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Conceptualizing School Disengagement and Dropout Risk in Educational Research: A Systematic Review

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Abstract

School disengagement and dropout remain persistent challenges in education systems worldwide, yet much of the empirical literature continues to prioritize individual-level explanations and behavioural indicators. This focus has created an analytical gap in understanding how institutional practices, policy environments, and structural inequalities shape disengagement processes across educational contexts. Addressing this gap is important for developing more comprehensive explanations and interventions targeting early school leaving. This study systematically reviews recent empirical research to examine how school disengagement and dropout risk are conceptualised and analysed from a systemic perspective. A systematic search of Scopus and Web of Science identified 275 records, of which 31 empirical studies published between 2021 and 2026 met the inclusion criteria. The selected studies were analysed using a qualitative thematic synthesis focusing on behavioural, psychosocial, institutional, and structural dimensions of disengagement. The findings show that contemporary research remains dominated by behavioural indicators and student-level risk factors, while institutional practices, policy frameworks, and structural inequalities receive significantly less analytical attention. This imbalance limits the explanatory capacity of current scholarship and constrains the development of systemic responses to disengagement. The review contributes to theory by proposing a multilevel conceptualisation of disengagement as a dynamic process shaped by interactions among students, schools, families, and broader socio-policy contexts. These insights highlight the need for policy and practice to move beyond individualised risk frameworks toward systemic interventions addressing institutional and structural conditions of educational participation.

1. Introduction

The global education agenda under the United Nations Sustainable Development Goal 4 (SDG 4) has increasingly shifted from expanding access to schooling toward ensuring meaningful participation, completion, and learning outcomes. Consequently, growing attention has been directed toward educational engagement and the processes through which students remain connected to schooling (Dharamshi et al., 2022). Despite substantial progress in expanding educational access worldwide, early school leaving and student disengagement remain persistent challenges across many education systems (Friedman et al., 2020; Pezzulo et al., 2022). These challenges highlight the importance of understanding not only whether students attend school, but also how they participate in and experience learning environments over time, particularly in relation to persistent inequalities in educational participation (Adipat & Chotikapanich, 2022; Carvalho et al., 2024).

Early school leaving remains a major concern because students who disengage from schooling face increased risks of unemployment, NEET status, precarious employment, and long-term socioeconomic disadvantage (Brown et al., 2021; Gitschthaler & Nairz-Wirth, 2018; Razafijaona et al., 2023). School dropout is widely understood as a gradual process shaped by multiple influences across students' educational environments. Early theoretical models conceptualise dropout as a process of declining engagement and identification with school. Finn's participation-identification framework, for example,

explains dropout as a progressive weakening of students' participation in academic activities and their identification with school (Finn, 1989). Similarly, Rumberger (1995) conceptualised dropout as the cumulative outcome of disengagement shaped by interactions among individual characteristics, school composition, and institutional climate. Empirical research further shows that academic performance, behavioural adjustment, family context, and school environments interact in shaping dropout risk (Fernández-Suárez et al., 2016; Fortin et al., 2013; Haugan et al., 2019; Wood et al., 2017).

Despite extensive research, the literature remains conceptually fragmented. Terms such as disengagement, withdrawal, dropout, and persistence are often used interchangeably, while measurement frequently relies on proxy indicators such as attendance rather than theoretically grounded constructs (Bergdahl et al., 2024; Chipchase et al., 2017; Glaesser et al., 2023). Moreover, research has largely focused on individual-level predictors, while institutional practices, policy contexts, and broader structural inequalities shaping educational participation receive comparatively less attention (García-Moya et al., 2018; Moreno et al., 2025; Raniti et al., 2022). As a result, disengagement is frequently analysed as a student-level problem rather than as a systemic educational process.

To address this limitation, this study conducts a systematic literature review of recent empirical research on school disengagement and dropout. The review synthesises studies published between 2021 and 2026 to examine how disengagement and dropout risk are conceptualised, measured, and explained in contemporary research, with particular attention to the extent to which systemic, institutional, and structural influences are incorporated alongside individual-level explanations.

2. Literature Review

This section reviews key theoretical and empirical studies on school disengagement and dropout. It outlines how disengagement is conceptualised, the multidimensional nature of student engagement, major theoretical explanations, and common risk indicators and measurement approaches. It also considers how institutional and policy contexts shape disengagement.

2.1 Conceptualising Disengagement and Dropout

Research on student disengagement and dropout has expanded across education systems, yet conceptual definitions remain fragmented and inconsistently operationalised. Disengagement extends beyond observable behaviours such as attendance or participation and includes emotional and cognitive withdrawal from learning (Chipchase et al., 2017; Hascher & Hadjar, 2018; Wang et al., 2019). However, studies differ in how these dimensions are linked to dropout.

Some research conceptualises disengagement as declining motivation and reduced enjoyment in learning activities (Balwant, 2017), while other perspectives describe it as a gradual process through which students distance themselves from school, potentially leading to early school leaving (Tomaszewska-Pękała et al., 2020). Related work introduces the concept of school alienation, referring to declining attachment to learning, teachers, and peers (Hascher & Hadjar, 2018). In many frameworks,

disengagement is viewed as a precursor to dropout, although definitions of dropout itself vary across studies (Bäulke et al., 2021; Patricia & Leonardo, 2022; Scheunemann et al., 2021; Xavier & Meneses, 2020).

Despite extensive research, integrative analyses examining disengagement and dropout as interconnected systemic processes remain limited.

2.2 Dimensions of Student Engagement

Student engagement is widely conceptualised as a multidimensional construct encompassing behavioural, emotional, and cognitive involvement in learning (Liu et al., 2023; Pedler et al., 2020; Wang et al., 2019; Wong & Liem, 2021). Behavioural engagement reflects observable participation such as attendance and persistence, emotional engagement relates to students' feelings toward school, and cognitive engagement refers to psychological investment in learning processes.

These dimensions interact dynamically over time, and disengagement occurs when participation, emotional connection, or cognitive investment weaken (Hong et al., 2020; Li & Lerner, 2012; Wang et al., 2019). Recent frameworks further incorporate agentic and social engagement, highlighting students' active participation and peer interaction in learning environments (Bowden et al., 2019; Reeve et al., 2020; Xu et al., 2023).

2.3 Theoretical Perspectives on Disengagement

Theoretical explanations of disengagement draw on motivational, relational, and structural perspectives. Motivational theories, particularly Self-Determination Theory, suggest that disengagement arises when educational environments fail to support students' needs for autonomy, competence, and relatedness (Bong et al., 2023; Cheon et al., 2019; Jang et al., 2016).

Multidimensional engagement frameworks conceptualise engagement and disengagement as related but distinct constructs encompassing behavioural, emotional, cognitive, and social components (Fredricks et al., 2019; Wang et al., 2019). Ecological perspectives further situate disengagement within interacting systems involving students, families, schools, and broader social environments (Martin et al., 2012; Molla, 2025). Relational approaches emphasise declining school belonging and alienation as mechanisms through which students gradually disengage from education (Hascher & Hadjar, 2018; Moensted, 2022).

Together, these perspectives conceptualise disengagement as a dynamic and multilevel process shaped by interactions between individual experiences, relational environments, and institutional contexts.

2.4 Risk Construction and Predictive Indicators

Dropout risk is commonly conceptualised as a cumulative process emerging from interacting academic, behavioural, family, and institutional factors. Numerous studies identify indicators associated with

disengagement and dropout risk across multiple levels, including student characteristics, family contexts, school environments, and community conditions.

Cumulative risk indices combine multiple adverse indicators to capture vulnerability to early school leaving (De Vasconcelos et al., 2023; Freires et al., 2025; Wortsman et al., 2024). Evidence suggests that these combined indicators predict dropout more effectively than individual factors alone (Gubbels et al., 2019; Henry et al., 2012; Paksi et al., 2023).

Predictive models frequently rely on administrative indicators used in early warning systems, such as low academic performance, chronic absenteeism, course failure, suspension, and grade retention. While these measures provide measurable signals of potential disengagement, recent research increasingly emphasises relational and ecological explanations of dropout risk (Freires et al., 2025; Sacco & Rose, 2022).

2.5 Measurement Approaches and Methodological Issues

Dropout research typically operationalises the construct in three ways: actual dropout, indicators of dropout risk, and students' reported dropout intentions (Schmitt et al., 2020; Vaughn et al., 2020). These measures reflect different stages of the disengagement-dropout process.

Risk-based instruments assess multidimensional academic and psychosocial indicators, whereas intention measures capture students' self-reported likelihood of leaving education. Although many instruments demonstrate strong internal reliability, relatively few show strong predictive validity for actual dropout outcomes (Cazan et al., 2024; Vaughn et al., 2020). These limitations highlight ongoing methodological challenges and conceptual ambiguity in measuring dropout risk.

2.6 Conceptual Models Linking Systemic Factors to Outcomes

Systemic models emphasise how institutional practices and policy contexts shape dropout outcomes. Multilevel frameworks suggest that policy environments influence school climate and institutional practices, which in turn affect engagement and dropout risk (Barile et al., 2012; Kotok et al., 2016).

Institutional climate therefore functions as an important mechanism linking policy contexts to student outcomes. Organisational structures, accountability systems, and disciplinary practices may shape teacher-student relationships, perceptions of fairness, and school attachment (Jia et al., 2016).

Ecological perspectives further conceptualise disengagement as emerging from interactions among policy environments, institutional climates, relational contexts, and individual or family factors (Kerby, 2015; Qvortrup & Lykkegaard, 2022). These perspectives highlight that disengagement and dropout should be understood as systemic educational processes rather than solely individual outcomes. Figure 1 illustrates the multilevel conceptual framework guiding this review, highlighting how student

engagement processes, institutional practices, and broader policy and socioeconomic contexts interact in shaping school disengagement, dropout risk, and early school leaving.

Insert Fig. 1 *here*: Fig. 1. Multilevel Conceptual Framework of School Disengagement: Process, Indicators and Outcome

Despite extensive research on engagement and dropout, the literature remains conceptually fragmented. Many studies rely on behavioural indicators such as absenteeism or academic performance as proxies for disengagement, while theoretical explanations of disengagement as a developmental process remain less clearly articulated. In addition, empirical research often prioritises individual-level predictors, while institutional practices, policy contexts, and structural inequalities receive comparatively less attention.

Consequently, disengagement is frequently analysed as a student-level problem rather than as a systemic educational process emerging from interactions among students, schools, families, and broader socioeconomic environments. Addressing this limitation requires a systematic synthesis of recent research examining how disengagement and dropout risk are conceptualised, measured, and explained across multiple levels of analysis.

3. Research Question

The research questions were developed during the review planning stage to guide the scope and analytical direction of the systematic review(Kitchenham & Charters, 2007). Guided by the PICo framework (Population, Interest, Context), the questions examine how school disengagement and dropout risk are conceptualised, the factors shaping their development, and their reported consequences in the literature (Lockwood et al., 2015).

1. How are school disengagement and dropout risk conceptualised in the literature as systemic educational concerns?
2. What multilevel factors across individual, family, school, and community contexts are associated with school disengagement and dropout risk?
3. What academic, institutional, and societal consequences of school disengagement and dropout risk are identified in the literature, and what intervention responses are reported to address them?

4. Methodology

This systematic literature review followed the PRISMA 2020 guidelines to ensure transparent reporting (Page et al., 2021). Literature searches were conducted in Scopus and Web of Science, which provide extensive coverage of peer-reviewed education research and are commonly used in systematic reviews due to their rigorous indexing and citation tracking. The study selection process followed four PRISMA stages: identification, screening, eligibility, and inclusion. The review focused on empirical studies published between 2021 and 2026 to capture recent developments in disengagement and dropout

research following major educational disruptions and digitalisation. The study selection process is illustrated in the PRISMA flow diagram (Fig. 1).

Insert Fig. 2 *here*: Fig. 2: PRISMA 2020 flow diagram of the study selection process.

4.1 Identification

During the identification phase, empirical studies on school disengagement and dropout risk were retrieved from Scopus and Web of Science. The search combined keywords related to school disengagement, student disengagement, dropout risk, early school leaving, and engagement indicators. Results were limited to English-language journal articles published between 2021 and 2026, and only primary empirical studies were included. The search identified 275 records (175 from Scopus and 100 from Web of Science). Search strings were refined through pilot searches and backward citation tracking to ensure adequate coverage. Table 1 presents the search strings used in the review.

Insert Table 1 here

Table 1 The search strings

4.2 Screening

During the screening phase, the titles and abstracts of the 275 retrieved records were assessed against predefined inclusion and exclusion criteria. Duplicate records across Scopus and Web of Science were checked using Microsoft Excel and manual verification, and no duplicates were identified. Screening was conducted by three reviewers to identify studies on school disengagement and dropout risk in primary and secondary education. Non-English publications, studies published before 2021, and non-journal outputs (e.g., conference papers, books, and review articles) were excluded. Screening decisions and exclusion reasons were documented in a review matrix, and disagreements were resolved through discussion until consensus was reached. This stage resulted in the exclusion of 216 records, leaving the remaining studies for full-text eligibility assessment. Table 2 presents the selection criteria used in the review.

Insert Table 2 here

Table 2 The Selection Criterion is Searching

4.3 Eligibility

Eligibility was restricted to empirical studies on school engagement and dropout. Of the 59 full-text articles assessed, 28 were excluded due to scope, leaving 31 studies for the final synthesis.

4.4 Data Abstraction and Analysis

After the eligible studies were identified, three reviewers independently extracted the data using a predefined extraction matrix. The matrix captured key study information, including author, year, country

or context, research design, participant characteristics, conceptualisations of disengagement or dropout, measurement indicators, and reported outcomes.

A thematic synthesis approach was used to identify patterns across the reviewed studies through iterative coding, categorisation, and theme development. The analysis followed several stages, summarised in Table 3.

Insert Table 3 here

Table 3. Thematic Analysis Procedure

5. Quality of Appraisal

A quality appraisal was conducted after study selection, following the guidelines proposed by (Kitchenham & Charters, 2007). The framework developed by (Abouzahra et al., 2020) was used to assess methodological rigour and reporting quality across six evaluation criteria.

Each study was scored on a three-point scale: 1 (met), 0.5 (partially met), and 0 (not met). Three domain experts independently assessed all studies, resolving differences through discussion.

The appraisal did not exclude or rank studies. Instead, it confirmed methodological adequacy and informed the thematic synthesis. Studies with stronger methods received greater emphasis, and each theme was supported by multiple studies of adequate quality.

The quality appraisal framework evaluated six criteria:

1. Clarity of research purpose, assessing whether the study clearly defines its aims and scope.
2. Presentation of relevance and contribution, assessing whether the study clearly states its significance and expected contribution.
3. Clarity of research methodology, assessing whether the research design is clearly described and aligned with the study objectives.
4. Definition of key concepts and theory, assessing whether core concepts and the theoretical framework are clearly defined and consistently applied.
5. Comparison with existing literature, assessing whether the study situates its findings within prior research to demonstrate contribution.
6. Acknowledgement of study limitations, assessing whether the study clearly recognises its limitations.

6. Results

The methodological quality of the included studies was assessed using the predefined appraisal framework. Table 4 summarises the quality assessment scores for all included studies:

Insert Table 4 here

Table 4 Result of Assessment Performance for Selected Primary Studies.

6.1 Summary

Several studies achieved the maximum quality score (100%), including Alan & Kubilay (2025) (Turkey), Combette et al. (2021) (France), Desalegn et al. (2021). (Ethiopia), Evans & Ngatia (2021) (Kenya), Larose et al. (2021) (United Kingdom), McIntosh et al. (2021) (United States), Min et al. (2022) (United States), Pov et al. (2022) (Cambodia), E. Robson & Greenwood (2022) (Canada), Virtanen et al. (2021:2022) (Finland; two studies), and Williams et al. (2023) (United States). These studies demonstrate strong methodological quality through clearly defined research objectives, transparent research designs, appropriate analytical methods, and engagement with relevant literature. In contrast, Bennett (2022) and Bzour et al. (2022) received the lowest scores (66.7%) due to more limited methodological detail and analytical depth; for example, Bennett (2022) relies primarily on secondary data and policy discussion rather than empirical modelling. Overall, the included studies provide a methodologically robust evidence base for the thematic synthesis. However, the geographical distribution of studies is uneven: Europe and North America account for over two-thirds of the included studies, while representation from Southeast Asia, the Middle East, and Latin America remains limited to only a few studies, potentially constraining the broader generalisability of the findings.

6.2 Theme 1: Multidimensional Systemic Conceptualisation of School Disengagement

Across the reviewed literature, two dominant operationalisations of disengagement emerge. Approximately half of the studies rely on administrative indicators, including absenteeism, truancy, academic performance, and disciplinary records, as behavioural proxies for disengagement (Çïmen et al., 2025; Virtanen et al., 2021, 2022). In contrast, a smaller group conceptualises disengagement as a psychosocial process involving declining motivation, reduced school belonging, and cognitive withdrawal from learning (Combette et al., 2021; Estévez et al., 2021; Raufelder et al., 2026).

Some studies further conceptualise disengagement as internal detachment from schooling, reflected in cynicism toward school and loss of meaning in learning (Virtanen et al., 2021). During COVID-19 school closures, engagement was also measured through indicators such as time-on-task and learning motivation (Combette et al., 2021). Recent research increasingly adopts multidimensional engagement frameworks integrating behavioural, emotional, and cognitive dimensions. Analytical approaches such as latent profile analysis identify engagement patterns associated with academic performance and self-regulated learning (Estévez et al., 2021), while other studies show that engagement evolves over time in response to stress, social support, and students' self-beliefs (Çïmen et al., 2025; Raufelder et al., 2026).

Table 5 summarises how the reviewed studies operationalise school disengagement across different measurement approaches.

Insert Table 5 here

Table 5. Operationalization of School Disengagement in the Reviewed Literature

Overall, the literature conceptualises disengagement through two broad perspectives: behavioural withdrawal measured through administrative indicators, and psychosocial disengagement reflecting internal detachment from school. Recent studies increasingly integrate these perspectives, consistent with multidimensional engagement models that link behavioural participation with students' emotional and cognitive experiences of schooling.

6.3 Theme 2: Student Behaviour, Discipline, and Psychosocial Risk Management

Most studies explain disengagement primarily through student behaviour and everyday school experiences. Positive teacher–student relationships strengthen school attachment (Košir et al., 2023), whereas negative school experiences may contribute to disengagement. For example, stigma surrounding menstruation can lead to absenteeism (Ubochi et al., 2023), while behaviours such as truancy, lateness, vandalism, and bullying disrupt learning and weaken academic performance (Nwogu et al., 2025).

School discipline and climate also shape disengagement trajectories. Interventions such as Positive Behavioral Interventions and Supports (PBIS) can reduce exclusionary discipline and improve school climate (McIntosh et al., 2021), whereas punitive practices such as corporal punishment may increase disengagement by damaging teacher-student relationships (Oben & Hui, 2025).

Structural and socioeconomic factors appear in several studies but are often treated as background conditions rather than central explanatory mechanisms. Research shows that academic performance, behaviour, absenteeism, and family socioeconomic status predict early school failure (Pov et al., 2022; Vinas-Forcade et al., 2021). However, explanations typically remain focused on student-level factors rather than institutional or structural drivers.

Table 6 illustrates this pattern. Most studies emphasise individual-level explanations (n = 10), while fewer examine school-level influences (n = 7), structural conditions (n = 7), family factors (n = 3), or multilevel analytical models (n = 4). This distribution suggests that disengagement research remains strongly centred on student-level explanations, with comparatively limited attention to systemic institutional processes.

Insert Table 6 here

Table 6 Distribution of Factors Associated with School Disengagement in the Literature (n = 31)

6.4 Theme 3: Consequences of School Disengagement and Literature Patterns

Most studies assess disengagement through academic outcomes, as administrative indicators such as attendance and performance are widely available. Some interventions improve participation in the short term, including school uniforms, childcare programmes, and school feeding initiatives (Desalegn et al., 2021; Evans & Ngatia, 2021; Larose et al., 2021). Educational attainment is also linked to later risks such as substance use and mental health problems (Min et al., 2022).

The literature also distinguishes between final outcomes and early warning signals. While some studies treat dropout as the ultimate outcome, others focus on intermediate indicators such as motivation, self-efficacy, or absenteeism. Supportive learning environments can help students re-engage after periods of disengagement (Sundelin et al., 2023), while screening tools and learning programmes improve behavioural and academic risk indicators among at-risk students (Nygaard & Ormiston, 2024; Ramsdal & Wynn, 2024).

Institutional consequences are discussed less frequently and are often assessed indirectly through academic outcomes. Interventions such as behavioural targeting or monitoring systems may improve school climate and coordination between schools and families (Alan & Kubilay, 2025; Hoogsteder et al., 2021). As shown in Table 7, academic outcomes dominate the literature (n = 23), whereas behavioural-psychological outcomes (n = 6), institutional outcomes (n = 6), and societal consequences (n = 3) receive comparatively limited attention.

Table 7 summarises the consequence categories identified in the reviewed studies, including the outcomes measured, the number of studies reporting each category, and the related research gaps.

Insert Table 7 here

Table 7 Distribution of Consequences of School Disengagement in the Literature (n = 31)

Societal consequences are rarely measured directly and are often inferred from individual outcomes. While some studies acknowledge broader social costs, most focus on indicators such as motivation, attendance, or academic performance (Ramsdal & Wynn, 2024). Evidence linking educational attainment to long-term economic productivity and wider social risks exists (Larose et al., 2021; Min et al., 2022), but these broader societal effects remain comparatively underexplored.

6.5 Theme 4: Intervention Evidence and Causal Imbalance

Research on interventions remains limited, as most studies focus on identifying risk factors rather than evaluating solutions. Existing interventions primarily target short-term participation outcomes, such as attendance or classroom engagement.

Several simple interventions demonstrate modest improvements in participation. Parental messaging can reduce absenteeism, while school uniforms and feeding programmes improve short-term attendance (Desalegn et al., 2021; Evans & Ngatia, 2021; Musaddiq et al., 2024). Other interventions address school climate and relational support. Behavioural targeting and PBIS initiatives improve school

climate and reduce exclusionary discipline (Alan & Kubilay, 2025; McIntosh et al., 2021), while teacher and peer support can stabilise engagement during school transitions (Raufelder et al., 2026).

However, evidence for sustained dropout reduction remains limited. Even large-scale interventions often produce small or short-lived effects, as illustrated by the Check and Connect mentoring trial, which reported no significant improvements in engagement or attendance (Williams et al., 2023). Overall, the literature reveals a clear imbalance: many studies identify risk factors, but relatively few provide robust evidence on effective long-term interventions. The main intervention approaches identified in the reviewed studies, together with their reported outcomes and limitations, are summarised in Table 8.

Insert Table 7 here

Table 8 Summary of the main intervention approaches and their outcomes.

Even large-scale interventions often produce small or short-lived effects, as illustrated by the Check and Connect mentoring trial, which reported no significant improvements in engagement or attendance (Williams et al., 2023). Similarly, the effects of school uniforms and parental messaging are generally modest and primarily limited to short-term improvements in attendance (Evans & Ngatia, 2021; Musaddiq et al., 2024). Some studies also highlight mechanisms through which engagement may improve, such as learning camps that strengthen motivation and peer relationships, and relational support from teachers, families, and peers that helps reduce truancy and dropout risk (Ramsdal & Wynn, 2024; Virtanen et al., 2021, 2022).

Overall, the literature reveals a clear imbalance: many studies identify risk factors, but relatively few provide robust evidence on effective long-term interventions.

7. Discussion and Conclusion

The findings of this review highlight several important limitations in current research on school disengagement and dropout. Consistent with the multilevel conceptual framework proposed in this study, disengagement should be understood as a systemic educational process shaped by interactions across micro-, meso-, and macro-level conditions. However, the reviewed literature remains heavily concentrated on individual-level explanations.

First, considerable conceptual ambiguity persists in how disengagement is defined and measured. Many studies operationalise disengagement using observable indicators such as absenteeism, academic performance, or behavioural records. Within the framework adopted in this review, these indicators are more appropriately understood as signals of dropout risk rather than the disengagement process itself, which involves the gradual weakening of behavioural, emotional, and cognitive engagement with schooling.

Second, the literature remains strongly focused on micro-level explanations, particularly student behaviour, motivation, and psychosocial characteristics. While institutional and structural influences are

often acknowledged, their relationships with students' everyday school experiences are rarely examined in depth. As a result, disengagement is frequently framed as an individual student problem rather than as an outcome of interactions between students, schools, and broader social contexts.

Third, the evidence base demonstrates a clear measurement bias toward academic outcomes, including achievement, grade progression, and dropout status. Although these indicators provide important signals of educational risk, they do not fully capture disengagement as a developmental process shaped by school environments and wider social conditions. Consequently, institutional and systemic consequences of disengagement remain comparatively underexplored.

Finally, research on interventions remains limited. Existing studies are considerably stronger in identifying risk and protective factors than in demonstrating effective long-term prevention strategies. While some interventions produce short-term improvements in indicators such as attendance or participation, robust evidence on sustained reductions in dropout remains scarce.

Overall, this systematic review contributes to the literature by synthesising recent empirical research on school disengagement and dropout risk through a multilevel analytical perspective. The findings indicate that contemporary research continues to prioritise individual behavioural indicators of disengagement, while meso-level institutional practices and macro-level policy and socioeconomic contexts receive comparatively limited analytical attention. Future research should therefore adopt multilevel research designs that examine how student engagement processes interact with school practices and broader policy and socioeconomic conditions to shape disengagement trajectories and educational outcomes. In addition, more rigorous evaluations of long-term intervention effectiveness are needed to support systemic approaches to dropout prevention.

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Competing interest

The authors declare no competing interest

Author Contribution

[SNA] conceptualised the study, led the design of the systematic review, developed the review protocol, formulated the research questions, designed the search strategy, conducted the database search, managed the review workflow, led the data extraction, analysis, and qualitative thematic synthesis, interpreted the findings, and drafted the main manuscript. [BS] and [S] were formally involved in the systematic literature review process as independent reviewers during the identification, screening, and

eligibility stages. They independently applied the inclusion and exclusion criteria, participated in resolving discrepancies through structured discussion, and contributed to the calculation and interpretation of inter-rater agreement. Their involvement directly influenced the final corpus of included studies and strengthened the methodological rigour of the review. In addition, [BA] and [S] contributed to revising and refining the methodology section. [SNA] coordinated manuscript revisions, integrated feedback from all authors, prepared the final manuscript for submission, and served as the corresponding author. All authors reviewed and approved the final version of the manuscript and agreed to take responsibility for the integrity of the work.

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Tables

Tables 1 to 8 are available in the Supplementary Files section.

Figures

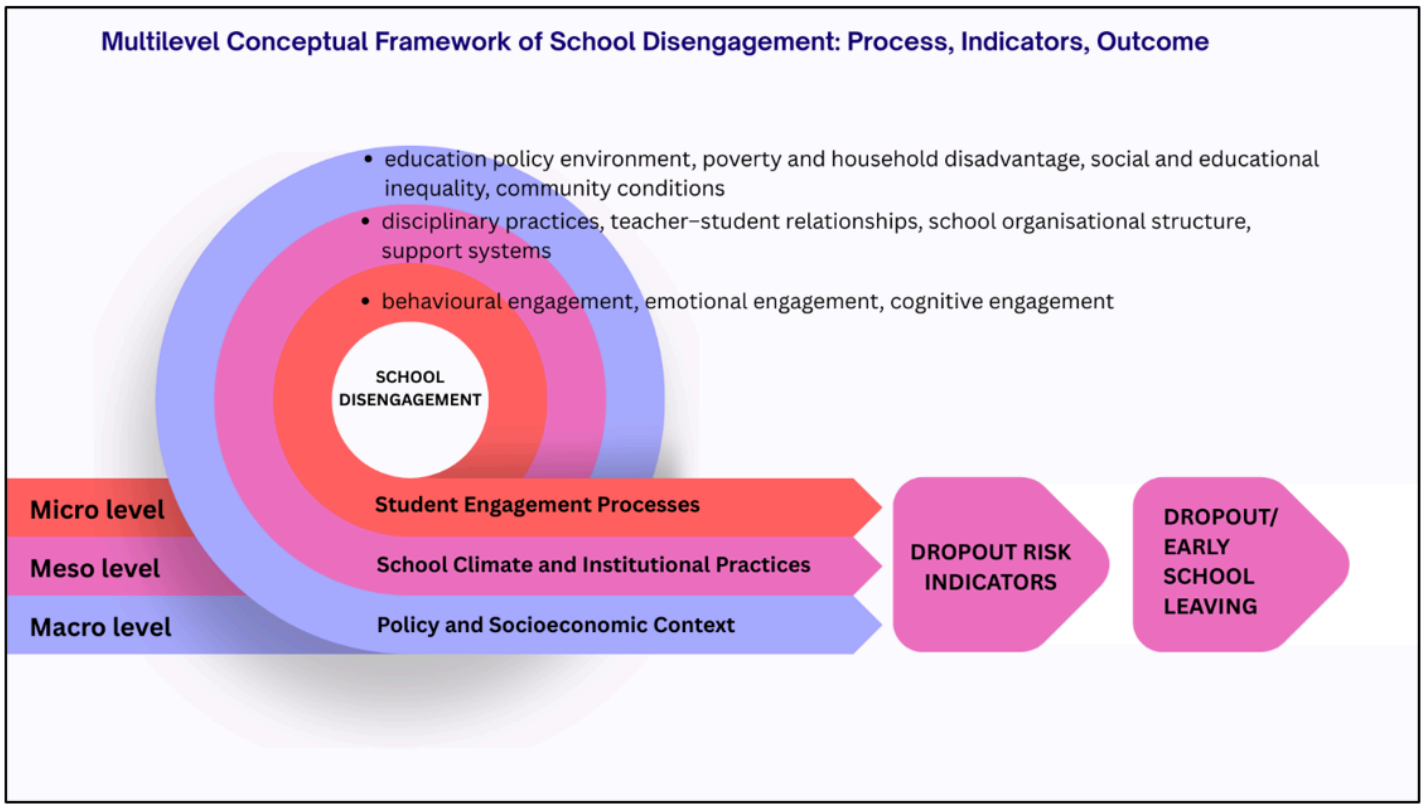


Figure 1

Multilevel Conceptual Framework of School Disengagement: Process, Indicators and Outcome

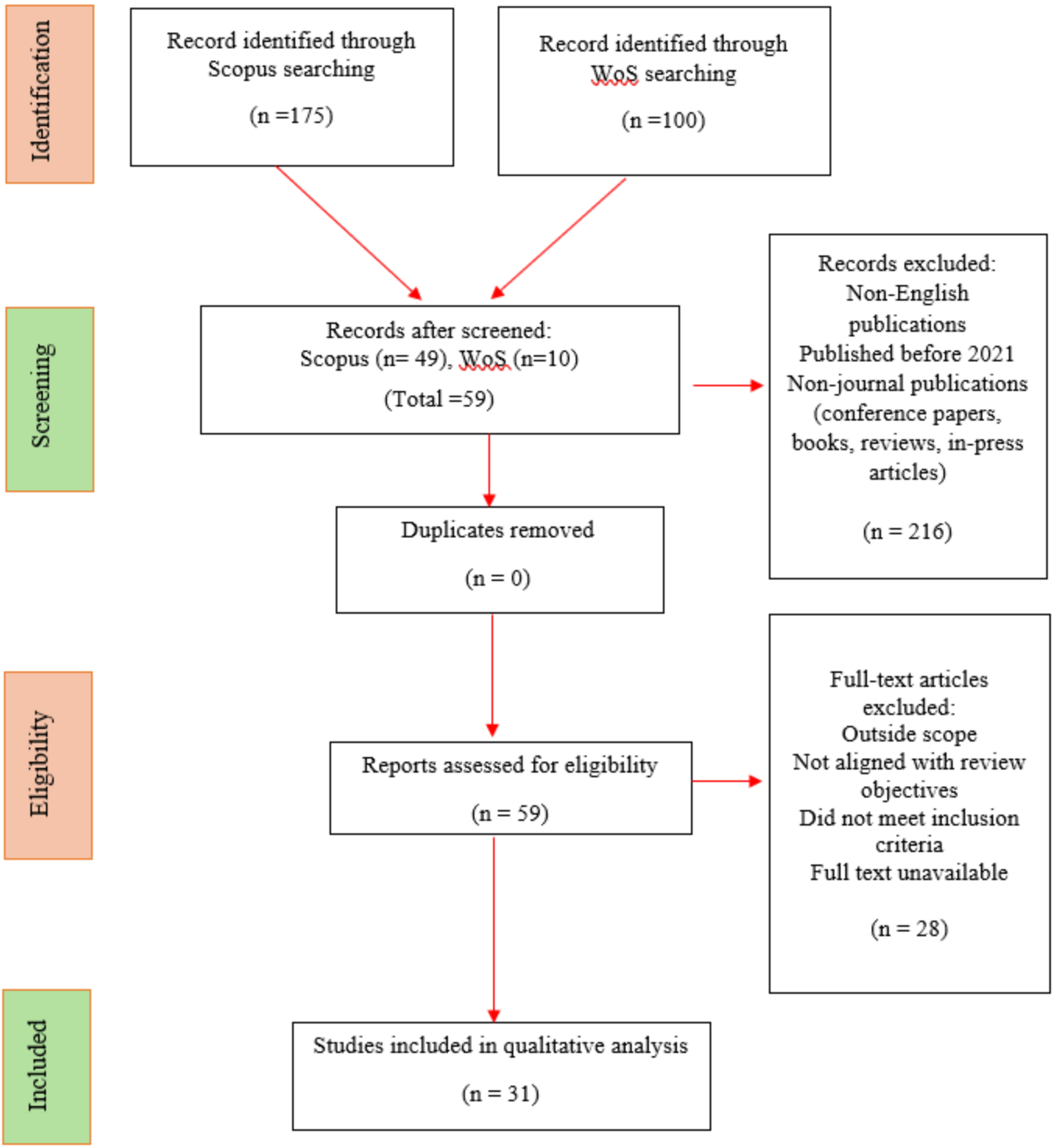


Figure 2

PRISMA 2020 flow diagram of the study selection process.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- Table1Thesearchstrings.docx
- Table2TheSelectionCriterionisSearching.docx
- Table3ThematicAnalysisProcess.docx
- Table4ResultofQA.docx
- Table5OperationalDefinitions.docx
- Table6RiskFactors.docx
- Table7Consequences.docx
- Table8Intervention.docx