural Equation Models (SEM)**: A class of methods (e.g., path models, cross-lagged panel models) aimed at expressing hypotheses about the means, variances and covariances of observed data in terms of a smaller number of 'structural' parameters defined by a hypothesized underlying conceptual or theoretical model.
- **Dimensional Reduction Methods**: A wide range of techniques (e.g., Principal Component Analysis) used to reduce the number of variables in a dataset while preserving as much information as possible for analysis and interpretation.
- **Clustering Methods**: Unsupervised techniques (e.g., K-means, hierarchical clustering) that group similar data points together based on shared characteristics or distance measures.

Adapted from Kaplan (2004, 2009).

3.6 Analytic Techniques

The complexity of the issues raised by longitudinal inequality research was reflected in the main analytical methods used (see Figure 10). Regression techniques were used most frequently (n = 98; 55.1%), including logistic, multiple, and multilevel regressions, which allow for nuanced modeling of relations between predictors and outcomes by accounting for repeated observations of the same participants. Structural equation modeling (SEM) was also prominent (n = 45; 25.3%), particularly in cross-lagged panel analyses and growth curve modeling. By testing theories and capturing developmental trajectories, Structural equation modeling (SEM) provides a powerful lens for exploring the mechanisms driving educational inequalities. In comparison, descriptive statistics (n = 27; 15.2%) and basic inferential tests (e.g., t-tests, ANOVAs; n = 12; 6.7%) appeared less frequently, reflecting the prevalence of more advanced statistical techniques in the literature.

Figure 10. *Statistical Methods Employed in the Reviewed Studies*



Note. Studies that employed multiple analytic methods were counted in all relevant categories. Descriptive studies were coded only when they exclusively provided descriptive information without further analysis.

4. Discussion

The aim of this scoping review was to map longitudinal studies that offer quantitative evidence of inequalities in educational outcomes among K–12 students in Europe. Specifically, we aimed to map studies on educational inequalities focusing on socioeconomic status, immigrant background, ethnicity, geographic location, or gender, and reporting on academic outcomes, socio-emotional skills, or educational attainment. Our findings show that although there has been a significant increase in the number of longitudinal studies examining this phenomenon, there are still critical gaps and opportunities for future research. Particularly in early childhood education, intervention studies, Eastern European contexts, and studies investigating how belonging to multiple social categories influences students' experiences of educational inequalities.

4.1 Geographical Distribution

One important question addressed in this review was the geographical distribution of longitudinal research on educational inequalities in K–12 students. Our results indicate a pronounced concentration of studies in Western and Northern Europe, with a notable underrepresentation of Eastern European countries. Given the structural and economic differences between these regions (Jelodar et al., 2019), collecting more data on the extent of educational inequalities in Eastern Europe—and the factors that shape them—would greatly enhance our understanding of educational inequalities in these regions. Moreover, cross-country comparisons between Eastern and Northern European countries could offer valuable insights into how educational systems and societal factors influence the development and persistence of educational inequalities.

4.2 Educational Levels

A further aim of this scoping review was to examine the prevalence of longitudinal studies in the ISCED levels of the K-12 education period. The collected studies provide evidence across all ISCED levels. However, we found a relatively large body of research on middle school populations, while early childhood education remains comparatively understudied. Considering that educational inequalities begin in early childhood (Henry et al., 2020; Ribeiro et al., 2023; Zhao et al., 2024), more comprehensive longitudinal studies covering all stages of K-12 education—with student cohorts starting at the pre-school level—are needed to capture the origins and evolution of these inequalities. Such studies would provide essential evidence for understanding the key mechanisms driving educational inequalities and for evaluating the effectiveness of interventions.

4.3 Study Purposes

In examining the research questions of the studies included in this review, we found that most focused on understanding the factors shaping the development of educational inequalities or describing the extent of these inequalities over time. For example, von Stumm (2017) investigated the association between socioeconomic status and academic growth in a sample of UK students aged 7 to 16, highlighting a common research focus in this area. While association research provides an empirical basis for theory building and insights into how educational inequalities develop over time, there remains a comparative lack of studies on interventions and systemic factors that perpetuate these inequalities. Future research should incorporate experimental or quasi-experimental longitudinal designs to identify the effectiveness of specific policies, programs, or reforms in reducing educational inequalities. By generating robust causal evidence, such studies can significantly contribute to policy and practice, guiding more equitable interventions and addressing the multifaceted nature of educational inequality.

4.4 Inequality Categories

This scoping review also aimed to identify the categories and indicators of inequality commonly investigated in academic literature. Our findings indicate that socioeconomic inequality is the most frequently examined category, reflecting the substantial impact of socioeconomic status on children's access to educational resources and opportunities (Dearing et al., 2024). For instance, children from different socioeconomic backgrounds have unequal access to supportive home environments (Davis-Kean et al., 2021), early childhood education (Cloney et al., 2016), and high-quality teachers (Borman & Dowling, 2008), each of which plays a critical role in key educational and lifelong outcomes (Buckingham et al., 2013; Dearing et al., 2024).

However, focusing on socioeconomic status alone risks overlooking other significant inequalities, particularly those related to geography and the interaction between multiple social inequalities—intersectional inequalities. Children who experience multiple disadvantages (e.g., boys from low socioeconomic status) have specific needs that cannot be fully captured by considering only one dimension of inequality (Becker & McElvany, 2018; Connolly, 2006; Dekkers et al., 2000; Strand, 2014). By exploring these geographical and intersectional inequalities, researchers can gain a richer understanding of the processes that perpetuate educational inequalities and, in turn, develop targeted, equitable interventions designed to meet the specific needs of diverse student populations.

4.5 Educational Outcomes

This scoping review also aimed to assess the extent to which academic, socio-emotional, and attainment outcomes are examined in the literature. We observed a predominance of research on academic outcomes, particularly in subjects like mathematics, science, and reading. This focus likely stems from the widespread availability of data from national evaluation systems, such as the National Educational Panel Study, which track students' academic progress over multiple years. In contrast, socio-emotional skills—such as self-concept and self-efficacy—and educational attainment measures receive less attention, despite growing evidence of their importance for both academic and job success (MacCann et al., 2020; Momm et al., 2015).

Given the increasing recognition of socio-emotional competencies as integral to student development (OECD, 2021), there is a pressing need for more research targeting these underexplored areas. For instance, Poropat's (2009) meta-analysis found that personality scores show a stable relationship with academic performance, largely independent of both intelligence measures and previous academic achievement. This finding underscores the important link between socio-emotional outcomes and academic success. Moreover, other studies demonstrate that socio-emotional skills are associated with improved mental health and positive labor market outcomes in adulthood (Borghans et al., 2008; Chetty et al., 2011; Moffitt et al., 2011). By incorporating socio-emotional dimensions and broader measures of student success, future longitudinal studies could provide a more holistic understanding of educational inequalities and shed light on their long-term effects across multiple domains of students' lives.

4.6 Methodological Approaches

Our analysis of methodological approaches for studying educational inequalities revealed two notable patterns. First, the field primarily relies on longitudinal panel studies, indicating a strong emphasis on tracking individual-level changes and modeling predictors over time. However, such studies remain scarce across many European countries, highlighting the need for local and national systems to collect representative longitudinal data. Moreover, we also observed that alternative longitudinal designs—such as time-sequential and time-series methodologies—are infrequently used. This limited variety of study designs not only constrains how data can be interpreted but also highlights opportunities to explore more nuanced temporal patterns that capture diverse dimensions of educational inequalities.

Second, the marked reliance on regression-based and structural equation modeling (SEM) techniques reflects the complex questions surrounding how and why educational inequalities emerge and persist. While these analytic tools may offer critical insights into causal pathways and underlying mechanisms, they also demand large sample sizes and transparent reporting. Our review showed that 20.6% of the studies did not report their sampling methods, highlighting a significant gap in methodological transparency. This omission limits the ability to evaluate research quality and undermines potential replication efforts (e.g., Pesämaa et al., 2021; Shrout & Napier, 2010).

In the context of educational inequality research, failing to specify how participants were selected carries several critical implications. First, without detailed sampling information, it is not possible to determine the representativeness of the study population or identify selection biases that may shape the findings (Shadish et al., 2002; White & Arzi, 2005). Second, the lack of transparency restricts the synthesis of evidence across studies, as researchers cannot fully account for methodological differences when comparing or aggregating results—thus constraining the generalizability of study outcomes (Hedges, 2013; Shadish et al., 2002). Finally, incomplete reporting of sampling methods is problematic for longitudinal research, where initial sampling decisions can compound over time (White & Arzi, 2005). Understanding how participants are selected and followed is essential for interpreting patterns of attrition and their implications for conclusions about trajectories of educational inequality.

By addressing these methodological gaps—expanding the repertoire of longitudinal designs, standardizing sampling protocols, refining analytic strategies, and improving reporting standards in sampling strategies— future research can provide a more comprehensive understanding of educational inequalities across K–12 settings. Broadening data-collection methods, enhancing analytical frameworks, and standardizing reporting protocols that explicitly require detailed sampling method descriptions will ultimately strengthen our ability to explain, predict, and mitigate the disparities that shape students' educational experiences and outcomes.

5. Limitations

Our scoping review focused on original research investigating five key drivers of educational inequalities: socioeconomic status, ethnicity, migration background, geographical location, and gender. This choice implies three major limitations on the scope of our review. First, we excluded studies that examined the development of educational inequalities without contrasting this development with at least one of the five key factors. As a result, certain relevant research streams—such as work on Matthew effects (or Robin Hood effects) (see Perc, 2014) and the "skill begets skill" phenomenon (e.g., Lubotsky & Kaestner, 2016)—fell outside the scope of this review. Second, our focus on these five drivers omitted investigations into other potentially significant contributors to inequality, including children's dietary habits and health indicators (Tandon et al., 2016), school environment (Ahmad et al., 2019) or macroeconomic conditions during schooling (Elliott, 2013). Finally, we excluded studies focused on students with special educational needs (SEN), who often experience pronounced inequalities (e.g., Sin et al., 2023; Snozzi et al., 2025) and merit dedicated scholarly attention.

Our search strategy is also limited by the choice of keywords. While we aimed to be exhaustive (see Appendix A), the omission of certain terms may lead to an underrepresentation of Eastern and Southern European studies, where phrasing and linguistic nuances differ. Particularly, for the case of Hungary, at least two relevant scientific journal articles were unidentified by the search criteria. Future research should refine the list of keywords to better capture regional terminology and ensure a more comprehensive coverage of the literature.

Finally, our analysis relied exclusively on univariate methods, providing only a unidimensional perspective on the data. Using more nuanced approaches—such as bivariate, multivariate, or cluster techniques—could provide deeper insights into the included literature, illuminating how educational outcomes, social inequalities, and study designs intersect. Such analyses could also clarify the extent of evidence available at these intersections, enabling the identification of, for example, effective strategies and structures that help mitigate social educational inequalities. By synthesizing this information, such analyses could provide crucial evidence for policymakers, practitioners, and educational leaders seeking to reduce educational gaps across Europe.

6. Conclusions

The aim of this scoping review was to systematically map longitudinal studies that offer quantitative evidence of inequalities in educational outcomes among K–12 students in Europe. In line with this aim, our synthesis revealed a substantial expansion of research over the last 15 years, driven largely by studies conducted in Western and Northern Europe. Panel study designs have been common for longitudinal studies, with data often drawn from researcher-collected samples, register data or large-scale international assessments. In terms of educational outcomes and social inequalities, research predominantly examines socioeconomic inequalities and academic outcomes. Collectively, these findings illustrate the substantive and methodological focus of current research, providing a foundational understanding of educational inequalities across Europe.

Despite the growing body of evidence, we also identified gaps in the literature that provide clear directions for future research and policy efforts. First, there is limited evidence on educational inequalities in early childhood and a relative scarcity of studies from Eastern Europe, which restricts both the age coverage and the geographical scope of the evidence base. Second, intersectional inequalities—involving the interaction of socioeconomic status, gender, ethnicity, and geographic location—are seldom explored, limiting our understanding of how multiple disadvantages intersect. Finally, identifying which programmes or policies are most successful in reducing educational attainment gaps is difficult due to the scarcity of intervention studies based on longitudinal designs. By addressing these gaps, future longitudinal research can provide a more holistic perspective on how disparities develop and how they might be mitigated.

In terms of policy, the findings of this scoping review highlight a relatively narrow range of information sources, with researcher-collected samples and registry data being the primary sources. Educational leaders and policymakers should support comprehensive longitudinal data infrastructures that capture students' trajectories alongside family, neighborhood, school, and national contexts. By developing and supporting these data infrastructures, researchers and policymakers would have the necessary information to understand the multiple factors shaping the development of educational inequalities and to evaluate the impact of specific interventions.

Ultimately, the findings of this scoping review highlight the complexity and persistence of educational inequalities in Europe from pre-school to grade 12. Despite the expansion of the research landscape, significant regional, methodological and substantive gaps remain. Addressing these gaps will require a concerted, multi-dimensional effort that integrates advanced research designs, utilizes intervention designs, expands the range of outcomes examined, and provides greater attention to under-represented regions,

early childhood education, and intersectional dimensions of inequality. By prioritizing these areas, the field can move closer to understanding the mechanisms that shape educational inequalities and how policy and practice can effectively bridge those inequalities.

References

Ahmad, A. R., Chew, F. P., Zulnaidi, H., Sobri, K. M., & Alfitri. (2019). Influence of School Culture and Classroom Environment in Improving Soft Skills amongst Secondary Schoolers. *International Journal of Instruction*, *12*(2), 259–274.

Andon, A., Thompson, C. G., & Becker, B. J. (2014). A quantitative synthesis of the immigrant achievement gap across OECD countries. *Large-Scale Assessments in Education*, *2*(1), 7. https://doi.org/10.1186/s40536-014-0007-2

Antikainen, A. (2006). In Search of the Nordic Model in Education. *Scandinavian Journal of Educational Research*, *50*(3), 229–243. https://doi.org/10.1080/00313830600743258

Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, *8*(1), 19–32. https://doi.org/10.1080/1364557032000119616

Aromataris, E., Lockwood, C., Porritt, K., Pilla, B., & Jordan, Z. (2020). *JBI manual for evidence synthesis*. JBI. https://synthesismanual.jbi.global

Becker, M., & McElvany, N. (2018). The interplay of gender and social background: A longitudinal study of interaction effects in reading attitudes and behaviour. *The British Journal of Educational Psychology*, *88*(4), 529–549. https://doi.org/10.1111/bjep.12199

Borghans, L., Duckworth, A. L., Heckman, J. J., & ter Weel, B. (2008). The Economics and Psychology of Personality Traits. *Journal of Human Resources*, *43*(4), 972–1059.

Borman, G. D., & Dowling, N. M. (2008). Teacher Attrition and Retention: A Meta-Analytic and Narrative Review of the Research. *Review of Educational Research*, *78*(3), 367–409. https://doi.org/10.3102/0034654308321455

Buckingham, J., Wheldall, K., & Beaman-Wheldall, R. (2013). Why poor children are more likely to become poor readers: The school years. *Australian Journal of Education*, *57*(3), 190–213. https://doi.org/10.1177/0004944113495500

Busse, R., Michaelis, C., & Nennstiel, R. (2023). To what extent do secondary effects shape migrants' educational trajectories after lower-secondary education? *Empirical Research in Vocational Education and Training*, *15*(1), 3. https://doi.org/10.1186/s40461-023-00142-0

Chetty, R. (2008). Moral hazard versus liquidity and optimal unemployment insurance. *Journal of Political Economy*, *116*(2), 173–234. https://doi.org/10.1086/588585

Cloney, D., Cleveland, G., Hattie, J., & Tayler, C. (2016). Variations in the Availability and Quality of Early Childhood Education and Care by Socioeconomic Status of Neighborhoods. *Early Education and Development*, *27*(3), 384–401. https://doi.org/10.1080/10409289.2015.1076674

Coleman, J. S. (1966). *Equality of educational opportunity*. U.S. Department of Health, Educatio.

Connolly, P. (2006). The Effects of Social Class and Ethnicity on Gender Differences in GCSE Attainment: A Secondary Analysis of the Youth Cohort Study of England and Wales 1997-2001. *British Educational Research Journal*, *32*(1), 3–21. ERIC <1992 to April 2024>.

Csapo, B., Molnar, G., & Kinyo, L. (2008). *Analysis of the Selectiveness of the Hungarian Educational System in International Context*. https://www.iea.nl/sites/default/files/2019-04/IRC2008_Csapo_Molnar_etal.pdf

Davis-Kean, P. E., Tighe, L. A., & Waters, N. E. (2021). The Role of Parent Educational Attainment in Parenting and Children's Development. *Current Directions in Psychological Science*, *30*(2), 186–192. https://doi.org/10.1177/0963721421993116

Dearing, E., Bustamante, A. S., Zachrisson, H. D., & Vandell, D. L. (2024). Accumulation of Opportunities Predicts the Educational Attainment and Adulthood Earnings of Children Born Into Low- Versus Higher-Income Households. *Educational Researcher*, *53*(9), 496–507. https://doi.org/10.3102/0013189X241283456

Dekkers, H. P. J. M., Bosker, R. J., & Driessen, G. W. J. M. (2000). Complex Inequalities of Educational Opportunities: A Large-Scale Longitudinal Study on the Relation between Gender, Social Class, Ethnicity, and School Success. *Educational Research and Evaluation (An International Journal on Theory and Practice)*, *6*(1), 59–82. ERIC <1992 to April 2024>.

Duncan, G. J., & Murnane, R. J. (2011). *Whither Opportunity?: Rising Inequality, Schools, and Children's Life Chances*. Russell Sage Foundation.

Duncan, G. J., & Murnane, R. J. (2014). *Restoring Opportunity: The Crisis of Inequality and the Challenge for American Education*. Harvard Education Press.

Elliott, W. (2013). The effects of economic instability on children's educational outcomes. *Children and Youth Services Review*, *35*(3), 461–471. https://doi.org/10.1016/j.childyouth.2012.12.017

Gorard, S., & Siddiqui, N. (2019). How Trajectories of Disadvantage Help Explain School Attainment. *SAGE Open*, *9*(1). https://doi.org/10.1177/2158244018825171

Gruijters, R. J., & Behrman, J. A. (2020). Learning Inequality in Francophone Africa: School Quality and the Educational Achievement of Rich and Poor Children. *Sociology of Education*, *93*(3), 256–276. https://doi.org/10.1177/0038040720919379

Guo, J., Tang, X., Marsh, H. W., Parker, P., Basarkod, G., Sahdra, B., Ranta, M., & Salmela-Aro, K. (2023). The roles of social–emotional skills in students' academic and life success: A multi-informant and multicohort perspective. *Journal of Personality and Social Psychology*, *124*(5), 1079–1110. https://doi.org/10.1037/pspp0000426

Haugan, T., & Myhr, A. (2019). Residential Mobility, Family Structure, and Completion of Upper Secondary Education – A Registry-Based Cohort Study of the Norwegian Adolescent Population. *Frontiers in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.02311

Hedges, L. V. (2013). Recommendations for Practice: Justifying Claims of Generalizability. *Educational Psychology Review*, *25*(3), 331–337. https://doi.org/10.1007/s10648-013-9239-x

Henry, D. A., Betancur Cortés, L., & Votruba-Drzal, E. (2020). Black–White achievement gaps differ by family socioeconomic status from early childhood through early adolescence. *Journal of Educational Psychology*, *112*(8), 1471–1489. https://doi.org/10.1037/edu0000439

Koo, T. K., & Li, M. Y. (2016). A Guideline of Selecting and Reporting Intraclass Correlation Coefficients for Reliability Research. *Journal of Chiropractic Medicine*, *15*(2), 155–163. https://doi.org/10.1016/j.jcm.2016.02.012

Lely, J., Morris, H. C., Sasson, N., Camarillo, N. D., Livinski, A. A., Butera, G., & Wickstroma, J. (2023). *How to Write a Scoping Review Protocol: Guidance and Template*.

Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: Advancing the methodology. *Implementation Science*, *5*(1), 69. https://doi.org/10.1186/1748-5908-5-69

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. https://doi.org/10.1007/s10648-019-09494-0

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. https://doi.org/10.1007/s10648-022-09689-y

Lubotsky, D., & Kaestner, R. (2016). Do `Skills Beget Skills'? Evidence on the effect of kindergarten entrance age on the evolution of cognitive and non-cognitive skill gaps in childhood.

Economics of Education Review, *53*, 194–206. https://doi.org/10.1016/j.econedurev.2016.04.001

Mickelson, R. A., Bottia, M. C., & Lambert, R. (2013). Effects of School Racial Composition on K–12 Mathematics Outcomes: A Metaregression Analysis. *Review of Educational Research*, *83*(1), 121–158. https://doi.org/10.3102/0034654312475322

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, T. P. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Medicine*, *6*(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097

OECD. (2023). *Equity and Inclusion in Education: Finding Strength through Diversity*. OECD. https://doi.org/10.1787/e9072e21-en

Pesämaa, O., Zwikael, O., Hair, J. F., & Huemann, M. (2021). Publishing quantitative papers with rigor and transparency. *International Journal of Project Management*, *39*(3), 217–222. https://doi.org/10.1016/j.ijproman.2021.03.001

Peters, M. D. J., Marnie, C., Tricco, A. C., Pollock, D., Munn, Z., Alexander, L., McInerney, P., Godfrey, C. M., & Khalil, H. (2020). Updated methodological guidance for the conduct of scoping reviews. *JBI Evidence Synthesis*, *18*(10), 2119. https://doi.org/10.11124/JBIES-20-00167

Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological Bulletin*, *135*(2), 322–338. https://doi.org/10.1037/a0014996

Ribeiro, L. A., Zachrisson, H. D., Nærde, A., Wang, M. V., Brandlistuen, R. E., & Passaretta, G. (2023). Socioeconomic disparities in early language development in two Norwegian samples. *Applied Developmental Science*, *27*(2), 172–188. https://doi.org/10.1080/10888691.2022.2051510

Sammons, P. (1995). Gender, Ethnic, and Socio-Economic Differences in Attainment and Progress: A Longitudinal Analysis of Student Achievement over 9 Years. *British Educational Research Journal*, *21*(4), 465–485.

Sandsor, A. M. J., Zachrisson, H. D., Karoly, L. A., & Dearing, E. (2023). The Widening Achievement Gap between Rich and Poor in a Nordic Country. *Educational Researcher*, *52*(4), 195–205.

Scammacca, N., Fall, A.-M., Capin, P., Roberts, G., & Swanson, E. (2020). Examining factors affecting reading and math growth and achievement gaps in grades 1–5: A cohort-sequential longitudinal approach. *Journal of Educational Psychology*, *112*(4), 718–734. https://doi.org/10.1037/edu0000400

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference* (pp. xxi, 623). Houghton, Mifflin and Company.

Shrout, P. E., & Napier, J. L. (2010). Analyzing survey data with complex sampling designs. In K. H. Trzesniewski, M. B. Donnellan, & R. E. Lucas (Eds.), *Secondary data analysis: An introduction for psychologists* (pp. 63–81). American Psychological Association. https://doi-org.ezproxy.uio.no/10.1037/12350-004

Sin, K.-F., Yang, L., & Ye, F. T.-F. (2023). Self-dehumanization and other-dehumanization toward students with special educational needs: Examining their prevalence, consequences and identifying solutions—a study protocol. *BMC Psychology*, *11*(1), 137. https://doi.org/10.1186/s40359-023-01178-3

Sirin, S. R. (2005). Socioeconomic Status and Academic Achievement: A Meta-Analytic Review of Research. *Review of Educational Research*, *75*(3), 417–453. https://doi.org/10.3102/00346543075003417

Snozzi, R., Müller, C. M., & Zurbriggen, C. L. A. (2025). School placement trajectories of students with special educational needs—A longitudinal analysis of administrative data. *Journal of Research in Special Educational Needs*, *25*(1), 103–117. https://doi.org/10.1111/1471-3802.12714

Stone, R., de Hoop, T., Coombes, A., & Nakamura, P. (2020). What works to improve early grade literacy in Latin America and the Caribbean? A systematic review and meta-analysis. *Campbell Systematic Reviews*, *16*(1), e1067. https://doi.org/10.1002/cl2.1067

Strand, S. (2014). Ethnicity, gender, social class and achievement gaps at age 16: Intersectionality and 'getting it' for the white working class. *Research Papers in Education*, *29*(2), 131–171. https://doi.org/10.1080/02671522.2013.767370

Tandon, P. S., Tovar, A., Jayasuriya, A. T., Welker, E., Schober, D. J., Copeland, K., Dev, D. A., Murriel, A. L., Amso, D., & Ward, D. S. (2016). The relationship between physical activity and diet and young children's cognitive development: A systematic review. *Preventive Medicine Reports*, *3*, 379–390. https://doi.org/10.1016/j.pmedr.2016.04.003

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D. J., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garritty, C., … Straus, S. E. (2018). PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Annals of Internal Medicine*, *169*(7), 467–473. https://doi.org/10.7326/M18-0850

Unesco. (2012). *International standard classification of education (ISCED) 2011*. UNESCO.

Van Poortvliet, M. (2021). Inequality in skills for learning: Do gaps in children's socio-emotional development widen over time according to family background? *Oxford Review of Education*, *47*(4), 455–474. https://doi.org/10.1080/03054985.2020.1862778

Veritas Health Innovation. (2024). *Covidence systematic review software* [Computer software]. Veritas Health Innovation. www.covidence.org

Volintiru, C., Surubaru, N.-C., Epstein, R. A., & Fagan, A. (2024). Re-evaluating the East-West divide in the European Union. *Journal of European Public Policy*, *31*(3), 782–800. https://doi.org/10.1080/13501763.2024.2313694

von Stumm, S. (2017). Socioeconomic status amplifies the achievement gap throughout compulsory education independent of intelligence. *Intelligence*, *60*, 57–62. https://doi.org/10.1016/j.intell.2016.11.006

Voyer, D., & Voyer, S. D. (2014a). Gender differences in scholastic achievement: A meta-analysis. *Psychological Bulletin*, *140*(4), 1174–1204. https://doi.org/10.1037/a0036620

Voyer, D., & Voyer, S. D. (2014b). Gender differences in scholastic achievement: A meta-analysis. *Psychological Bulletin*, *140*(4), 1174–1204. https://doi.org/10.1037/a0036620

White, R. T., & Arzi, H. J. (2005). Longitudinal Studies: Designs, Validity, Practicality, and Value. *Research in Science Education*, *35*(1), 137–149. https://doi.org/10.1007/s11165-004-3437-y

Zachrisson, H. D., Dearing, E., Borgen, N. T., Sandsør, A. M. J., & Karoly, L. A. (2024). Universal Early Childhood Education and Care for Toddlers and Achievement Outcomes in Middle Childhood. *Journal of Research on Educational Effectiveness*, *17*(2), 259–287. https://doi.org/10.1080/19345747.2023.2187325

Zapfe, L., & Gross, C. (2021). How do characteristics of educational systems shape educational inequalities? Results from a systematic review. *International Journal of Educational Research*, *109*, 101837. https://doi.org/10.1016/j.ijer.2021.101837

Zhao, B., Liu, J., & Luo, L. (2024). Starting Well: A Meta-Analysis of the Relationship Between Socioeconomic Status and Academic Skills in Early Childhood. *Review of Educational Research*, 00346543241293448. https://doi.org/10.3102/00346543241293448

Appendix A: Documentation of Literature Search

Research question:

What quantitative longitudinal research exists on educational inequalities among K-12 students of different socioeconomic status (SES), immigration status, ethnicity, geographic location, or gender in academic competence, socio-emotional skills, or educational attainment?

The following databases were searched:

Database	Number of retrieved references
Eric (Ovid):	2985
PsycINFO (Ovid):	1471
Scopus:	883
RePEc/IDEAS:	584
Number of references before deduplication:	5339
Number of references after deduplication:	4702

All searches were done 04 June 2024, by Toril M. Hestnes, senior librarian, University of Oslo, Library of Medicine and Science

Search syntax:

Ovid-databases	
exp/	Exploded index term
/	After an index term indicates a subject heading were selected.
.ti,ab,kf.	Search for a term in title, abstract and author keywords
.kw.	= keyword heading
.id.	In PsycINFO: The Key Concepts (ID) field concisely summarizes a document's subject content. Indexers use the Key Concepts to supplement Subject Headings (SH). For experimental literature, Key Concepts typically contain the independent variable, the dependent variable, and the subject population.
.tw.	An alias for all of the fields in the database that contain text and are appropriate for a free-text subject search. The Text word fields in PsycINFO include Table of Contents (TC), Title (TI), Abstract (AB), and Key Concepts (ID).
*	At the end of a term indicates that this term has been truncated, diet* retrieves both diet, diets, dietary.
Adj3	Search for two terms next to each other, in any order, up to 3 words in between.
Scopus	
TITLE-ABS-KEY	Search for word in title, abstract or keyword

W/3	Search for two terms next to each other, in any order, up to 3 words in between.
PRE/3	Search for two terms up to 3 words before the next.

ERIC 1965 to April 2024

Link to generate search (may require log in to Ovid databases on University network): (Guo et al., 2023)

#	Searches	Results
1	Primary Education/ or Secondary Education/ or Preschool children/ or preschool education/ or elementary education/ or elementary secondary education/ or grade 1/ or grade 2/ or grade 3/ or grade 4/ or grade 5/ or grade 6/ or grade 7/ or grade 8/ or grade 9/ or grade 10/ or grade 11/ or grade 12/ or elementary school students/ or middle school students/ or junior high school students/ or High School Students/ or Secondary School Students/	579036
2	(((preschool* or primary or elementary or secondary) adj education) or ((upper or lower) adj secondary) or ((middle* or high* or elementary or secondary) adj2 school*) or ((school* or preschool* or highschool*) adj2 (student* or pupil* or child* or adolesc* or preadolesc* or pre-adolesc* or teen or teens or teenage* or preteen* or boy or boys or girl or girls or minors or underage* or under age* or juvenile* or youth* or young*))).tw.	718838
3	(preschool education or elementary education or secondary education or elementary secondary education or primary education or lower secondary or upper-secondary education or grade 1 or grade 2 or grade 3 or grade 4 or grade 5 or grade 6 or grade 7 or grade 8 or grade 9 or grade 10 or grade 11 or grade 12 or intermediate grades).el.	245951
4	((first or second or third or fourth or fifth or sixth or seventh or eight or eighth or ninth or nineth or tenth or eleventh or twelfth) adj grade*).tw.	67003
5	((1st or 2nd or 3rd or 4th or 5th or 6th or 7th or 8th or 9th or 10th or 11th or 12th) adj grade*).tw.	17196
6	(k-12 or k 12 or k12).tw.	21377
7	or/1-6 [K-12 students]	777259
8	*Predictor Variables/	1736
9	(predictor* or predictive).ti.	7973

10	Disadvantaged/ or Advantaged/ or Disadvantaged Youth/ or Disadvantaged Environment/ or low income groups/ or low income students/ or At Risk Students/ or *At Risk Persons/ or Economically disadvantaged/ or low income/ or poverty/ or welfare recipients/	69016
11	(low income or poverty or working poor or poorest poor or economic level*).tw.	42504
12	Family Income/ or Family Influence/ or Parent Influence/ or Family Characteristics/ or Family Environment/ or Parent Background/ or Cultural Capital/ or School Readiness/	42244
13	((famil* or parent*) adj2 (income or econom* or education or degree* or occupation* or rich or poor or impoverish* or influence* or background* or characteristic* or history or circumstanc* or vulnerab* or advantag* or disadvantag*)).tw.	53447
14	(home literacy or school readiness or preschool skills).tw.	5535
15	Gender Issues/ or Gender Differences/ or Sex Fairness/	53548
16	((gender* or sex) adj2 (equit* or inequit* or equalit* or inequalit* or egalit* or gap or gaps or difference* or disparit* or discrepan* or issue* or fair* or bias* or factor*)).tw.	66392
17	((vulnerable or marginal* or "at risk" or impoverished or poor or indigent or disadvantaged or advantaged or depriv*) adj2 (student* or pupil* or graduate* or child* or teen* or underage* or adolescen* or youth* or young* or population* or people or person* or individual* or population* or worker*)).tw.	55805
18	Socioeconomic Background/ or Socioeconomic Status/ or Socioeconomic Influences/	27236
19	((socioeconomic* or socioeconomic* or sociodemographic* or socio-demographic* or SES) adj2 (low* or high* or level* or gradient* or group* or class* or status* or circumstanc* or factor* or difference* or disparit* or discrepanc* or characteristic* or background* or determinant* or influenc* or vulnerab* or poor* or gap or gaps or disadvantag* or advantag* or barrier* or exclude* or exclusion or include* or inclusion or position or gradient* or hierarch* or equit* or inequit* or inequalit* or equality)).tw.	37194
20	((familial or parental or sociolog* or sociocultural* or socio-cultural* or psychosocial* or environmental* or structural*) adj (factor* or condition* or status* or background* or history or characteristic* or circumstanc* or	8286

	vulnerab* or advantag* or disadvantag* or status* or position or hierarch* or determinant*)).tw.	
21	social bias/ or social discrimination/ or Social Mobility/ or Social Class/	20369
22	(social adj (class* or position* or background* or margin* or condition* or stigma* or support* or capital or environment* or discriminat* or bias or factor* or barrier* or mobilit*)).tw.	51872
23	(soci*context* or soci*-context* or intersectionalit*).tw.	8259
24	Educational Opportunities/ or Access to Education/ or Educational Objectives/ or Student Educational Objectives/ or Goal Orientation/ or Affective Objectives/ or Academic Aspiration/ or Career Aspiration/ or Academic Ability/ or Academic Persistence/ or College Attendance/ or Potential Dropouts/ or Dropout Characteristics/	111267
25	((education* or academic or career* or student* or pupil* or graduate*) adj (aspir* or goal* or objective* or ambition* or expectation* or persisten*)).tw.	73471
26	Racial Differences/ or Racial Factors/ or Racial Attitudes/ or minority groups/ or race/ or Immigrants/ or Migrants/ or biculturalism/ or cultural differences/ or cultural pluralism/ or Acculturation/ or disproportionate representation/ or diversity/ or ethnic diversity/ or ethnic groups/ or ethnic studies/ or ethnicity/ or inclusion/ or intersectionality/ or minority group children/ or minority group influences/ or minority group students/ or multicultural education/ or multiracial persons/ or religious cultural groups/ or student diversity/ or subcultures/	153740
27	(bicultural* or multicultural* or minorit* or diversit* or marginaliz* or ethnic* or race or racism or racist* or racial*).tw.	186016
28	(immigrant* or emigrant* or migrant* or transient* or refugee* or asylee* or asylum seeker* or displaced or incomer* or in comer* or new comer* or newcomer* or resettler* or foreign born or ((traffick* or street) adj3 (student* or pupil* or graduate* or child* or teen* or underage* or adolescen* or youth* or young* or people or person* or individual*))).tw.	31870
29	Rural Urban Differences/ or Geographic Location/	9031
30	((geographic* adj2 locat*) or (urban and rural) or local context*).tw.	20887
31	or/8-30	525874
32	Equal Education/ or Achievement Gap/	37123

33	(equal education or achievement gap*).tw.	39094
34	32 or 33	39094
35	Academic Achievement/ or achievement gains/ or Educational Attainment/ or Educational Mobility/ or Educational Opportunities/ or Access to Education/ or "Educational Equity (Finance)"/ or Social Justice/ or Social Change/ or "Equal Opportunities (Jobs)"/	186465
36	(academic achievement or (achievement adj (gain* or loss*)) or (education* adj (attain* or mobilit*))).tw.	127239
37	35 or 36	193625
38	(inequal* or equal* or inequit* or equit* or egalitar* or gap or gaps or disparit* or success*).tw.	286631
39	37 and 38	67946
40	((education* or academic* or school* or college or university) adj2 (inequal* or equal* or inequit* or equit* or egalitar* or gap or gaps or disparit* or discrepan*)).tw.	41744
41	((achiev* or attainment or success* or advancement or outcome*) adj (gap or gaps or difference* or disparit* or discrepan*)).tw.	9344
42	34 or 39 or 40 or 41 [Educational inequalities]	93057
43	Outcomes of Education/	39158
44	((learning or education* or academic) adj2 outcome*).tw.	56746
45	(((academic or education* or school* or university or universities or college) adj (achiev* or attain* or success*)) or advanced degree*).tw.	130567
46	Educational Attainment/ or Academic Achievement/ or Achievement Gains/ or Achievement Rating/ or Achievement Tests/ or Standardized Tests/ or Science Tests/ or Mathematics Tests/ or International Assessment/	144563
47	Literacy/ or 21st Century Skills/ or Critical Literacy/ or Computer Literacy/ or Digital Literacy/ or Scientific Literacy/ or Science Achievement/ or Mathematics Skills/ or Mathematics Achievement/ or Reading Achievement/	71679

48	((((21* or twenty-first) adj2 century) or computer or digital or academic or reading or mathematic*) adj2 (skill* or competen* or abilit* or proficien*)).tw.	63073
49	(low achievement/ or Barriers/) and ((educat* or school* or college* or universit* or academic* or student* or graduate*) adj3 (outcome* or success* or achiev* or attain* or degree* or grade or grades)).tw.	11390
50	((education* adj1 (status or achiev* or attain* or deficit or lack or level or levels or completion or completed or advanced)) or (diploma or "advanced degree" or schooling or "school leaver*" or "school drop out*" or "school dropout*" or "student drop out*" or "student dropout*" or uneducated or "poorly educated" or undereducated or "under educated" or "non graduate*" or nongraduate*) or (("high school" or postsecondary or "post secondary" or "highest grade") adj1 (achiev* or attain* or level or levels or completion or completed)) or ((college or university) adj1 (achiev* or attain or completion))).tw.	73894
51	((entering or entry) adj2 (upper-secondary or university or advanced degree* or ((continuing or vocational) adj education))).tw.	545
52	Emotional Development/ or emotional adjustment/ or Anxiety/ or Social Development/ or Interpersonal Competence/	53063
53	((emotional or social) adj (development* or adjustment*)).tw.	26077
54	((learning or computer) adj (anxiet* or anxious)).tw.	593
55	Motivation/ or Student Motivation/ or Student Behavior/ or Student Attitudes/ or Learner Engagement/ or Self Motivation/ or Learning Motivation/ or Affective Behavior/	207796
56	((student* or learner or learning) adj (behavior* or behaviour* or attitude* or engagement* or motivat*)).tw.	199380
57	achievement emotion*.tw.	205
58	Self Concept/ or Self Efficacy/ or Self Esteem/	69275
59	(self adj (concept* or efficacy or esteem or confiden*)).tw.	79667
60	"Sense of Community"/	2277
61	("sense of" adj2 (community or belonging)).tw.	6173
62	(community adj3 (cohes* or participa*)).tw.	5432

63	Problem Solving/ or Critical Thinking/ or Critical Literacy/ or Thinking Skills/ or Computation/	81822
64	(problem solving or thinking skills or cognitive skills or ((critical or computation*) adj thinking)).tw.	92428
65	Entrepreneurship/	5684
66	(entrepreneurship or citizenship).tw.	24874
67	Prosocial Behavior/	3846
68	(socioemotion* or socio-emotion* or prosocial or pro-social or ((interpersonal or relational) adj (competen* or skill* or behav*)) or (social adj2 emotional)).tw.	38978
69	Cultural Awareness/	21925
70	(cultural* adj (aware* or understanding or expression*)).tw.	23031
71	or/43-70 [Educational achievements/outcomes]	674133
72	7 and 31 and 42 and 71	24119
73	((k-12 or k 12 or k12) adj2 (attain* or achiev* or success* or outcome*)).tw.	309
74	72 or 73	24386
75	exp Longitudinal Studies/	36748
76	longitudinal.tw.	41299
77	Cohort Analysis/	3105
78	((follow up or followup or retrospective or observational or cohort or longterm or (long adj term)) adj3 (study or studies or design* or analysis or analyses or data or research)).tw.	21879
79	*Correlation/	525
80	*Educational Research/	7922
81	Trend Analysis/	19395
82	growth models/	189
83	(panel design* or panel data or ((time or cohort* or cross*) adj (sequen* or serie*)) or (over adj2 time) or synthetic control or (trend adj (stud* or analy*)) or ambulatory assessment* or survival analy* or hazard model* or	46866

	fixed effect* or random effect* or mixed effect* or growth curve* or latent growth* or random intercept* or cross lagged).tw.	
84	or/75-83 [Longitudinal studies +]	110460
85	74 and 84	3103
86	(addresses or autobiography or bibliography or biography or comment or dictionary or directory or editorial or festschrift or interactive tutorial or lectures or letter or news or newspaper article or video-audio media).ti.	18610
87	85 not 86	3098
88	limit 87 to (danish or english or german or hungarian or norwegian or spanish or finnish or swedish)	2985

APA PsycInfo 1806 to May Week 5 2024

Link to generate search (may require log in to Ovid databases on University network):

https://ezproxy.uio.no/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=main&SHAREDSEARCHID=3GRC7H2xz1wswrNE7mnmWgS7FThwXseQyMW17RL8CBQCVYL6azP2pslcDwVulsTI7

#	Searches	Results
1	elementary school students/ or high school graduates/ or high school students/ or junior high school students/ or kindergarten students/ or middle school students/ or preschool students/ or Primary School Students/ or high school education/ or secondary education/ or high school education/ or high schools/ or junior high schools/	132825
2	(((preschool* or primary or elementary or secondary) adj education) or ((upper or lower) adj secondary) or ((middle* or high* or elementary or secondary) adj2 school*) or ((school* or preschool* or highschool*) adj2 (student* or pupil* or child* or adolesc* or preadolesc* or pre-adolesc* or teen or teens or teenage* or preteen* or boy or boys or girl or girls or minors or underage* or under age* or juvenile* or youth* or young*))).ti,ab,id.	258665
3	(preschool education or elementary education or secondary education or elementary secondary education or primary education or lower secondary or upper-secondary education or grade 1 or grade 2 or grade 3 or grade 4 or grade 5 or grade 6 or grade 7 or grade 8 or grade 9 or grade 10 or grade 11 or grade 12 or intermediate grades).ti,ab,id.	23858
4	((first or second or third or fourth or fifth or sixth or seventh or eight or eighth or ninth or nineth or tenth or eleventh or twelfth) adj grade*).ti,ab,id.	43245

5	((1st or 2nd or 3rd or 4th or 5th or 6th or 7th or 8th or 9th or 10th or 11th or 12th) adj grade*).ti,ab,id.	71195
6	(k-12 or k 12 or k12).ti,ab,id.	8254
7	or/1-6	360116
8	exp Academic Achievement Prediction/	3858
9	Disadvantaged/ or At Risk Populations/ or Socioeconomic Status/ or Lower Income Level/ or Poverty/ or Sociocultural Factors/ or Social Capital/ or Social Class/ or Child Welfare/ or Economic Inequality/	171813
10	((socioeconomic* or socioeconomic* or sociodemographic* or socio-demographic* or SES) adj2 (low* or high* or level* or gradient* or group* or class* or status* or circumstanc* or factor* or difference* or disparit* or discrepanc* or characteristic* or background* or determinant* or influenc* or vulnerab* or poor* or gap or gaps or disadvantag* or advantag* or barrier* or exclude* or exclusion or include* or inclusion or position or gradient* or hierarch* or equit* or inequit* or inequalit* or equality)).ti,ab,id.	84092
11	Social Class/ or Social Discrimination/ or Social Mobility/	13776
12	(social adj (class* or position* or background* or margin* or condition* or stigma* or support* or capital or environment* or discriminat* or bias or factor* or barrier* or mobilit*)).ti,ab,id.	126068
13	(soci*context* or soci*-context* or intersectionalit*).ti,ab,id.	34103
14	((vulnerable or marginal* or "at risk" or impoverished or poor or indigent or disadvantaged or advantaged or depriv*) adj2 (student* or pupil* or graduate* or child* or teen* or underage* or adolescen* or youth* or young* or population* or people or person* or individual* or population* or worker*)).ti,ab,id.	64561
15	(low income or poverty or working poor or poorest poor or economic level* or welfare).ti,ab,id.	88658
16	Home Environment/ or Family Background/ or Parent Educational Background/ or Family Socioeconomic Status/ or Interpersonal Influences/	27441
17	((famil* or parent*) adj2 (income or econom* or rich or poor or impoverish* or influence* or education or degree* or occupation* or background* or characteristic* or history or circumstanc* or vulnerab* or advantag* or disadvantag*)).ti,ab,id.	79122
18	((familial or parental or sociolog* or sociocultural* or socio-cultural* or psychosocial* or environmental* or structural*) adj (factor* or condition* or status* or background* or history or characteristic* or circumstanc* or vulnerab* or advantag* or disadvantag* or status* or position or hierarch* or determinant*)).ti,ab,id.	65347
19	(home literacy or school readiness or preschool skills).ti,ab,id.	3503
20	((cultural or social) adj (capital or background*)).ti,ab,id.	20177
21	Rural Environments/ or Urban Environments/	50159
22	((geographic* adj2 locat*) or (urban and rural) or local context*).ti,ab,id.	23926

23	Goal Orientation/ or Occupational Aspirations/ or Educational Objectives/ or Aspirations/ or Academic Achievement Motivation/ or Educational Aspirations/ or Academic Aptitude/ or College Academic Achievement/ or School Retention/ or Dropouts/ or Potential Dropouts/	36926
24	((education* or academic or career* or student* or pupil* or graduate*) adj (aspir* or goal* or objective* or ambition* or expectation* or persisten*)).ti,ab,id.	12724
25	"Racial and Ethnic Differences"/ or "Racial and Ethnic Groups"/ or Ethnic Identity/ or Racism/ or Internalized Racism/ or Systemic Racism/ or Diversity/ or Ethnic Diversity/ or Cultural Diversity/ or Intersectionality/ or Immigration/ or Cross Cultural Differences/ or Minority Stress/ or Minority Groups/ or Inclusion/ or Social Inclusion/	182667
26	(bicultural* or multicultural* or (cultural* adj2 (plural* or differen*)) or minorit* or diversit* or representation or inclusion or intersectionalit* or marginaliz* or ethnic* or race or racism or racist* or racial* or immigrant* or emigrant* or migrant* or transient* or refugee* or asylee* or asylum seeker* or displaced or incomer* or in comer* or new comer* or newcomer* or resettler* or foreign born).ti,ab,id.	537764
27	Psychosexual Development/ or Gender Identity/ or Gender Inclusion/ or Sexual Minority Groups/ or Sexual Orientation/ or Human Sex Differences/ or Sex Roles/ or Sex Role Attitudes/ or Sexism/	171669
28	((gender* or sex) adj2 (equit* or inequit* or equalit* or inequalit* or egalit* or gap or gaps or difference* or disparit* or discrepan* or issue* or fair* or bias* or factor*)).ti,ab,id.	115137
29	or/8-28	1232051
30	Equal Education/ or Achievement Gap/	3363
31	(equal education or achievement gap*).ti,ab,id.	3879
32	Academic Achievement/ or Educational Attainment Level/	70949
33	(academic or education* or school* or highschool* or college or university).ti,ab,id.	1210916
34	32 or 33	1215950
35	Social Justice/ or Social Equality/	15464
36	(inequal* or equal* or inequit* or equit* or egalitar* or gap or gaps or disparit* or disparit* or discrepan*).ti,ab,id.	329738
37	35 or 36	336282
38	34 and 37	101334
39	30 or 31 or 38	101795
40	Academic Achievement/ or Academic Underachievement/ or Educational Attainment Level/	73038
41	((learning or education* or academic) adj2 outcome*).ti,ab,id.	20828
42	(((academic or education* or school* or university or college) adj2 (achiev* or attain* or success* or gain* or loss*)) or advanced degree*).ti,ab,id.	74422
43	Achievement Measures/ or Test Scores/ or Educational Measurement/ or Mathematics Achievement/ or Reading Achievement/	40638

44	(achiev* adj (gain* or loss* or rating or test* or measur* or assess*)).ti,ab,id.	10809
45	((education* or academic or standardized or international) adj2 (test* or measur* or rating or assess*)).ti,ab,id.	41955
46	Literacy/ or Digital Literacy/ or Information Literacy/	19893
47	((critical or computer or digital or scientific) adj literacy).ti,ab,id.	2832
48	((science or math* or reading or science) adj (skills or achievement)).ti,ab,id.	20429
49	(((21* adj2 century) or computer or digital or academic or reading or mathematic*) adj2 (skill* or competen* or abilit* or proficien*)).ti,ab,id.	33503
50	((low achiev* or underachiev* or barrier*) and ((educat* or school* or college* or universit* or academic* or student* or graduate*) adj3 (outcome* or success* or achiev* or attain* or degree* or grade or grades))).ti,ab,id.	8494
51	((education* adj1 (status or achiev* or attain* or deficit or lack or level or levels or completion or completed or advanced)) or (diploma or "advanced degree" or schooling or "school leaver*" or "school drop out*" or "school dropout*" or "student drop out*" or "student dropout*" or uneducated or "poorly educated" or undereducated or "under educated" or underachiev* or under achiev* or "non graduate*" or nongraduate*) or (("high school" or postsecondary or "post secondary" or "highest grade") adj1 (achiev* or attain* or level or levels or completion or completed)) or ((college or university) adj1 (achiev* or attain or completion))).ti,ab,id.	71595
52	((entering or entry) adj2 (upper-secondary or university or advanced degree* or ((continuing or vocational) adj education))).ti,ab,id.	339
53	Emotional Development/ or Emotional Adjustment/ or Psychosocial Development/ or Social Skills/	58713
54	((emotional or social) adj (development* or adjustment*)).ti,ab,id.	24960
55	Computer Anxiety/ or Mathematics Anxiety/	1300
56	((learning or computer) adj (anxiet* or anxious)).ti,ab,id.	754
57	Motivation Measures/ or Achievement Motivation/ or Academic Achievement Motivation/ or Motivation/ or Social Motivation/ or Extrinsic Motivation/ or Intrinsic Motivation/ or Student Engagement/	91475
58	((student* or learner or learning) adj (behavior* or behaviour* or attitude* or engagement* or motivat*)).ti,ab,id.	34037
59	achievement emotion*.ti,ab,id.	478
60	Self-Concept/ or Self-Efficacy/ or Self-Esteem/	103115
61	(self adj (concept* or efficacy or esteem or confiden*)).ti,ab,id.	133883
62	exp "Sense of Community"/	1064
63	("sense of" adj2 (community or belonging)).ti,ab,id.	7863
64	(community adj3 (cohes* or participa*)).ti,ab,id.	15693
65	Problem Solving/ or Critical Thinking/	35097
66	(problem solving or ((thinking or cognitive) adj skills) or ((critical or computation*) adj thinking)).ti,ab,id.	65715

67	(problem solving or thinking skills or computation or critical thinking).ti,ab,id.	68404
68	Entrepreneurship/ or Organizational Citizenship Behavior/ or Citizenship/	16073
69	(entrepreneurship or citizenship).ti,ab,id.	19507
70	exp Prosocial Behavior/	108945
71	(socioemotion* or socio-emotion* or prosocial or pro-social or ((interpersonal or relational) adj (competen* or skill* or behav*)) or (social adj2 emotional)).ti,ab,id.	59888
72	Cultural Competence/ or Cultural Sensitivity/	9824
73	(cultural* adj (aware* or understanding or expression*)).ti,ab,id.	2861
74	or/40-73	807269
75	7 and 29 and 39 and 74	8636
76	((k-12 or k 12 or k12) adj2 (attain* or achiev* or success* or outcome*)).ti,ab,id.	157
77	75 or 76	8781
78	exp Longitudinal Studies/	17488
79	longitudinal.tw.	153331
80	exp Cohort Analysis/	1734
81	((follow up or followup or retrospective or observational or cohort or longterm or (long adj term)) adj3 (study or studies or design* or analysis or analyses or data or research)).ti,ab,id.	122288
82	exp Trends/	19889
83	(panel design* or panel data or ((time or cohort* or cross*) adj (sequen* or serie*)) or (over adj2 time) or synthetic control or (trend adj (stud* or analy*)) or ambulatory assessment* or survival analy* or hazard model* or fixed effect* or random effect* or mixed effect* or growth curve* or latent growth* or random intercept* or cross lagged).ti,ab,id.	159542
84	or/78-83	399405
85	77 and 84	1502
86	(addresses or autobiography or bibliography or biography or comment or dictionary or directory or editorial or festschrift or interactive tutorial or lectures or letter or news or newspaper article or video-audio media).ti.	42437
87	85 not 86	1501
88	limit 87 to (danish or english or finnish or german or hungarian or norwegian or spanish or swedish)	1471

Scopus

1

(TITLE-ABS ({school} OR {schools} OR {preschool} OR {preschools} OR {primary education} OR {elementary education} OR {secondary education} OR {elementary secondary} OR {upper secondary} OR {lower secondary} OR {junior high})) OR (AUTHKEY ({school} OR {schools} OR {preschool} OR {preschools} OR {primary education} OR {elementary education} OR {secondary education} OR {elementary secondary} OR

{upper secondary} OR {lower secondary} OR {junior high})) OR (((TITLE-ABS ({grade 1} OR {grade 2} OR {grade 3} OR {grade 4} OR {grade 5} OR {grade 6} OR {grade 7} OR {grade 8} OR {grade 9} OR {grade 10} OR {grade 11} OR {grade 12})) OR (AUTHKEY ({grade 1} OR {grade 2} OR {grade 3} OR {grade 4} OR {grade 5} OR {grade 6} OR {grade 7} OR {grade 8} OR {grade 9} OR {grade 10} OR {grade 11} OR {grade 12}))) AND ((TITLE-ABS ({school} OR {schools} OR {schooling} OR {preschool} OR {preschools} OR {education} OR {educational} OR {educated} OR {academic})) OR (AUTHKEY ({school} OR {schools} OR {schooling} OR {preschool} OR {preschools} OR {education} OR {educational} OR {educated} OR {academic})))) OR (TITLE-ABS-KEY ({schoolchild} OR {school-child} OR {schoolchildren} OR {school-children})) OR (AUTHKEY ({schoolchild} OR {school-child} OR {schoolchildren} OR {school-children})) OR (TITLE-ABS (({middle} OR {highschool} OR {junior high} OR {elementary} OR {secondary} OR {intermediate} OR {school} OR {schools} OR {schooling} OR {preschool}) W/2 ({student} OR {students} OR {pupil} OR {pupils} OR {grade} OR {grades} OR {graduate} OR {child} OR {children} OR {adolescent} OR {adolescents} OR {preadolescent} OR {preadolescents} OR {pre-adolescent} OR {pre-adolescents} OR {teen} OR {teens} OR {teenage} OR {teenager} OR {teenagers} OR {preteen} OR {preteens} OR {boy} OR {boys} OR {girl} OR {girls} OR {minors} OR {underage} OR {underaged} OR {juvenile} OR {youth} OR {young}))) OR (AUTHKEY (({middle} OR {highschool} OR {junior high} OR {elementary} OR {secondary} OR {intermediate} OR {school} OR {schools} OR {schooling} OR {preschool}) W/2 ({student} OR {students} OR {pupil} OR {pupils} OR {grade} OR {grades} OR {graduate} OR {child} OR {children} OR {adolescent} OR {adolescents} OR {preadolescent} OR {preadolescents} OR {pre-adolescent} OR {pre-adolescents} OR {teen} OR {teens} OR {teenage} OR {teenager} OR {teenagers} OR {preteen} OR {preteens} OR {boy} OR {boys} OR {girl} OR {girls} OR {minors} OR {underage} OR {underaged} OR {juvenile} OR {youth} OR {young}))) OR (TITLE-ABS (({first} OR {second} OR {third} OR {fourth} OR {fifth} OR {sixth} OR {seventh} OR {eighth} OR {eight} OR {ninth} OR {nineth} OR {tenth} OR {eleventh} OR {twelfth}) PRE/1 ({grade} OR {grades}))) OR (AUTHKEY (({first} OR {second} OR {third} OR {fourth} OR {fifth} OR {sixth} OR {seventh} OR {eighth} OR {eight} OR {ninth} OR {nineth} OR {tenth} OR {eleventh} OR {twelfth}) PRE/1 ({grade} OR {grades}))) OR (TITLE-ABS (({1st} OR {2nd} OR {3rd} OR {4th} OR {5th} OR {6th} OR {7th} OR {8th} OR {9th} OR {10th} OR {11th} OR {12th}) PRE/1 ({grade} OR {grades}))) OR (AUTHKEY (({1st} OR {2nd} OR {3rd} OR {4th} OR {5th} OR {6th} OR {7th} OR {8th} OR {9th} OR {10th} OR {11th} OR {12th}) PRE/1 ({grade} OR {grades})))

1,212,726

2

((TITLE-ABS ({Predictor} OR {predictors} OR {Predict} OR {Predictive})) OR (AUTHKEY ({Predictor} OR {predictors} OR {Predict} OR {Predictive})) OR (TITLE-ABS ({Disadvantaged Youth} OR {Disadvantaged Environment} OR {low income} OR {family income} OR {At Risk Student} OR {At Risk Students} OR {At Risk Person} OR {At Risk Persons} OR {poverty} OR {welfare} OR {working poor} OR {poorest poor} OR {economic level} OR

{Family Influence} OR {Parent Influence} OR {Parental Influence} OR {Family Characteristics} OR {Family Environment} OR {Family Background} OR {Parent Background} OR {Cultural Capital} OR {Social Capital} OR {School Readiness} OR {home literacy} OR {preschool skill} OR {preschool skills})) OR (AUTHKEY ({Disadvantaged} OR {Advantaged} OR {low income} OR {family income} OR {At Risk Student} OR {At Risk Students} OR {At Risk Person} OR {At Risk Persons} OR {poverty} OR {welfare} OR {working poor} OR {poorest poor} OR {economic level} OR {Family Influence} OR {Parent Influence} OR {Parental Influence} OR {Family Characteristics} OR {Family Environment} OR {Family Background} OR {Parent Background} OR {Cultural Capital} OR {Social Capital} OR {School Readiness} OR {home literacy} OR {preschool skill} OR {preschool skills})) OR (TITLE-ABS (({family} OR {parent} OR {parents} OR {parent's} OR {parents'} OR {parental}) PRE/2 ({income} OR {economy} OR {poor} OR {rich} OR {impoverished} OR {education} OR {occupation} OR {influence} OR {influences} OR {background} OR {backgrounds} OR {characteristic} OR {characteristics} OR {history} OR {circumstance} OR {circumstances} OR {vulnerable} OR {vulnerability} OR {vulnerabilities} OR {advantage} OR {advantages} OR {advantaged} OR {disadvantage} OR {disadvantages} OR {disadvantaged}))) OR (AUTHKEY (({family} OR {parent} OR {parents} OR {parent's} OR {parents'} OR {parental}) PRE/2 ({income} OR {economy} OR {poor} OR {rich} OR {impoverished} OR {education} OR {occupation} OR {influence} OR {influences} OR {background} OR {backgrounds} OR {characteristic} OR {characteristics} OR {history} OR {circumstance} OR {circumstances} OR {vulnerable} OR {vulnerability} OR {vulnerabilities} OR {advantage} OR {advantages} OR {advantaged} OR {disadvantage} OR {disadvantages} OR {disadvantaged}))) OR (TITLE-ABS ({Gender Issues} OR {Gender Differences} OR {Gender Discrepancy} OR {Gender Discrepancies} OR {Sex Fairness})) OR (AUTHKEY ({Gender Issues} OR {Gender Differences} OR {Gender Discrepancy} OR {Gender Discrepancies} OR {Sex Fairness})) OR (TITLE-ABS (({gender} OR {sex}) PRE/1 ({equity} OR {inequity} OR {equality} OR {inequality} OR {egality} OR {egalitarian} OR {gap} OR {gaps} OR {difference} OR {differences} OR {discrepancy} OR {discrepancies} OR {disparity} OR {disparities} OR {issue} OR {issues} OR {fairness} OR {bias} OR {biases} OR {biased} OR {factor} OR {factors}))) OR (AUTHKEY (({gender} OR {sex}) PRE/1 ({equity} OR {inequity} OR {equality} OR {inequality} OR {egality} OR {egalitarian} OR {gap} OR {gaps} OR {difference} OR {differences} OR {discrepancy} OR {discrepancies} OR {disparity} OR {disparities} OR {issue} OR {issues} OR {fairness} OR {bias} OR {biases} OR {biased} OR {factor} OR {factors}))) OR (TITLE-ABS (({vulnerable} OR {marginalized} OR {impoverished} OR {poor} OR {rich} OR {indigent} OR {disadvantaged} OR {advantaged} OR {deprived}) PRE/2 ({student} OR {students} OR {pupil} OR {pupils} OR {graduate} OR {graduates} OR {child} OR {children} OR {teen} OR {teens} OR {teenage} OR {teenager} OR {teenagers} OR {minors} OR {underage} OR {underaged} OR {juvenile} OR {youth} OR {young} OR {population} OR {people} OR {person} OR {persons} OR {individual} OR {individuals}))) OR (AUTHKEY (({vulnerable} OR {marginalized} OR {impoverished} OR {poor} OR {rich} OR {indigent} OR {disadvantaged} OR {advantaged} OR {deprived}) PRE/2 ({student} OR {students} OR {pupil} OR {pupils} OR {graduate} OR {graduates} OR {child} OR {children} OR {teen} OR {teens} OR {teenage} OR {teenager} OR {teenagers} OR

{minors} OR {underage} OR {underaged} OR {juvenile} OR {youth} OR {young} OR {population} OR {people} OR {person} OR {persons} OR {individual} OR {individuals}))) OR (TITLE-ABS ({Socioeconomic Background} OR {Socioeconomic Status} OR {Socioeconomic Influences} OR {social bias} OR {social discrimination} OR {Social Mobility} OR {intersectionality} OR {Social Class} OR {social context} OR {sociocultural context})) OR (AUTHKEY ({Socioeconomic Background} OR {Socioeconomic Status} OR {Socioeconomic Determinant} OR {Socioeconomic Determinants} OR {Socioeconomic Influences} OR {social bias} OR {social discrimination} OR {Social Mobility} OR {intersectionality} OR {Social Class} OR {social context} OR {sociocultural context})) OR (TITLE-ABS (({socioeconomic} OR {socioeconomic} OR {sociodemographic} OR {socio-demographic} OR {SES}) W/2 ({low} OR {lower} OR {high} OR {higher} OR {level} OR {levels} OR {gradient} OR {gradients} OR {group} OR {groups} OR {class} OR {classes} OR {status} OR {circumstance} OR {circumstances} OR {equity} OR {inequity} OR {equality} OR {inequality} OR {inequalities} OR {egality} OR {egalitarian} OR {gap} OR {gaps} OR {difference} OR {differences} OR {discrepancy} OR {discrepancies} OR {disparity} OR {disparities} OR {issue} OR {issues} OR {fairness} OR {bias} OR {biases} OR {biased} OR {factor} OR {factors} OR {characteristic} OR {characteristics} OR {background} OR {backgrounds} OR {determinant} OR {determinants} OR {influence} OR {influences} OR {vulnerable} OR {vulnerability} OR {vulnerabilities} OR {poor} OR {disadvantage} OR {disadvantages} OR {disadvantaged} OR {advantage} OR {advantages} OR {advantaged} OR {barrier} OR {barriers} OR {exclude} OR {exclusion} OR {exclusive} OR {include} OR {inclusion} OR {inclusive} OR {position} OR {positions} OR {hierarchy} OR {hierarchies} OR {hierarchical}))) OR (AUTHKEY (({socioeconomic} OR {socioeconomic} OR {sociodemographic} OR {socio-demographic} OR {SES}) W/2 ({low} OR {lower} OR {high} OR {higher} OR {level} OR {levels} OR {gradient} OR {gradients} OR {group} OR {groups} OR {class} OR {classes} OR {status} OR {circumstance} OR {circumstances} OR {equity} OR {inequity} OR {equality} OR {inequality} OR {inequalities} OR {egality} OR {egalitarian} OR {gap} OR {gaps} OR {difference} OR {differences} OR {discrepancy} OR {discrepancies} OR {disparity} OR {disparities} OR {issue} OR {issues} OR {fairness} OR {bias} OR {biases} OR {biased} OR {factor} OR {factors} OR {characteristic} OR {characteristics} OR {background} OR {backgrounds} OR {determinant} OR {determinants} OR {influence} OR {influences} OR {vulnerable} OR {vulnerability} OR {vulnerabilities} OR {poor} OR {disadvantage} OR {disadvantages} OR {disadvantaged} OR {advantage} OR {advantages} OR {advantaged} OR {barrier} OR {barriers} OR {exclude} OR {exclusion} OR {exclusive} OR {include} OR {inclusion} OR {inclusive} OR {position} OR {positions} OR {hierarchy} OR {hierarchies} OR {hierarchical}))) OR (TITLE-ABS (({familial} OR {parental} OR {sociologic} OR {sociological} OR {sociocultural} OR {socio-cultural} OR {psychosocial} OR {environmental} OR {structural}) W/1 ({factor} OR {factors} OR {condition} OR {conditions} OR {status} OR {background} OR {history} OR {characteristic} OR {characteristics} OR {circumstance} OR {circumstances} OR {vulnerable} OR {vulnerability} OR {vulnerabilities} OR {disadvantage} OR {disadvantages} OR {disadvantaged} OR {advantage} OR {advantages} OR {advantaged} OR {status} OR {position} OR {positions} OR {hierarchy} OR {hierarchies} OR

{hierarchical} OR {determinant} OR {determinants})))) OR ((AUTHKEY (({familial} OR {parental} OR {sociologic} OR {sociological} OR {sociocultural} OR {socio-cultural} OR {psychosocial} OR {environmental} OR {structural}) W/1 ({factor} OR {factors} OR {condition} OR {conditions} OR {status} OR {background} OR {history} OR {characteristic} OR {characteristics} OR {circumstance} OR {circumstances} OR {vulnerable} OR {vulnerability} OR {vulnerabilities} OR {disadvantage} OR {disadvantages} OR {disadvantaged} OR {advantage} OR {advantages} OR {advantaged} OR {status} OR {position} OR {positions} OR {hierarchy} OR {hierarchies} OR {hierarchical} OR {determinant} OR {determinants}))) OR (TITLE-ABS ({social} W/1 ({class} OR {classes} OR {position} OR {positions} OR {background} OR {backgrounds} OR {marginalized} OR {condition} OR {conditions} OR {stigma} OR {support} OR {capital} OR {environment} OR {discrimination} OR {discriminated} OR {discriminate} OR {discriminates} OR {bias} OR {biases} OR {factor} OR {factors} OR {barrier} OR {barriers} OR {mobility}))) OR (AUTHKEY ({social} W/1 ({class} OR {classes} OR {position} OR {positions} OR {background} OR {backgrounds} OR {marginalized} OR {condition} OR {conditions} OR {stigma} OR {support} OR {capital} OR {environment} OR {discrimination} OR {discriminated} OR {discriminate} OR {discriminates} OR {bias} OR {biases} OR {factor} OR {factors} OR {barrier} OR {barriers} OR {mobility}))) OR (TITLE-ABS ({educational opportunities} OR {access to education} OR {educational objectives} OR {student educational objectives} OR {goal orientation} OR {affective objectives} OR {academic aspiration} OR {career aspiration} OR {academic ability} OR {academic persistence} OR {college attendance} OR {potential dropouts} OR {dropout characteristics})) OR (AUTHKEY ({Educational Opportunities} OR {Access to Education} OR {Educational Objectives} OR {Student Educational Objectives} OR {Goal orientation} OR {Affective Objectives} OR {Academic Aspiration} OR {Career Aspiration} OR {Academic Ability} OR {Academic Persistence} OR {College Attendance} OR {Potential Dropouts} OR {Dropout Characteristics})) OR (TITLE-ABS (({education} OR { educational} OR {academic} OR {career} OR {student} OR {students} OR {pupil} OR {pupils} OR {graduate} OR {graduates}) W/1 ({aspiration} OR {aspirations} OR {goal} OR {goals} OR {objective} OR {objectives} OR {ambition} OR {ambitions} OR {expectation} OR {expectations} OR {persistence} OR {persistent}))) OR (AUTHKEY (({education} OR {academic} OR {career} OR {student} OR {students} OR {pupil} OR {pupils} OR {graduate} OR {graduates}) W/1 ({aspiration} OR {aspirations} OR {goal} OR {goals} OR {objective} OR {objectives} OR {ambition} OR {ambitions} OR {expectation} OR {expectations} OR {persistence} OR {persistent}))) OR (TITLE-ABS ({Racial Differences} OR {Racial Factors} OR {Racial Attitudes} OR {minority groups} OR {race} OR {racism} OR {racist} OR {transients} OR {immigrant} OR {Immigrants} OR {Migrants} OR {refugee} OR {refugees} OR {asylee} OR {asylees} OR {asylum seeker} OR {asylum seekers} OR {displaced} OR {incomer} OR {incomers} OR {in comer} OR {in comers} OR {new comer} OR {new comers} OR {newcomer} OR {newcomers} OR {resettler} OR {resettlers} OR {foreign born} OR {Immigrants} OR {Migrants} OR {biculturalism} OR {cultural differences} OR {cultural pluralism} OR {Acculturation} OR {disproportionate representation} OR {diversity} OR {ethnic diversity} OR {ethnic groups} OR {ethnic studies} OR {ethnicity} OR {inclusion} OR {intersectionality}

OR {minority group children} OR {minority group influences} OR {minority group students} OR {multicultural education} OR {multiracial persons} OR {religious cultural groups} OR {student diversity} OR {subcultures})) OR (AUTHKEY ({Racial Differences} OR {Racial Factors} OR {Racial Attitudes} OR {minority groups} OR {race} OR {racism} OR {racist} OR {transients} OR {immigrant} OR {Immigrants} OR {Migrants} OR {refugee} OR {refugees} OR {asylee} OR {asylees} OR {asylum seeker} OR {asylum seekers} OR {displaced} OR {incomer} OR {incomers} OR {in comer} OR {in comers} OR {new comer} OR {new comers} OR {newcomer} OR {newcomers} OR {resettler} OR {resettlers} OR {foreign born} OR {Immigrants} OR {Migrants} OR {biculturalism} OR {cultural differences} OR {cultural pluralism} OR {Acculturation} OR {disproportionate representation} OR {diversity} OR {ethnic diversity} OR {ethnic groups} OR {ethnic studies} OR {ethnicity} OR {inclusion} OR {intersectionality} OR {minority group children} OR {minority group influences} OR {minority group students} OR {multicultural education} OR {multiracial persons} OR {religious cultural groups} OR {student diversity} OR {subcultures})) OR (TITLE-ABS ({bicultural} OR {multicultural} OR {minority} OR {minorities} OR {diversity} OR {marginalized} OR {marginalize} OR {marginalizing} OR {ethnicity} OR {race} OR {racism} OR {racist} OR {racial})) OR (AUTHKEY ({bicultural} OR {multicultural} OR {minority} OR {minorities} OR {diversity} OR {marginalized} OR {marginalize} OR {marginalizing} OR {ethnicity} OR {race} OR {racism} OR {racist} OR {racial})) OR (TITLE-ABS ({Rural Urban Differences} OR {Geographic Location})) OR (AUTHKEY ({Rural Urban Differences} OR {Geographic Location} OR {local context} OR {local contexts})) OR ((AUTHKEY ({urban}) AND AUTHKEY ({rural}))))

6,787,755

3

(TITLE-ABS ({equal education} OR {achievement gap} OR {achievement gaps})) OR (AUTHKEY ({equal education} OR {achievement gap} OR {achievement gaps})) OR ((((TITLE-ABS ({inequal} OR {inequality} OR {inequalities} OR {equal} OR {equality} OR {inequity} OR {inequities} OR {inequitable} OR {equity} OR {egality} OR {egalitar} OR {egalitarian} OR {gap} OR {gaps} OR {disparity} OR {disparities} OR {discrepancy} OR {discrepancies})) OR (AUTHKEY ({inequal} OR {inequality} OR {inequalities} OR {equal} OR {equality} OR {inequity} OR {inequities} OR {inequitable} OR {equity} OR {egality} OR {egalitar} OR {egalitarian} OR {gap} OR {gaps} OR {disparity} OR {disparities} OR {discrepancy} OR {discrepancies}))) AND ((TITLE-ABS ({academic achievement} OR {achievement gain} OR {achievement gains} OR {achievement loss} OR {educational attainment} OR {educational mobility} OR {educational opportunities} OR {access to education} OR {educational equity} OR {social justice} OR {social change} OR {academic achievement})) OR (AUTHKEY ({academic achievement} OR {achievement gain} OR {achievement gains} OR {achievement loss} OR {educational attainment} OR {educational mobility} OR {educational opportunities} OR {access to education} OR {educational equity} OR {social justice} OR {social change} OR {academic achievement})))) OR (TITLE-ABS ((achievement OR attainment OR success* OR advancement OR

increas* OR outcome*) W/1 (inequal* OR equal* OR inequit* OR equit* OR egalitar* OR gap OR gaps OR difference* OR disparit* OR discrepan*))) OR (AUTHKEY ((achievement OR attainment OR success* OR advancement OR increas* OR outcome*) W/1 (inequal* OR equal* OR inequit* OR equit* OR egalitar* OR gap OR gaps OR difference* OR disparit* OR discrepan*))))

120,813

4

((TITLE-ABS ({outcomes of education})) OR (AUTHKEY ({outcomes of education})) OR (TITLE-ABS (({learning} OR {education} OR {educational} OR {academic}) PRE/1 ({outcome} OR {outcomes}))) OR (TITLE-ABS (({academic} OR {education} OR {educational} OR {school} OR {university} OR {college} OR {advanced}) W/1 ({achievement} OR {attainment} OR {success}))) OR (AUTHKEY (({academic} OR {education} OR {educational} OR {school} OR {university} OR {college} OR {advanced}) W/1 ({achievement} OR {attainment} OR {success}))) OR (TITLE-ABS ({educational attainment} OR {academic achievement} OR {academic progression} OR {achievement gains} OR {achievement rating} OR {achievement tests} OR {standardized tests} OR {science tests} OR {mathematics tests} OR {international assessment} OR {literacy} OR {21st century skills} OR {critical literacy} OR {computer literacy} OR {digital literacy} OR {scientific literacy} OR {science achievement} OR {mathematics skills} OR {mathematics achievement} OR {reading achievement})) OR (AUTHKEY ({educational attainment} OR {academic achievement} OR {academic progression} OR {achievement gains} OR {achievement rating} OR {achievement tests} OR {standardized tests} OR {science tests} OR {mathematics tests} OR {international assessment} OR {literacy} OR {critical literacy} OR {computer literacy} OR {digital literacy} OR {scientific literacy} OR {science achievement} OR {mathematics skills} OR {mathematics achievement} OR {reading achievement})) OR (TITLE-ABS (({21} OR {21st} OR {21-st} OR {twenty-first}) PRE/2 ({skill} OR {skills} OR {competency} OR {competencies} OR {competent} OR {ability} OR {abilities} OR {proficiency} OR {proficient}))) OR (AUTHKEY (({21} OR {21st} OR {21-st} OR {twenty-first}) PRE/2 ({skill} OR {skills} OR {competency} OR {competencies} OR {competent} OR {ability} OR {abilities} OR {proficiency} OR {proficient}))) OR (TITLE-ABS (({computer} OR {digital} OR {academic} OR {reading} OR {math} OR {maths} OR {mathematic} OR {science}) PRE/1 ({skill} OR {skills} OR {competency} OR {competencies} OR {competent} OR {ability} OR {abilities} OR {proficiency} OR {proficient}))) OR (AUTHKEY (({computer} OR {digital} OR {academic} OR {reading} OR {math} OR {maths} OR {mathematic} OR {science}) PRE/1 ({skill} OR {skills} OR {competency} OR {competencies} OR {competent} OR {ability} OR {abilities} OR {proficiency} OR {proficient}))) OR ((TITLE-ABS ({low achievement} OR {barrier} OR {barriers}) AND TITLE-ABS-KEY ((educat* OR school* OR college* OR universit* OR academic* OR student* OR graduate*) W/2 (outcome* OR success* OR achiev* OR attain* OR degree* OR grade OR grades)))) OR ((AUTHKEY ({low achievement} OR {barrier} OR {barriers}) AND TITLE-ABS-KEY ((educat* OR school* OR college* OR universit* OR academic* OR student* OR graduate*)

W/2 (outcome* OR success* OR achiev* OR attain* OR degree* OR grade OR grades))))) OR ((TITLE-ABS ({education} OR {educational}) PRE/1 ({status} OR {achievement} OR {attainment} OR {deficit} OR {lack} OR {level} OR {levels} OR {completion} OR {completed} OR {advanced} OR {diploma} OR {advanced degree} OR {school leaver} OR {school leavers} OR {school drop out} OR {school dropout} OR {student drop out} OR {student dropout})) OR (AUTHKEY ({education} OR {educational}) PRE/1 ({status} OR {achievement} OR {attainment} OR {deficit} OR {lack} OR {level} OR {levels} OR {completion} OR {completed} OR {advanced} OR {diploma} OR {advanced degree} OR {school leaver} OR {school leavers} OR {school drop out} OR {school dropout} OR {student drop out} OR {student dropout})) OR (TITLE-ABS ({uneducated} OR {poorly educated} OR {undereducated} OR {under educated} OR {non graduate} OR {non graduates} OR {nongraduate} OR {nongraduates})) OR (AUTHKEY ({uneducated} OR {poorly educated} OR {undereducated} OR {under educated} OR {non graduate} OR {non graduates} OR {nongraduate} OR {nongraduates})) OR (TITLE-ABS (({entering} OR {entry}) W/2 ({upper-secondary} OR {tertiary education} OR {university} OR {advanced} OR {advanced degree} OR {continuing education} OR {vocational education}))) OR (AUTHKEY (({entering} OR {entry}) W/2 ({upper-secondary} OR {tertiary education} OR {university} OR {advanced} OR {advanced degree} OR {continuing education} OR {vocational education}))) OR ((TITLE ({emotional development} OR {emotional adjustment} OR {anxiety} OR {social development} OR {interpersonal competence}) OR ABS ({emotional development} OR {emotional adjustment} OR {anxiety} OR {social development} OR {interpersonal competence}))) OR (AUTHKEY ({emotional development} OR {emotional adjustment} OR {anxiety} OR {social development} OR {interpersonal competence})) OR (TITLE-ABS (({emotional} OR {social}) W/1 ({development} * OR {adjustment}))) OR (AUTHKEY (({emotional} OR {social}) W/1 ({development} * OR {adjustment}))) OR (TITLE-ABS (({learning} OR {computer}) PRE/1 ({anxiety} OR {anxious}))) OR (AUTHKEY (({learning} OR {computer}) PRE/1 ({anxiety} OR {anxious}))) OR (TITLE-ABS ({student motivation} OR {student's motivation} OR {student behavior} OR {student's behavior} OR {student behaviour} OR {student attitudes} OR {student's attitudes} OR {learner engagement} OR {learning engagement} OR {self motivation} OR {learner motivation} OR {learning motivation} OR {affective behavior} OR {affective behaviour} OR {achievement emotion} OR {self concept} OR {self efficacy} OR {self esteem} OR {self confidence} OR {sense of community} OR {sense of belonging} OR {prosocial behavior} OR {prosocial behaviour})) OR (AUTHKEY ({student motivation} OR {student's motivation} OR {student behavior} OR {student's behavior} OR {student behaviour} OR {student attitudes} OR {student's attitudes} OR {learner engagement} OR {learning engagement} OR {self motivation} OR {learner motivation} OR {learning motivation} OR {affective behavior} OR {affective behaviour} OR {achievement emotion} OR {self concept} OR {self efficacy} OR {self esteem} OR {self confidence} OR {sense of community} OR {sense of belonging} OR {prosocial behavior} OR {prosocial behaviour})) OR (TITLE-ABS ({community} W/1 ({cohesion} OR {participation}))) OR (AUTHKEY ({community} W/1 ({cohesion} OR {participation}))) OR (TITLE-ABS ({problem solving} OR {critical thinking} OR {critical literacy} OR {thinking skills} OR {cognitive skills} OR

{computation} OR {entrepreneurship} OR {citizenship} OR {cultural awareness} OR {cultural understanding} OR {cultural expression})) OR (AUTHKEY ({problem solving} OR {critical thinking} OR {critical literacy} OR {thinking skills} OR {cognitive skills} OR {computation} OR {entrepreneurship} OR {citizenship} OR {cultural awareness} OR {cultural understanding} OR {cultural expression})) OR ((AUTHKEY ({socioemotional} OR {socio-emotional} OR {prosocial} OR {pro-social} OR {interpersonal} OR {relational}) AND AUTHKEY ({behavior} OR {behaviour} OR {skill} OR {skills} OR {competency} OR {competencies} OR {competent} OR {ability} OR {abilities}))) OR (AUTHKEY ({social} W/1 {emotional})))

1,700,454

5

1 AND 2 AND 3 AND 4

6

(TITLE-ABS-KEY (({k-12} OR {k 12} OR {k12}) W/2 ({attainment} OR {achievement} OR {success} OR {outcome}))) OR (AUTHKEY (({k-12} OR {k 12} OR {k12}) W/2 ({attainment} OR {achievement} OR {success} OR {outcome})))

TITLE-ABS-KEY (({k-12} OR {k 12} OR {k12}) W/2 ({attainment} OR {achievement} OR {success} OR {outcome}))

105

7

5 OR 6

4363

8

(TITLE-ABS-KEY ({longitudinal}) OR AUTHKEY ({longitudinal})) OR (TITLE-ABS-KEY ({long} W/1 {term}) OR AUTHKEY ({long} W/1 {term})) OR (TITLE-ABS-KEY ({cohort}) OR AUTHKEY ({cohort})) OR (TITLE-ABS (({follow up} OR {followup} OR {follow-up} OR {retrospective} OR {population}) PRE/2 ({study} OR {studies} OR {design} OR {analysis} OR {analyses} OR {data}))) OR (AUTHKEY (({follow up} OR {followup} OR {follow-up} OR {retrospective} OR {population}) PRE/2 ({study} OR {studies} OR {design} OR {analysis} OR {analyses} OR {data}))) OR (TITLE-ABS ({trend analysis} OR {trend study} OR {panel design} OR {panel data} OR {time series} OR {time sequence} OR {time sequential} OR {synthetic control} OR {cohort-sequential} OR {cross sequential} OR {ambulatory assessment} OR {survival analysis} OR {hazard model} OR {hazard modeling} OR {fixed effect} OR {fixed effects} OR {mixed effect} OR {mixed effects} OR {growth curve model} OR {growth curve} OR {latent growth} OR {random intercept} OR {Arellano-Bond estimator} OR {Matthew effect} OR {Matthew-effect} OR {Robin Hood effect} OR {cross-lagged})) OR (AUTHKEY ({trend analysis} OR {trend study} OR {panel design} OR {panel

data} OR {time series} OR {time sequence} OR {time sequential} OR {synthetic control} OR {cohort-sequential} OR {cross sequential} OR {ambulatory assessment} OR {survival analysis} OR {hazard model} OR {hazard modeling} OR {fixed effect} OR {fixed effects} OR {mixed effect} OR {mixed effects} OR {growth curve model} OR {growth curve} OR {latent growth} OR {random intercept} OR {Arellano-Bond estimator} OR {Matthew effect} OR {Matthew-effect} OR {Robin Hood effect} OR {cross-lagged}))

4,747,900

7 AND 8

883

RePEc/IDEAS

Search: Articles

In: Whole record

Sort by: Relevance

((academic | education | educational | K12 | K-12 | K 12) AND (achievement | achieving | attainment | opportunity | opportunities)) AND (inequality | inequalities | inequity | equal | unequal | egalitarian | gap | gaps | disparity | disparities | discrepancy | discrepancies)

584

Appendix B: Data Extraction Protocol

Basic Bibliographic Information			
Variable	**Question**	**Category**	**Description**
Study ID	Please register the Covidence number code (e.g., 2656. Please only include the numbers without the "#")		
Title	Research article title		
Type of Document	Document classification (Select one category)	*Scientific Article* *White paper* *Policy Report* *Institutional Report* *Working papers* *Other*	
Journal Field	What is the discipline of the journal? (Choose a category, please use the subject category reported in Scimago: https://www.scimagojr.com/)	*Economics and Econometrics* *Education* *Genetics* *Health (Social Science)* *Linguistics and Language* *Psychology* *Sociology and Political Science* *Speech and Hearing* *Statistics and Probability* *Other*	
Keywords	Keywords listed by the authors (Please enter only one keyword per row)		

Authorship Details			
Variable	**Question**	**Category**	**Description**
Author Affiliations	Institutions or organizations where the corresponding author is based (if multiple; please enter one affiliation per row. Enter only university information. For international reports please report the institutional affiliation: e.g., OECD)		
Country of Origin	In which country is the corresponding author's institution located? (Please use the information provided by the corresponding author(s)). Enter the ISO code (see https://en.wikipedia.org/wiki/ISO_3166-1_alpha-3). If more than one country, please use ";" as a separator. For institutional reports, e.g. OECD, please indicate the country where the report was written.		

Subject and Content Data			
Variable	**Question**	**Category**	**Description**
Study Inequality	What type of inequality is studied in the paper (multiple categories allowed)	*SES inequality*	Studies studying educational inequalities based on socioeconomic status
		Ethnic inequality	Studies studying educational inequalities based on ethic background
		Gender inequality	Studies studying educational inequalities based on gender
		Geographical inequality	Studies studying educational inequalities based on geographical status
		Intersectional inequality	Studies studying educational inequalities based on multiple dimensions (e.g., girls from low-ses)
		Other	
Aim/Study Purpose	What is the purpose of the study? (multiple categories allowed)	*Descriptive*	To describe the extent and nature of educational inequalities among different social groups over time (e.g., by race, gender, socioeconomic status).
		Causal Relationships and mechanisms	To identify and analyze the factors that contribute to educational inequalities.
		Comparative Analysis	To compare educational inequalities across different contexts, such as countries, states, or school systems.
		Intervention Efficacy	To assess the effectiveness of policies or programs designed to reduce educational inequalities.
		Local Contexts	To investigate educational inequalities in specific local contexts or communities.
		Institutional Analysis	To examine how different types of educational institutions contribute to or mitigate inequalities
		Associational Study	To identify variables predicting educational inequalities without the aim to establish causation
		Other	
Analytic Level	At what level of analysis are the data comparable over time as reported by the study authors? (multiple categories allowed)	*Country*	
		State	
		Province / County / etc.	
		School	
		Classroom	
		Students	

Study Population/Sample			
Variable	**Question**	**Category**	**Description**
Data Source	Specific datasets or databases used for the study (e.g. national databases, school records). If the dataset is a national database, please select the appropriate option and provide the name in the 'other' field.	*Programme for International Student Assessment (PISA)* *Trends in International Mathematics and Science Study (TIMSS)* *International Computer and Information Literacy Study (ICILS)* *Progress in International Reading Literacy Study (PIRLS)* *International Civic and Citizenship Education Study (ICCS)* *Programme for the International Assessment of Adult Competencies (PIAAC)* *Teaching and Learning International Survey (TALIS)* *Responses to Educational Disruption Survey (REDS)* *Programme d'analyse des systèmes éducatifs de la CONFEMEN (PASEC)* *Panel d'Élèves du Second Degré (Panel of Secondary Students)* *German National Educational Panel Study (NEPS)* *National Child Development Study, UK (NCDS)* *British Cohort Study (BCS)* *Next Steps, UK (NS)* *Millennium Cohort Study, UK (MCS)* *COVID Social Mobility & Opportunities Study, UK (COSMO)* *Hungarian Educational Longitudinal Program (HELP)* *Czech Longitudinal Study in Education (CLoSE)* *Finnish Educational Transitions Studies (FinEdu)* *Longitudinal Study of the Second Generation in Spain (ILSEG)* *Danish Longitudinal Survey of Children (DALSC)* *Swiss Longitudinal Study of Children and Youth (COCON)* *Evaluation Through Follow-up, SWE (UGU)* *Census/register data* *Researcher generated/collected (Specify in "Other")* *National assessments (specify in "Other")* *Other*	

Variable	Question	Category	Description
Sample country	The specific country or countries from which the sample in the study was drawn (Please enter the ISO codes https://en.wikipedia.org/wiki/ISO_3166-1_alpha-3). If multiple countries, please enter one country per row.		
Sampling method	What sampling strategy was used to collect the data analysed in the study? (Select one category) (Heeringa, et al., 2017: https://www.routledge.com/Applied-Survey-Data-Analysis/Heeringa-West-Berglund/p/book/9780367736118?srsltid=AfmBOoq021yagMJbIHuYG1ZgDs6magLq8vDYomo9Zrk4t7QpxX9NToGi)	*Convenience Sampling*	Participants are selected based on their availability and willingness to participate, not randomly.
		Volunter Sampling	Participants are self-selected as part of the sample, often in response to an open invitation.
		Simple random sampling	Selection of participants is completely random, allowing each individual an equal chance of being included.
		Stratified random sampling	The population is divided into subgroups (strata) based on specific characteristics (e.g., age, ethnicity), and participants are randomly selected from each stratum.
		One-Stage Cluster Sampling	In one-stage cluster sampling, the entire population is divided into clusters, often based on a natural grouping like geographical location or schools. Instead of sampling individuals within each cluster, entire clusters are randomly selected, and all individuals within these selected clusters are included in the study.
		Two-stage Cluster Sampling	Two-stage cluster sampling involves a more nuanced approach. In the first stage, clusters are randomly selected as in one-stage cluster sampling. In the second stage, a random sample of individuals is selected within each of the chosen clusters.
		Whole population	Typically for studies that use register data or national assessments
		Not reported	
		Other	

Variable	Question	Category	Description
Educational level	What range of educational levels is represented in the data analyzed in the study? (Please see https://en.wikipedia.org/wiki/International_Standard_Classification_of_Education Multiple categories). Select all applicable categories.	*ISCED 0: Early childhood education ('less than primary' for educational attainment)* *ISCED 1: Primary education* *ISCED 2: Lower secondary education* *ISCED 3: Upper secondary education* *ISCED 4: Post-secondary non-tertiary education* *ISCED 5: Short-cycle tertiary education* *ISCED 6: Bachelor's or equivalent level* *ISCED 7: Master's or equivalent level* *ISCED 8: Doctoral or equivalent leve* *Not reported*	
Year of Initial Data Collection	What was the year of the first measurement point? (Please enter information using numbers: e.g., 2013)	*The year in which the first round of data collection began.*	
Last year of data collection	What was the year of the last measurement? (Please enter information using numbers: e.g., 2013)	*The last year in which the data collection ended*	

Variable	Question	Category	Description
Number of Time Points	What is the total number of different data collection points during the study? (Please enter information using only whole numbers e.g., 5 instead of "five data points")		
Time Interval	What is the average time interval between each consecutive data collection point? Please enter information in months using only whole numbers, e.g. 18 instead of "1.6 years".		
Sample size T1	Please extract information on the analytical sample size (Please enter information using only whole numbers without commas e.g. 3546 instead of "3.546")		
Sample size T2	Please extract information on the analytical sample size (Please enter information using only whole numbers without commas e.g. 3546 instead of "3.546")		
Sample Age Report	Does the study report the age of the sample?	*Yes* *No*	
Sample Age T1	The average age of the sample at the first and last point of measurement (Please enter information in months). Enter "NA" if not reported.	*Average age of the sample at the first point of measurement (enter information using numbers in months e.g., "18" for 1.6 years)* *Not reported*	
Sample Age T2	The average age of the sample at the first and last point of measurement (Please enter information in months). Enter "NA" if not reported.	*Average age of the sample at the first point of measurement (enter information using numbers in months e.g., "18" for 1.6 years)* *Not reported*	

Study Design			
Variable	**Question**	**Category**	**Description**
Longitudinal Design	What type of longitudinal design (e.g., panel, cohort, or case study) was used in the study? (Select one category)	*Panel / Repeated Measures Design*	The same participants are surveyed or assessed multiple times over a specific period, allowing for tracking changes in the same individuals.
		Cohort-sequential design	Combines cross-sectional and longitudinal approaches, studying multiple age groups at one point in time and following them over time. For instance, a researcher studying the age range between 5 and 15 years, with the first data collection in 2025, will study the cohort born in 2020 and the cohort born in 2025. It is important to note that both cohorts cover the 10-year age range between 5 and 15 years. However, this requires a longitudinal study spanning 15 years, with measurement occasions in 2025, 2030, 2035, and 2040
		Cross-sequential design	A cross-sequential design combines multiple longitudinal studies with different cohorts to emulate a single longitudinal study across a long period. For example, a researcher interested in change between 5 and 15 years of age but only with time and funding for a 5-year study may decide to start the study with 5- and 10-year-old participants in 2025 (the 2020 and 2015 cohort) and reassess them 5 years later in 2030 (Voelkle & Hecht, 2017).
		Time-sequential design	In this design, people of different ages (different cohorts) are repeatedly observed. Sequential studies help investigate how social change or policy interventions impact different generations. It is important to note that a defining feature of a time-sequential design is that at least some of the individuals (cohort 1990 and 1995) are repeatedly assessed over time (Voelkle & Hecht, 2017).
		Trend studies	Different samples from the same population are surveyed or assessed at different points in time, but not necessarily the same individuals, to observe changes in the population's characteristics.
		Time series designs	Longitudinal panel studies typically focus on identifying average effects that apply to the entire population, either within or between people. However, there are instances where the population of interest consists of only a single individual or a small group of individuals who are measured at several time points (large T, small N). Time series design implies continuous monitoring or a behavioral, psychological, or physical response (Voelkle & Hecht, 2017)..
		Retrospective Design	In retrospective designs, data is collected after the event has occurred. For instance, instead of evaluating students' yearly educational progress by recording their final grades every year through a single-cohort longitudinal design, one could wait until the cohort being considered has graduated from school and request their school records (Voelkle & Hecht, 2017).
		Other	

Variable	Question	Category	Description
Data Collection Methods	What data collection methods were used for the study? (Multiple categories allowed)	*Standardized Tests/Assessments*	Administering standardized academic assessments (e.g., math, reading, science) to measure student performance over time.
		Surveys/Questionnaires	Collecting self-reported or parent/teacher-reported data on various educational, socio-emotional, or demographic variables.
		Interviews	Conducting structured, semi-structured, or unstructured interviews with students, parents, or teachers to gather in-depth qualitative data.
		Administrative Records	Using data from school or government records (e.g., attendance, graduation rates, test scores) to track educational outcomes over time.
		Observational Methods	Observing classroom environments, teacher-student interactions, or student behaviors to collect data on engagement, learning processes, or socio-emotional skills.
		Psychometric Tests	Administering cognitive, socio-emotional, or psychological assessments (e.g., intelligence tests, behavioral checklists) to measure underlying traits or abilities.
		School Reports/Teacher Evaluations	Collecting data from teachers' assessments of students' academic performance, behavior, or progress reports over time.
		Focus Groups	Gathering data from group discussions with students, parents, or educators to explore attitudes and experiences related to educational inequality.
		Log Data/Digital Tracking	Collecting data from digital platforms used in learning (e.g., online quizzes, homework submissions) to measure engagement, progress, or learning patterns.
		Parental Reports	Collecting data from parents or guardians on their children's educational experiences, home environment, and socio-emotional development.
		Peer/Social Network Analysis	Collecting data on students' social networks and peer interactions to assess how these relationships impact educational outcomes.
		Test Scores from National/State Exams	Using results from large-scale national or state exams as data points in the study.
		Secondary Data Analysis	Analyzing data from existing datasets (e.g., longitudinal cohort studies, national surveys) to investigate research questions without direct data collection.
		Other	
		Not reported	

Variable	Question	Category	Description
Time-varying outcome(s)	What types of outcomes or effect sizes were measured at different time points? If multiple, please use a ';' as a separator. This variable is only intended to capture which specific outcome variable(s) were measured over time (i.e. are time-varying). For example, if a study tracks student achievement over time and then examines gender differences in this trajectory, student achievement would be coded here. For studies where educational attainment is only measured at the end of the study, this variable would not be coded. E.g. T1: SES, T2: executive functions and T3: Educational attainment.	*Other* *Not applicable*	For studies that do not measure the outcome of interest over multiple time points.
Missing Data Management	What statistical approach was used to deal with missing data? (Multiple categories allowed)	*No attrition / no missing data* *No technique applied (missing data ignored)* *Listwise deletion (removing cases with missing values)* *Pairwise deletion (available-case analysis, e.g. pairwise correlation)* *Single imputation* *Multiple Imputation* *Full information maximum likelihood* *Weighting adjustments for missing data* *Sensitivity analysis for missing data* *Not reported* *Other*	

Variable	Question	Category	Description
Statistical Techniques	What statistical approach did this study use to examine educational inequalities? (Multiple answers allowed). Please specify the statistical technique used in the field "other"	*Descriptive Statistics*	Frequency Analysis Measures of Central Tendency Skewness and Kurtosis Measures of Dispersion Correlational Analysis Time Series Plots Time Trend Estimates ...
		Simple Hypotesis Tests	t-tests or z-test Wilcoxon Rank-Sum Test, Mann-Whitney U Test or Sign Test Chi-Square Tests Fisher's exact test McNemar's Test G-test, Likelihood Ratio Test, or Log-likelihood Ratio Test ANOVA or MANOVA Kruskal-Wallis Test Variance tests (F-test, Levine's test, Barlett's test, etc.) Brown-Forsythe Test Shapiro-Wilk Test Kolmogorov-Smirnov Test Log-rank Test ...
		Regression Techniques	Linear regression Logistic regession Probit Tobit Poisson regression or Negative binomial regression Ordered regression model Multinomial regression model Quantile-regression Group-level hierarchical models Individual-level hierarchical models Fixed effects models Random effect models Quasi-fixed effects / Correlated random effects models Survival- or hazard models Two stage least squares / Insturmental variable (IV) regression ...
		Structural Equation Models	Latent class analysis Multigroup SEM

			Cross-lagged panel models Path analysis Growth curve models Latent state-trait models Latent Growth Mixture Modeling Multilevel Structural Equation Modeling Covariate Balanced SEM ...
		Dimesional reduction methods	Principal Component Analysis (PCA) Independent Component Analysis (ICA) Factor Analysis CFA
		Clustering methods	K-means clustering Hierarchical clustering Bayesian nonparametric clustering (e.g. MAP-DP) ...
		Other	
Longitudinal Data Analyses	How does the study use the longitudinal data set?	*Tracking Changes Over Time*	The study compares outcomes across different cohorts or time periods, looking at how inequalities change across multiple cohorts (e.g., cohort-sequential design).
		Growth Trajectories	The study models individual growth curves or developmental trajectories (e.g., academic progress, socio-emotional skills) across time.
		Lagged Effects	The methodology investigates lagged effects, where past values of a variable (e.g., SES at time point 1) predict future outcomes (e.g., academic achievement at time point 2).
		Time Series Analysis	The study uses time series or event history analyses, exploiting the sequential order of events or changes (e.g., when educational inequalities emerge or when key interventions take place).
		Use of Repeated Measures Designs	The study involves the same individuals or groups assessed at multiple points in time to evaluate within-person or within-group changes (e.g. fixed effects regressions, multilevel models).
		Survival or Hazard Modeling for Event Timing	The study focuses on the timing of specific events or transitions (e.g., dropping out of school), analyzing the probability of these events occurring at various time points.
		Other	

Categories and Indicators of Inequalities			
Variable	**Question**	**Category**	**Description**
SES Indicators	What indicators were used to measure SES (multiple categories allowed)?	*Income* *Parental education* *Parental occupational status* *Free or reduced-price lunch (FRPL)* *Books at home* *Household posessions (other than books, e.g. cars, computers)* *Access to resources (e.g., internet, extracurricular activities)* *Subjective SES measures (e.g. self-reported social status)* *Not reported* *Not applicable* *Other*	For studies that does not focus on investigating SES inequalities

Variable	Question	Category	Description
Immigration Status Indicators	What indicators have been used to measure immigration status? (multiple categories allowed)	*Immigrant generation*	First-Generation: Individuals born outside the country of study and migrated to the country. Second-Generation: Individuals born in the country of study, but with at least one parent who was born outside the country. Third or Higher Generation: Individuals born in the country, with parents and possibly grandparents also born in the country, often compared to more recent immigrant generations.
		Legal Status	Documented Immigrants: Individuals with legal residence or citizenship status. Undocumented/Irregular Immigrants: Individuals residing in the country without official documentation or legal status. Refugees/Asylum Seekers: Individuals granted refugee or asylum status due to persecution or conflict in their home country.
		Age at Immigration	Early Childhood Immigrants: Individuals who migrated before starting school or during early schooling (e.g., before age 5 or 7). School-Age Immigrants: Individuals who migrated during their school years (e.g., elementary, middle, or high school). Late Adolescence/Early Adulthood Immigrants: Individuals who migrated in late adolescence or just before post-secondary education.
		Reason for Immigration	Economic Migrants: Individuals who migrated due to employment or economic opportunities. Family Reunification: Individuals who migrated to join family members already living in the country. Educational Migrants: Individuals who migrated specifically for educational opportunities. Forced Migrants (e.g., Refugees): Individuals who migrated due to war, conflict, or persecution.
		Length of Stay in Host Country	Recent Immigrants: Individuals who have been in the country for a short period (e.g., less than 5 years). Established Immigrants: Individuals who have resided in the country for a longer period (e.g., 5+ years). Naturalized Citizens: Individuals who have lived in the country long enough to gain citizenship.
		Language Proficiency	Non-native Speakers: Individuals whose primary language is different from the language of instruction in the host country. Limited Language Proficiency: Individuals who have limited proficiency in the host country's language. Bilingual/Multilingual: Individuals who speak multiple languages, including the language of instruction in the host country.
		Migration	This category includes studies that examine the educational impacts of students' migration within a country
		Not reported *Not applicable* *Other*	For studies that does not focus on investigating immigration status

Variable	Question	Category	Description
Ethnicity/Race Indicators	What specific ethnic or racial groups were represented in the data analyzed in the study? (List all applicable groups)	*African/Black*	African American (USA); Afro-Caribbean; Sub-Saharan African
		Hispanic/Latino	Mexican; Puerto Rican; Cuban; Central or South American (e.g., Ecuatorian, Brazilian)
		White/Caucasian	European Descent; Non-hispanic white
		Asian	East Asian (E.g., Chinese, Japanese, Korean); Southeast Asian (Vietnamese, Filipino, Thai); South Asian (Indian; Pakistani)
		Indigenous/Native	Native American/First Nations (North America); Aboriginal or Torres Strait Islander (Australia); Indigenous peoples of South America (e.g., Quechua, Aymara)
		Middle Eastern / North African (MENA)	Arab (e.g., Lebanese, Egyptian, Jordanian); North African (e.g., Moroccan, Algerian); Persian (e.g., Iranian)
		Pacific Islanders	Native Hawaiian; Samoan; Tongan; Other Pacific Islanders (e.g., Fijian)
		Multiracial or Mixed Ethnicities	Individuals identifying with more than one ethnicity (e.g., biracial, multiracial)
		Roma/Sinti	Roma (Romani or "Gypsy") populations in Europe
		Other Ethnicities Specific to Geographic Regions	Indigenous populations in specific countries (e.g., Maori in New Zealand); Ethnic minorities in Europe (e.g., Turkish in Germany, Polish in the UK)
		Not reported	
		Not applicable	For studies that do not focus on ethnic inequalities
		Other	
Geographic Inequality Causes	What are the reported causes or mechanisms underlying the educational inequalities by geographical location identified in the study?	*Resource availability*	E.g., Access to educational materials and technology; Availability of qualified teachers and educational support staff; Infrastructure quality, such as school buildings and facilities.
		Socioeconomic Factors	E.g., Economic disparities affecting access to educational opportunities; Employment rates and types of employment available to families; Community wealth and investment in local education.
		Cultural and Social Capital	E.g., Community values regarding education; Parental involvement and support for education; Social networks that influence educational aspirations and support
		Policy and Governance	E.g., Local and regional educational policies; Funding allocation and educational governance; Policy effectiveness and implementation issues.
		Environmental Factors	E.g., Geographic isolation or connectivity.
		Health and Well-being	E.g., Access to healthcare and its impact on student attendance and performance; Nutritional factors affecting cognitive and physical development.
		Infrastructure	E.g., Availability of transportation to and from school, accessibility of school buildings.
		Labor Market and Economic Opportunities	E.g., Availability of jobs in the area for parents, or altenative jobs for teaching professionals
		Not reported	
		Not applicable	For studies that do not focus on geographic inequalities
		Other	

Variable	Question	Category	Description
Interactions studied	What interactions were studied? (Please note that papers examining intersections should report interaction terms between social categories) Multiple categories allowed.	*SES and Gender Intersection* *SES and Ethnicity Intersection* *SES and Geographical region* *Gender and Ethnicity Intersection* *Gender and Geographical region* *Geographical Region and Ethnicity Intersection* *SES, Gender, and Ethnicity Intersection* *SES, Gender, and Geographical Region Intersection* *SES, Ethnicity, and Geographical Region Intersection* *Gender, Ethnicity, and Geographical Region Intersection* *Full Intersection (SES, Gender, Ethnicity, and Geographical Region)* *Not applicable* *Other*	

Educational Outcomes Investigated			
Variable	**Question**	**Category**	**Description**
Academic Area	Does the study assess academic achievement? If so, in what specific areas (e.g. reading, writing, mathematics, science)?	*Reading /Literacy*	Basic Reading Skills: Assessments of phonics, decoding, and basic reading comprehension. Advanced Reading Comprehension: Ability to understand and analyze more complex texts. Literacy Development: Broader measures of literacy, including fluency and vocabulary development.
		Writing	Basic Writing Skills: Assessments of spelling, grammar, and sentence construction. Written Expression: Evaluating the ability to organize thoughts and ideas in writing (e.g., essays, narratives). Mechanics of Writing: Spelling, punctuation, and syntax assessments.
		Mathematics	
		Science	General Science Knowledge: Assessing understanding of basic scientific facts and principles (e.g., biology, chemistry, physics). Scientific Inquiry/Method: Skills in designing experiments, hypothesizing, and drawing conclusions. STEM Competence: Broader assessments that include technology, engineering, and math within a science context.
		Language Development	Second-Language Acquisition: Competence in reading and writing in a second language. Language Arts: Broader skills that encompass grammar, vocabulary, and language use.
		Social Studies	History, geography civics, social sciences
		Arts and Humanities	Literature, Music, Art
		Problem-solving	Collaborative problem-solving
		Critical thinking	
		Technology/Computer Literacy	Basic Computer Skills: Assessments of digital literacy, such as typing, using software, or navigating the internet. Advanced Technology Skills: Competence in programming, coding, or using digital tools for learning and problem-solving. Information Literacy: Ability to locate, evaluate, and use digital information effectively.
		Cognitive/Intellectual Development	Memory and Recall: Assessments that test short-term and long-term memory retention of academic information. Executive Function: Skills related to planning, organization, task management, and self-regulation, particularly in learning environments. Metacognitive Skills: Assessments focusing on self-awareness of learning processes, such as the ability to evaluate and adjust learning strategies.
		Physical Education and Health	Physical Competence: Assessments related to motor skills, physical fitness, or health knowledge. Health Literacy: Understanding of health-related information (e.g., nutrition, physical well-being) and how it applies to personal health decisions.
		Financial Literacy	Basic Financial Knowledge: Understanding of money management, budgeting, saving, and investing. Economics Competence: Broader economic knowledge, including micro and macroeconomic concepts as they relate to personal finance or broader societal issues.

		Cultural awareness and expression	Multicultural Knowledge: Understanding of different cultures and their contributions, particularly in history or social studies Global Awareness: Knowledge of global issues, international relations, or the interconnectedness of societies.
		Entrepreneurship	
		Not applicable	For studies that do not consider academic competence as the outcome of interest
		Other	
Socio-emotional Skills	Does the study report on socio-emotional skills? If so, which specific area? (Use the option "other" to write down the area(s) as reported by the study authors. If there is more than one, use the ';' as a separator).	*Not applicable* *Other*	For studies that do not include socio-emotional skills as an outcome of interest Specify the area as reported by the study authors
Educational Attainment	Does the study report on educational attainment at the high school level?	*Yes* *No*	
Life-outcomes	Does the study analyse labour market or other non-educational outcomes for adults?	*Yes* *No*	

Variable	Question	Category	Description
Stakes of testing assessment	What are the stakes for students taking the test? (Multiple options allowed)	*Lowstake test*	Research organized testing
			Mid-stages test
			Midsemester test
			Final test at the end of each school year tern
			Other
		High-stakes test	Senior high school entrance examination
			College entrance examination
			Other
		Not applicable	
Comparability of the outcome measure over time	Have the authors provided evidence of statistical comparability of the outcome measure over time? (Yes/No) (measurement invariance, standardised across time points)	*Yes*	
		No	
		Not applicable	For cases where the outcome measure was not evaluated through an assessment
Reported Reliability	Do the authors report reliability estimates for the outcome of interest? (Yes/No)	*Yes*	
		No	
		Not applicable	For cases where the outcome measure was not evaluated through an assessment
Reliability test	Do the authors test reliability themselves? (Yes/No)	*Yes*	
		No	
		Not applicable	For cases where the outcome measure was not evaluated through an assessment

Findings			
Variable	**Question**	**Category**	**Description**
Key finding(s)	What are the main findings related to educational inequalities? (Please **extract** findings from the abstract).		
Intervention	Did the study look at the effect of a specific intervention to reduce educational inequalities? Please note that the intervention could be at the policy, school, classroom, teacher, instruction, family or student level. We would like to collect information here on any specific interventions that may have attempted to reduce educational inequalities between students from different social backgrounds.	*Yes (Please describe in other)* *No* *Other*	
Factors related to educational inequalities	Do the authors provide any **research questions** on the effect of any student, family, school, or system variable that may be related to the strength of the relationship between the social categories (Gender, SES, Ethnicity, Geography) and the educational outcome measures? If so, what were their conclusions? For example, parental expectations may be related to the gap in mathematics achievement between low and high-SES students.	*Yes (Please describe in other)* *No* *Other*	

Follow-up studies			
Variable	**Question**	**Category**	**Description**
Suitability for inclusion in our metadatabase	Does the study use information from longitudinal data that may be relevant for WP3?	*Yes* *No*	At least two measurements of the same learning outcomes of academic, skill acquisition, or knowledge development (e.g., mathematics, literacy, science, problem-solving, critical thinking). The measurements of learning outcomes for each single time-point (e.g. year 2010 or 2015) have been collected using the same or comparable instruments for all pupils in the data. This includes 1) equated tests (e.g. instruments that have been brought to the same scale using anchor items or other methods) or 2) age-group normative tests. At least two measurements of learning outcomes are from ISCED levels 1-2. A minimum interval of at least seven months within a school year between the main learning outcome measurements. The most recent measurement of the learning outcomes must be from 2010 or later. The dataset is based on a random sample of the target population. The random sample may be, for example, a simple random sample of pupils, a cluster sample of schools, or some other type of probability sample. OR The dataset covers the entire target population (individual missing pupils/schools are allowed). The dataset contains information on at least one of the following inequality factors: gender, special educational needs (SEN), ethnicity, migration history, language spoken at home, socioeconomic background, geographical location, residential area, school attended, school or class selection policies, privatisation, tracking, and inclusion practices. The dataset is by an organisation located in Finland, Norway, Sweden, Germany, Luxembourg, or Hungary. The authors of the dataset certify that ethical rules and laws were followed in the collection of the data.

Appendix C. References Included Studies

Agirdag, O., Driessen, G., & Merry, M. S. (2017). The Catholic School Advantage and Common School Effect Examined: A Comparison between Muslim Immigrant and Native Pupils in Flanders. *School Effectiveness and School Improvement*, *28*(1), 123–135.

Alcott, B. (2017). Might Progress Assessments Hinder Equitable Progress? Evidence from England. *Educational Assessment, Evaluation and Accountability*, *29*(3), 269–296.

Almquist, Y., Modin, B., & Ostberg, V. (2010). Childhood Social Status in Society and School: Implications for the Transition to Higher Levels of Education. *British Journal of Sociology of Education*, *31*(1), 31–45.

Anders, J., Cullinane, C., De Gennaro, A., Early, E., Holt-White, E., Montacute, R., Shao, X., & Yarde, J. (n.d.). Attainment and Assessment. Wave 1 Initial Findings—Briefing No. 7. COSMO: COVID Social Mobility & Opportunities Study. *Sutton Trust*.

Atlay, C., Tieben, N., Hillmert, S., & Fauth, B. (2019). Instructional quality and achievement inequality: How effective is teaching in closing the social achievement gap? *Learning and Instruction Vol 63, 2019, ArtID 101211*, *63*. https://dx.doi.org/10.1016/j.learninstruc.2019.05.008

Aucejo, E., & James, J. (2021). The path to college education: The role of math and verbal skills. *Journal of Political Economy*, *129*(10), 2905–2946. https://doi.org/10.1086/715417

Avvisati, F., & Givord, P. (2021). The Learning Gain over One School Year among 15-Year-Olds: An Analysis of PISA Data for Austria and Scotland (United Kingdom). OECD Education Working Papers, No. 249. *OECD Publishing*.

Baucal, A., Pavlovic-Babic, D., & Willms, J. D. (2006). Differential Selection into Secondary Schools in Serbia. *Prospects: Quarterly Review of Comparative Education*, *36*(4), 539–546.

Baumert, J., Nagy, G., & Lehmann, R. (2012). Cumulative advantages and the emergence of social and ethnic inequality: Matthew effects in reading and mathematics development within elementary schools? *Child Development*, *83*(4), 1347–1367. https://doi.org/10.1111/j.1467-8624.2012.01779.x

Baysu, G., Hillekens, J., Phalet, K., & Deaux, K. (2021). How Diversity Approaches Affect Ethnic Minority and Majority Adolescents: Teacher-Student Relationship Trajectories and School Outcomes. *Child Development*, *92*(1), 367–387.

Becker, M., Baumert, J., Tetzner, J., Maaz, K., & Koller, O. (2231). Childhood Intelligence, Family Background, and Gender as Drivers of Socioeconomic Success: The Mediating Role of Education. *Developmental Psychology*, *55*(10), 2231–2248.

Becker, M., & McElvany, N. (2018). The Interplay of Gender and Social Background: A Longitudinal Study of Interaction Effects in Reading Attitudes and Behaviour. *British Journal of Educational Psychology*, *88*(4), 529–549.

Becker, R. (2014). Reversal of Gender Differences in Educational Attainment: An Historical Analysis of the West German Case. *Educational Research*, *56*(2), 184–201.

Benson, L., Burge, B., Liht, J., & Mughogho, K. (n.d.). National Reference Test 2021: Factors Affecting Attainment—Research into Student and School Level Characteristics Associated with Changes in Performance during COVID-19 Disruption. *National Foundation for Educational Research*.

Bittmann, F. (2022). Investigating the co-development of academic competencies and educational aspirations in German primary education. *Frontiers in Education*, *7*. https://doi.org/10.3389/feduc.2022.923361

Bittmann, F., & Schindler, S. (2021). Analysing diversion processes in German secondary education: School-track effects on educational aspirations. *Kolner Zeitschrift Fur Soziologie Und Sozialpsychologie*, *73*(2), 231–257. https://doi.org/10.1007/s11577-021-00789-1

Blatchford, P. (1997). Pupils' self assessments of academic attainment at 7, 11 and 16 years: Effects of sex and ethnic group. *British Journal of Educational Psychology*, *67*(2), 169–184. https://doi.org/10.1111/j.2044-8279.1997.tb01235.x

Blossfeld, P. N., Blossfeld, G. J., & Blossfeld, H. P. (2015). Educational expansion and inequalities in educational opportunity: Long-term changes for East and West Germany. *European Sociological Review*, *31*(2), 144–160. https://doi.org/10.1093/esr/jcv017

Bodovski, K., Chykina, V., & Khavenson, T. (2019). Do Human and Cultural Capital Lenses Contribute to Our Understanding of Academic Success in Russia. *British Journal of Sociology of Education*, *40*(3), 393–409.

Bosker, R. J., & Dekkers, H. P. J. M. (1994). School Differences in Producing Gender-Related Subject Choices. *School Effectiveness and School Improvement*, *5*(2), 178–195. https://doi.org/10.1080/0924345940050204

Bowe, A. (2020). The Immigrant Paradox Among the UK's Adolescents: Data from the LSYPE 2004–2010 Project. *Journal of International Migration and Integration*, *21*(4), 1205–1224. https://doi.org/10.1007/s12134-019-00711-x

Burger, K. (2023). Revisiting the power of future expectations and educational path dependencies. *Advances in Life Course Research*, *58*. https://doi.org/10.1016/j.alcr.2023.100581

Busse, R., Michaelis, C., & Nennstiel, R. (2023). To What Extent Do Secondary Effects Shape Migrants' Educational Trajectories after Lower-Secondary Education? *Empirical Research in Vocational Education and Training*, *15*.

Camerini, A.-L., Schulz, P. J., & Jeannet, A.-M. (2018). The social inequalities of Internet access, its use, and the impact on children's academic performance: Evidence from a longitudinal study in Switzerland. *New Media & Society*, *20*(7), 2489–2508. https://dx.doi.org/10.1177/1461444817725918

Caro, D. H., & Lehmann, R. (2009). Achievement Inequalities in Hamburg Schools: How Do They Change as Students Get Older? *School Effectiveness and School Improvement*, *20*(4), 407–431.

Chmielewski, A. K. (2017). The Global Increase in the Socioeconomic Achievement Gap, 1964-2015. CEPA Working Paper No. 17-04. *Stanford Center for Education Policy Analysis*.

Chmielewski, A. K. (2018). Can We Close Gaps in Literacy by Social Background over the Life Course? Evidence from Synthetic 1950-1980 Birth Cohorts. OECD Education Working Papers, No. 178. *OECD Publishing*.

Choi, A., Gil, M., Mediavilla, M., & Valbuena, J. (2018). The evolution of educational inequalities in Spain: Dynamic evidence from repeated cross-sections. *Social Indicators Research*, *138*(3), 853–872. https://doi.org/10.1007/s11205-017-1701-6

Choi, A., & Jerrim, J. (2016). The Use (and Misuse) of PISA in Guiding Policy Reform: The Case of Spain. *Comparative Education*, *52*(2), 230–245.

Compagnoni, M., Rechsteiner, B., Grob, U., Bayer, N., Wullschleger, A., & Maag Merki, K. (2023). No Loss, No Gain? COVID-19 school closures and Swiss fifth-graders' competencies and self-concept in mathematics. *Zeitschrift Fur Padagogische Psychologie*. https://doi.org/10.1024/1010-0652/a000366

Connolly, P. (2006). The Effects of Social Class and Ethnicity on Gender Differences in GCSE Attainment: A Secondary Analysis of the Youth Cohort Study of England and Wales 1997-2001. *British Educational Research Journal*, *32*(1), 3–21.

Contini, D., Tommaso, M. L. D., & Mendolia, S. (2017). The gender gap in mathematics achievement: Evidence from Italian data. *Economics of Education Review*, *58*, 32–42. https://doi.org/10.1016/j.econedurev.2017.03.001

Cook, R., Rutt, S., & Sims, D. (2014). Deprivation in Education. Final Report. *National Foundation for Educational Research*.

Crawford, C., Macmillan, L., & Vignoles, A. (2017). When and Why Do Initially High-Achieving Poor Children Fall Behind? *Oxford Review of Education*, *43*(1), 88–108.

Dekkers, H. P. J. M., Bosker, R. J., & Driessen, G. W. J. M. (2000). Complex Inequalities of Educational Opportunities: A Large-Scale Longitudinal Study on the Relation between Gender, Social Class, Ethnicity, and School Success. *Educational Research and Evaluation*, *6*(1), 59–82.

Dobewall, H., Lindfors, P., Karvonen, S., Koivusilta, L., Vainikainen, M. P., Hotulainen, R., & Rimpelä, A. (2019). Health and educational aspirations in adolescence: A longitudinal study in Finland. *BMC Public Health*, *19*(1). https://doi.org/10.1186/s12889-019-7824-8

Dollmann, J., & Weißmann, M. (2020). The Story after Immigrants' Ambitious Educational Choices: Real Improvement or Back to Square One? *European Sociological Review*, *36*(1), 32–47. https://doi.org/10.1093/esr/jcz042

Duru-Bellat, M. (1996). Social Inequalities in French Secondary Schools: From Figures to Theories. *British Journal of Sociology of Education*, *17*(3), 341–350.

Emanuelsson, I., & Fischbein, S. (1987). Vive la Difference? A Study on Sex and Schooling. *Western European Education*, *19*(3), 31–49.

Equity in Education: Breaking down Barriers to Social Mobility. PISA. (2018). *OECD Publishing*.

Erdogdu, F. (9689). Potential Predictors of Student Attainment: A Longitudinal Study at Global Level. *Education and Information Technologies*, *27*(7), 9689–9711.

Ferrara, A. (2023). Aiming too high or scoring too low? Heterogeneous immigrant–native gaps in upper secondary enrollment and outcomes beyond the transition in France. *European Sociological Review*, *39*(3), 366–383. https://doi.org/10.1093/esr/jcac050

Figueiredo, S. (2020). Comparison of cognitive performance between two generations of immigrant school-aged children: Child development change over time. *Journal of Cognitive Education and Psychology*, *19*(2), 120–140. https://dx.doi.org/10.1891/JCEP-D-18-00033

Fischer, J. P., & Thierry, X. (2022). Boy's math performance, compared to girls', jumps at age 6 (in the ELFE's data at least). *British Journal of Developmental Psychology*, *40*(4), 504–519. https://doi.org/10.1111/bjdp.12423

Forster, A. G., & Van De Werfhorst, H. G. (2020). Navigating Institutions: Parents' Knowledge of the Educational System and Students' Success in Education. *European Sociological Review*, *36*(1), 48–64. https://doi.org/10.1093/esr/jcz049

Forster, N., Forthmann, B., Back, M. D., & Souvignier, E. (2023). Effects of the COVID-19 Pandemic on Reading Performance of Second Grade Children in Germany. *Reading and Writing: An Interdisciplinary Journal*, *36*(2), 289–315.

Francis, B., Craig, N., Hodgen, J., Taylor, B., Tereshchenko, A., Connolly, P., & Archer, L. (2020). The Impact of Tracking by Attainment on Pupil Self-Confidence over Time: Demonstrating the Accumulative Impact of Self-Fulfilling Prophecy. *British Journal of Sociology of Education*, *41*(5), 626–642.

Gayle, V., Murray, S., & Connelly, R. (2016). Young people and school General Certificate of Secondary Education attainment: Looking for the 'missing middle.' *British Journal of Sociology of Education*, *37*(3), 350–370. https://doi.org/10.1080/01425692.2014.935292

Gestsdottir, S., von Suchodoletz, A., Wanless, S. B., Hubert, B., Guimard, P., Birgisdottir, F., Gunzenhauser, C., & McClelland, M. (2014). Early Behavioral Self-Regulation, Academic Achievement, and Gender: Longitudinal Findings from France, Germany, and Iceland. *Applied Developmental Science*, *18*(2), 90–109.

Geven, S., & Forster, A. G. (2021). The adaptation of educational expectations in response to ability tracking: Variations by migration background. *The British Journal of Sociology*, *72*(5), 1284–1310. https://doi.org/10.1111/1468-4446.12886

Gil-Hernandez, C. J. (2019). Do Well-Off Families Compensate for Low Cognitive Ability? Evidence on Social Inequality in Early Schooling from a Twin Study. *Sociology of Education*, *92*(2), 150–175.

Gil-Hernandez, C. J. (2021). The (unequal) interplay between cognitive and noncognitive skills in early educational attainment. *American Behavioral Scientist*, *65*(11), 1577–1598. https://doi.org/10.1177/0002764221996764

Giota, J., & Bergh, D. (2021). Adolescent Academic, Social and Future Achievement Goal Orientations: Implications for Achievement by Gender and Parental Education. *Scandinavian Journal of Educational Research*, *65*(5), 831–850.

Gorard, S. (2023). Segregation and the attainment gap for permanently disadvantaged pupils in England. *Educational Review*, *75*(6), 1039–1062. https://doi.org/10.1080/00131911.2021.2007055

Gorard, S., & Siddiqui, N. (2019). How Trajectories of Disadvantage Help Explain School Attainment. *SAGE Open*, *9*(1). https://doi.org/10.1177/2158244018825171

Gorard, S., Siddiqui, N., & See, B. H. (2022). Assessing the impact of Pupil Premium funding on primary school segregation and attainment. *Research Papers in Education*, *37*(6), 992–1019. https://doi.org/10.1080/02671522.2021.1907775

Goulart, P., & Bedi, A. S. (2017). Interest in School and Educational Success in Portugal. *Journal of Educational Research*, *110*(6), 589–603.

Grisay, A. (1994). *Effective and Less Effective Junior Schools in France: A Longitudinal Study on the School Environment Variables Influencing the Student's Academic Achievement, Study Skills, and Socio-Affective Development* [Reports - Research].

Gromada, A., Rees, G., & Chzhen, Y. (2021). Comparing Inequality in Adolescents; Reading Achievement across 37 Countries and over Time: Outcomes versus Opportunities. *Compare: A Journal of Comparative and International Education*, *51*(4), 495–511.

Guez, A., Panaiotis, T., Peyre, H., & Ramus, F. (2018). Predictors of the IQ-achievement gap in France: A longitudinal analysis. *Intelligence*, *69*, 104–116. https://dx.doi.org/10.1016/j.intell.2018.05.008

Gunzenhauser, C., & von Suchodoletz, A. (2015). Boys Might Catch Up, Family Influences Continue: Influences on Behavioral Self-Regulation in Children from an Affluent Region in Germany before School Entry. *Early Education and Development*, *26*(5), 645–662.

Hammarström, M. (2004). *En högskola för alla? : Vägen dit för glesbygdens ungdomar*. Högskolan för lärande och kommunikation/Encell.

Hampden-Thompson, G., & Galindo, C. (2017). School-Family Relationships, School Satisfaction and the Academic Achievement of Young People. *Educational Review*, *69*(2), 248–265.

Haugan, T., & Myhr, A. (2019). Residential mobility, family structure, and completion of upper secondary education-A registry-based cohort study of the Norwegian adolescent population. *Frontiers in Psychology Vol 10, 2019, ArtID 2311*, *10*. https://doi.org/10.3389/fpsyg.2019.02311

Helbling, L. A., Tomasik, M. J., & Moser, U. (2019). Long-term trajectories of academic performance in the context of social disparities: Longitudinal findings from Switzerland. *Journal of Educational Psychology*, *111*(7), 1284–1299. https://doi.org/10.1037/edu0000341

Herrmann, S., Meissner, C., Nussbaumer, M., & Ditton, H. (2022). Matthew or Compensatory Effects? Factors That Influence the Math Literacy of Primary-School Children in Germany. *British Journal of Educational Psychology*, *92*(2).

Hornstra, L., van der Veen, I., Peetsma, T., & Volman, M. (2015). Innovative Learning and Developments in Motivation and Achievement in Upper Primary School. *Educational Psychology*, *35*(5), 598–633.

Hovdhaugen, E., Vandelannote, I., Merino Pareja, R., & Demanet, J. (2021). Moving On, Switching Gear or Staying Put: Tracking Social Inequality in Secondary School Pathways in Three European Cities. *European Education*, *53*(2), 90–107.

Hubner, N., Wille, E., Cambria, J., Oschatz, K., Nagengast, B., & Trautwein, U. (1009). Maximizing Gender Equality by Minimizing Course Choice Options? Effects of Obligatory Coursework in Math on Gender Differences in STEM. *Journal of Educational Psychology*, *109*(7), 993–1009.

Hutchings, M., Francis, B., & Kirby, P. (2015). Chain Effects 2015: The Impact of Academy Chains on Low-Income Students. *Sutton Trust*.

Jackson, M., Jonsson, J. O., & Rudolphi, F. (2012). Ethnic Inequality in Choice-Driven Education Systems: A Longitudinal Study of Performance and Choice in England and Sweden. *Sociology of Education*, *85*(2), 158–178.

Jansen, M., Becker, M., & Neumann, M. (2021). Dimensional Comparison Effects on (Gendered) Educational Choices. *Journal of Educational Psychology*, *113*(2), 330–350.

Jansson, A., Sundblad, G. B., Lundvall, S., & Norberg, J. R. (2024). Exploring the intersection between students' gender and migration background in relation to the equality of outcome in physical education in Sweden. *Sport, Education and Society*, *29*(1), 42–57. https://doi.org/10.1080/13573322.2022.2110862

Jerrim, J., & Sims, S. (2019). Why Do so Few Low- and Middle-Income Children Attend a Grammar School? New Evidence from the Millennium Cohort Study. *British Educational Research Journal*, *45*(3), 425–457.

Jerrim, J., Vignoles, A., Lingam, R., & Friend, A. (2015). The socioeconomic gradient in children's reading skills and the role of genetics. *British Educational Research Journal*, *41*(1), 6–29. https://dx.doi.org/10.1002/berj.3143

Kahler, J., Hahn, I., & Koller, O. (1988). The Development of Early Scientific Literacy Gaps in Kindergarten Children. *International Journal of Science Education*, *42*(12), 1988–2007.

Kahler, J., & Koller, O. (2024). Development of mathematical and reading competencies over seven years: Individual determinants and the role of the school type in lower secondary level. *Psychologie in Erziehung Und Unterricht*, *71*(2), 57–79.

Karakolidis, A., Duggan, A., Shiel, G., & Kiniry, J. (2021). Examining Educational Inequalities: Insights in the Context of Improved Mathematics Performance on National and International Assessments at Primary Level in Ireland. *Large Scale Assessments in Education*, *9*.

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. https://doi.org/10.1080/03054985.2023.2234287

Khattab, N., & Modood, T. (2018). Accounting for British Muslim's educational attainment: Gender differences and the impact of expectations. *British Journal of Sociology of Education*, *39*(2), 242–259. https://doi.org/10.1080/01425692.2017.1304203

Kindelberger, C., Safont-Mottay, C., Lannegrand-Willems, L., & Galharret, J.-M. (2020). Searching for autonomy before the transition to higher education: How do identity and self-determined academic motivation co-evolve? *Journal of Youth and Adolescence*, *49*(4), 881–894. https://doi.org/10.1007/s10964-019-01137-5

Kindt, M. T., Strømme, T. B., Lødding, B., & Pareja, R. M. (2023). Optimism trap? Educational aspirations and outcomes among students with immigrant backgrounds in Norway and Spain. *Scandinavian Journal of Educational Research*. https://doi.org/10.1080/00313831.2023.2287441

Köller, O., Baumert, J., & Schnabel, K. (2001). Does Interest Matter? The Relationship between Academic Interest and Achievement in Mathematics. *Journal for Research in Mathematics Education*, *32*(5), 448–470. https://doi.org/10.2307/749801

Kriegbaum, K., & Spinath, B. (2016). Explaining social disparities in mathematical achievement: The role of motivation. *European Journal of Personality*, *30*(1), 45–63. https://doi.org/10.1002/per.2042

Kristensen, S. M., Larsen, T. M. B., Urke, H. B., & Danielsen, A. G. (2023). Academic stress, academic self-efficacy, and psychological distress: A moderated mediation of within-person effects. *Journal of Youth and Adolescence*, *52*(7), 1512–1529. https://doi.org/10.1007/s10964-023-01770-1

Kuzmina, Y., Ivanova, A., & Kanonirs, G. (2021). Inattention, hyperactivity/impulsivity, and mathematics: Exploring gender differences in a nonclinical sample. *Research in Developmental Disabilities Vol 119, 2021, ArtID 104107*, *119*. https://dx.doi.org/10.1016/j.ridd.2021.104107

Kyttala, M., & Bjorn, P. M. (2010). Prior Mathematics Achievement, Cognitive Appraisals and Anxiety as Predictors of Finnish Students' Later Mathematics Performance and Career Orientation. *Educational Psychology*, *30*(4), 431–448.

Lahtinen, H., Martikainen, P., Korhonen, K., Morris, T., & Myrskylä, M. (2024). Educational tracking and the polygenic prediction of education. *Sociological Science*, *11*, 186–213. https://doi.org/10.15195/V11.A8

Lenkewitz, S., & Wittek, M. (2022). Social networks and educational decisions: Who has access to social capital and for whom is it beneficial? *Kolner Zeitschrift Fur Soziologie Und Sozialpsychologie*, *74*(4), 437–472. https://doi.org/10.1007/s11577-022-00866-z

Lichtenfeld, S., Pekrun, R., Marsh, H. W., Nett, U. E., & Reiss, K. (2023). Achievement emotions and elementary school children's academic performance: Longitudinal models of developmental ordering. *Journal of Educational Psychology*, *115*(4), 552–570. https://doi.org/10.1037/edu0000748

Lupton, R., & Thomson, S. (2015). Socioeconomic Inequalities in English Schooling under the Coalition Government 2010-15. *London Review of Education*, *13*(2), 4–20.

Luyten, H., & ten Bruggencate, G. (2011). The Presence of Matthew Effects in Dutch Primary Education, Development of Language Skills over a Six-Year Period. *Journal of Learning Disabilities*, *44*(5), 444–458.

Machin, S., & McNally, S. (2006). Gender and Student Achievement in English Schools. CEE DP 58. *Centre for the Economics of Education*.

Maldonado, J. E., & De Witte, K. (2022). The Effect of School Closures on Standardised Student Test Outcomes. *British Educational Research Journal*, *48*(1), 49–94.

Marx, N., Gill, C., & Brosowski, T. (2021). Are Migrant Students Closing the Gap? Reading Progression in the First Years of Mainstream Education. *Studies in Second Language Acquisition*, *43*(4), 813–837.

McTigue, E. M., Schwippert, K., Uppstad, P. H., Lundetrae, K., & Solheim, O. J. (2021). Gender differences in early literacy: Boys' response to formal instruction. *Journal of Educational Psychology*, *113*(4), 690–705. https://doi.org/10.1037/edu0000626

Mellander, E., & Rasmusson, M. (2020). *Effekter av NTA på skolprestationer i årskurs 6*.

Merino, R., Valls, O., & Sánchez-Gelabert, A. (2021). Comprehensive school and vocational training in spain. A longitudinal approach from the transition from lower to upper secondary education. *Education Sciences*, *11*(3), 1–14. https://doi.org/10.3390/educsci11030101

Miller, S., Biggart, A., Sloan, S., & O'Hare, L. (2017). Success for All: Evaluation Report and Executive Summary. *Education Endowment Foundation*.

Molitor, K., Fabian, P., Thums, K., & McElvany, N. (2022). Is the relation between family background and obtaining an Abitur mediated by malleable motivational variables? *Zeitschrift Fur Erziehungswissenschaft*, *25*(2), 471–492. https://doi.org/10.1007/s11618-022-01096-x

Morris, T. T., Dorling, D., Davies, N. M., & Davey Smith, G. (2021). Associations between school enjoyment at age 6 and later educational achievement: Evidence from a UK cohort study. *Npj Science of Learning*, *6*(1). https://doi.org/10.1038/s41539-021-00092-w

Motti-Stefanidi, F., Masten, A., & Asendorpf, J. B. (2015). School Engagement Trajectories of Immigrant Youth: Risks and Longitudinal Interplay with Academic Success. *International Journal of Behavioral Development*, *39*(1), 32–42.

Moulton, V., Sullivan, A., Henderson, M., & Anders, J. (2018). Does What You Study at Age 14-16 Matter for Educational Transitions Post-16? *Oxford Review of Education*, *44*(1), 94–117.

Muench, R., Wieczorek, O., & Dressler, J. (2023). Equity Lost: Sweden and Finland in the Struggle for PISA Scores. *European Educational Research Journal*, *22*(3), 413–432.

Negru-Subtirica, O., & Pop, E. I. (2016). Longitudinal links between career adaptability and academic achievement in adolescence. *Journal of Vocational Behavior*, *93*, 163–170. https://dx.doi.org/10.1016/j.jvb.2016.02.006

Omerogullari, M., & Glaser-Zikuda, M. (2022). Relationships between School Enjoyment, Social Integration, and Achievement at the Beginning of Primary School: Does Family Background Matter? *European Journal of Psychology and Educational Research*, *5*(2), 127–143.

Parsons, C., & Thompson, T. (2017). Ethnicity, Disadvantage and Other Variables in the Analysis of Birmingham Longitudinal School Attainment Datasets. *Educational Review*, *69*(5), 577–599.

Parsons, S., Fitzsimons, E., & Schoon, I. (2023). Intergenerational Transmission of Educational Disadvantage: Education Progression of Children of Care Leavers Compared to a General Population Sample. *British Educational Research Journal*, *49*(5), 875–899.

Passaretta, G., Skopek, J., & Van Huizen, T. (2022). Is Social Inequality in School-Age Achievement Generated before or during Schooling? A European Perspective. *European Sociological Review*, *38*(6), 849–865. https://doi.org/10.1093/esr/jcac005

Pearce, A., Sawyer, A. C. P., Chittleborough, C. R., Mittinty, M. N., Law, C., & Lynch, J. W. (2016). Do early life cognitive ability and self-regulation skills explain socioeconomic inequalities in academic achievement? An effect decomposition analysis in UK and Australian cohorts. *Social Science and Medicine*, *165*, 108–118. https://doi.org/10.1016/j.socscimed.2016.07.016

Pensiero, N., & Green, F. (2017). Out-of-School-Time Study Programmes: Do They Work? *Oxford Review of Education*, *43*(1), 127–147.

Psyridou, M., Tolvanen, A., Patel, P., Khanolainen, D., Lerkkanen, M.-K., Poikkeus, A.-M., & Torppa, M. (2023). Reading Difficulties Identification: A Comparison of Neural Networks, Linear, and Mixture Models. *Scientific Studies of Reading*, *27*(1), 39–66.

Rangvid, B. S. (2019). Returning special education students to regular classrooms: Externalities on peers' reading scores. *Economics of Education Review*, *68*, 13–22. https://doi.org/10.1016/j.econedurev.2018.11.002

Reuterberg, S.-E., & Svensson, A. (1986). *Student Financial Aid and Participation in Higher Education. Changes between 1965 and 1985 in Sweden* [Reports - Research Speeches/Meeting Papers].

Ruhose, J., & Schwerdt, G. (2016). Does early educational tracking increase migrant-native achievement gaps? Differences-in-differences evidence across countries. *Economics of Education Review*, *52*(C), 134–154. https://doi.org/10.1016/j.econedurev.2016

Ruiz-Valenzuela, J. (2015). Job Loss at Home: Children and School Performance during the Great Recession in Spain. CEP Discussion Paper No. 1364. *Centre for Economic Performance*.

Sacker, A., Schoon, I., & Bartley, M. (2002). Social inequality in educational achievement and psychosocial adjustment throughout childhood: Magnitude and mechanisms. *Social Science and Medicine*, *55*(5), 863–880. https://doi.org/10.1016/S0277-9536(01)00228-3

Salikutluk, Z., & Heyne, S. (2017). Do Gender Roles and Norms Affect Performance in Maths? The Impact of Adolescents' and their Peers' Gender Conceptions on Maths Grades. *European Sociological Review*, *33*(3), 368–381. https://doi.org/10.1093/esr/jcx049

Sammons, P. (1995). Gender, Ethnic, and Socioeconomic Differences in Attainment and Progress: A Longitudinal Analysis of Student Achievement over 9 Years. *British Educational Research Journal*, *21*(4), 465–485.

Sammons, P., Toth, K., & Sylva, K. (2018). The drivers of academic success for 'bright' but disadvantaged students: A longitudinal study of AS and A-level outcomes in England. *Studies in Educational Evaluation*, *57*, 31–41. https://doi.org/10.1016/j.stueduc.2017.10.004

Sandsor, A. M. J., Zachrisson, H. D., Karoly, L. A., & Dearing, E. (2023). The Widening Achievement Gap between Rich and Poor in a Nordic Country. *Educational Researcher*, *52*(4), 195–205.

Schindler, S. (2017). School tracking, educational mobility and inequality in German secondary education: Developments across cohorts. *European Societies*, *19*(1), 28–48. https://doi.org/10.1080/14616696.2016.1226373

Schneider, T., & Linberg, T. (2022). Development of socioeconomic gaps in children's language skills in Germany. *Longitudinal and Life Course Studies*, *13*(1), 87–120. https://doi.org/10.1332/175795921X16233448663756

Schuchart, C. (2013). Upward Mobility among Secondary Education Students: The Decision to Obtain a Better Certificate. *European Journal of Psychology of Education*, *28*(2), 201–221.

Schuller, K. (2018). Trends in Ethnic Inequality in the Attainment of Vocational Degrees: A Cohort Study in Germany. *British Journal of Sociology of Education*, *39*(4), 483–500.

Sikio, R., Siekkinen, M., & Holopainen, L. (2016). Literacy Development among Language Minority Background and Dyslexic Children in Finnish Orthography Context. *Reading Psychology*, *37*(5), 706–727.

Sinclair, I., Fletcher, J., O'Higgins, A., Luke, N., & Thomas, S. (2022). 'Closing the gap': The conditions under which children in care are most likely to catch up in mainstream schools. *Oxford Review of Education*, *48*(2), 252–269. https://doi.org/10.1080/03054985.2021.1967118

Skolverket. (2004). *Skolverkets lägesbedömning 2004 av förskoleverksamhet, skolbarnsomsorg, skola och vuxenutbildning*. Skolverket. https://www.skolverket.se/download/18.6bfaca41169863e6a6552d3/1553958433271/pdf1364.pdf

Skolverket. (2006). *Könsskillnader i måluppfyllelse och utbildningsval*. Skolverket. https://www.skolverket.se/download/18.6bfaca41169863e6a658295/1553961641530/pdf1653.pdf

Smith, M. L., & Sokolova, V. (2022). Gender Gaps in Educational Pathways in the Czech Republic. *British Journal of Sociology of Education*, *43*(2), 296–313.

Smith, M., Tsai, S.-L., Mateju, P., & Huang, M.-H. (2016). Educational Expansion and Inequality in Taiwan and the Czech Republic. *Comparative Education Review*, *60*(2), 339–374.

Smyth, E. (2020). Shaping Educational Expectations: The Perspectives of 13-Year-Olds and Their Parents. *Educational Review*, *72*(2), 173–195.

Solaz, A., Panico, L., Sheridan, A., Schneider, T., Dräger, J., Waldfogel, J., Kwon, S. J., Washbrook, E., & Perinetti Casoni, V. (2024). Does Family Structure Account for Child Achievement Gaps by Parental Education? Findings for England, France, Germany and the United States. *Population and Development Review*. https://doi.org/10.1111/padr.12623

Steinmann, I., & Strietholt, R. (2018). Student Achievement and Educational Inequality in Half- and All-Day Schools: Evidence from Germany. *International Journal for Research on Extended Education*, *6*(2), 175–197.

Strand, S. (2011). The Limits of Social Class in Explaining Ethnic Gaps in Educational Attainment. *British Educational Research Journal*, *37*(2), 197–229.

Strand, S. (2014a). Ethnicity, Gender, Social Class and Achievement Gaps at Age 16: Intersectionality and "Getting It" for the White Working Class. *Research Papers in Education*, *29*(2), 131–171.

Strand, S. (2014b). School Effects and Ethnic, Gender and Socioeconomic Gaps in Educational Achievement at Age 11. *Oxford Review of Education*, *40*(2), 223–245.

Strand, S. (2016). Do Some Schools Narrow the Gap? Differential School Effectiveness Revisited. *Review of Education*, *4*(2), 107–144.

Sullivan, A., Heath, A., & Rothon, C. (2011). Equalisation or Inflation? Social Class and Gender Differentials in England and Wales. *Oxford Review of Education*, *37*(2), 215–240.

Sykes, B., & Kuyper, H. (2013). School Segregation and the Secondary-School Achievements of Youth in the Netherlands. *Journal of Ethnic and Migration Studies*, *39*(10), 1699–1716. https://doi.org/10.1080/1369183X.2013.833707

Symonds, J. E., D'Urso, G., & Schoon, I. (2023). The Long-Term Benefits of Adolescent School Engagement for Adult Educational and Employment Outcomes. *Developmental Psychology*, *59*(3), 503–514.

Sznitman, S. R., Reisel, L., & Khurana, A. (2017). Socioeconomic background and high school completion: Mediation by health and moderation by national context. *Journal of Adolescence*, *56*, 118–126. https://dx.doi.org/10.1016/j.adolescence.2017.02.004

Thorsen, C. (2014). Dimensions of Norm-Referenced Compulsory School Grades and Their Relative Importance for the Prediction of Upper Secondary School Grades. *Scandinavian Journal of Educational Research*, *58*(2), 127–146.

Thorsen, C., Yang Hansen, K., & Johansson, S. (1481). The Mechanisms of Interest and Perseverance in Predicting Achievement among Academically Resilient and Non-Resilient Students: Evidence from Swedish Longitudinal Data. *British Journal of Educational Psychology*, *91*(4), 1481–1497.

Tieben, N., & Wolbers, M. (2010). Success and Failure in Secondary Education: Socioeconomic Background Effects on Secondary School Outcome in the Netherlands, 1927-1998. *British Journal of Sociology of Education*, *31*(3), 277–290.

Timmermans, A. C., de Boer, H., Amsing, H. T. A., & van der Werf, M. P. C. (2018). Track Recommendation Bias: Gender, Migration Background and SES Bias over a 20-Year Period in the Dutch Context. *British Educational Research Journal*, *44*(5), 847–874.

Tinklin, T., & Croxford, L. (2000). *High-Attaining Female School Leavers. Scottish School Leavers Survey: Special Report III* [Reports - Research]. Edinburgh Univ. (Scotland). Centre for Educational Sociology.

Tymms, P., Merrell, C., & Bailey, K. (2018). The Long-Term Impact of Effective Teaching. *School Effectiveness and School Improvement*, *29*(2), 242–261.

Uerz, D., Dekkers, H., & Bguin, A. A. (2004). Mathematics and Language Skills and the Choice of Science Subjects in Secondary Education. *Educational Research and Evaluation*, *10*(2), 163–182.

Van De Gaer, E., Pustjens, H., Van Damme, J., & De Munter, A. (2007). Impact of Attitudes of Peers on Language Achievement: Gender Differences. *Journal of Educational Research*, *101*(2), 78–92.

van de Werfhorst, H. G. (2019). Early tracking and social inequality in educational attainment: Educational reforms in 21 european countries. *American Journal of Education*, *126*(1), 65–99. https://doi.org/10.1086/705500

Verachtert, P., Van Damme, J., Onghena, P., & Ghesquirere, P. (2009). A seasonal perspective on school effectiveness: Evidence from a Flemish longitudinal study in kindergarten and first grade. *School Effectiveness and School Improvement*, *20*(2), 215–233. https://dx.doi.org/10.1080/09243450902883896

Verhaeghe, J. P., Vanlaar, G., Knipprath, H., De Fraine, B., & Van Damme, J. (2018). Can group composition effects explain socioeconomic and ethnic achievement gaps in primary education? *Studies in Educational Evaluation*, *57*, 6–15. https://doi.org/10.1016/j.stueduc.2017.07.006

Vimefall, E., Andrén, D., & Nowak, W. (2023). *Resultat på nationella prov och gymnasiebehörighet: Samband mellan resultaten på tidiga nationella prov och sannolikheten att uppnå gymnasiebehörighet*. Sveriges Kommuner och Regioner.

Virtanen, T. E., Vasalampi, K., Kiuru, N., Lerkkanen, M. K., & Poikkeus, A. M. (2020). The Role of Perceived Social Support as a Contributor to the Successful Transition from Primary to Lower Secondary School. *Scandinavian Journal of Educational Research*, *64*(7), 967–983.

von Stumm, S. (2017). Socioeconomic status amplifies the achievement gap throughout compulsory education independent of intelligence. *Intelligence*, *60*, 57–62. https://doi.org/10.1016/j.intell.2016.11.006

von Stumm, S., Cave, S. N., & Wakeling, P. (2022). Persistent association between family socioeconomic status and primary school performance in Britain over 95 years. *Npj Science of Learning*, *7*(1). https://doi.org/10.1038/s41539-022-00120-3

Wheater, R., Rose, S., Ager, R., Liht, J., Styles, B., & Twist, L. (n.d.). Impact of COVID-19-Related School Closures in Key Stage 1 on Attainment and Social Skills of Pupils in Year 2 and Year 3 in Academic Year 2021/2022. *Education Endowment Foundation*.

Winding, T., Labriola, M., Biering, K., Andersen, J., & Nohr, E. (2013). Personal predictors of educational attainment after compulsory school: Influence of measures of vulnerability, health, and school performance. *Scandinavian Journal of Public Health*, *41*(1), 92–101. https://doi.org/10.1177/1403494812467713

Yu, B., Zachrisson, H. D., Cheesman, R., Ystrom, E., & Nes, R. B. (2023). Boys with overweight status lagged behind girls with overweight status in reading: Evidence from mendelian randomization. *Journal of Clinical Epidemiology*, *159*, 199–205. https://doi.org/10.1016/j.jclinepi.2023.05.001

Zilanawala, A., Kelly, Y., & Sacker, A. (2016). Ethnic differences in longitudinal latent verbal profiles in the millennium cohort study. *European Journal of Public Health*, *26*(6), 1011–1016. https://dx.doi.org/10.1093/eurpub/ckw184