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Original Article

Bibliometric Analysis of Trends in Social and Emotional Learning Research in School Curricula, 2015 to 2025

Nisa'el Amala

Univeritas Islam Negeri Madura, Indonesia
Email: Nisaelamala@uinmadura.ac.id

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Abstract

Social and emotional learning (SEL) has become a prominent component of school programs and curricula worldwide, yet the structure of the research field has rarely been mapped. This study presents a bibliometric analysis of 203 Scopus-indexed journal articles published between 2015 and 2025 that address SEL in school and curriculum contexts. Performance analysis and science mapping were conducted with Bibliometrix (Biblioshiny) and supplemented with descriptive statistics computed from the Scopus export. Annual output grew from 1 article in 2015 to 48 in 2025, and 67.5% of the corpus appeared after 2021. The field is geographically concentrated: the United States and the United Kingdom account for 52.2% of corresponding-author records. Authorship is also concentrated, with Humphrey N. (10 articles) leading and 86.5% of authors appearing only once. Frontiers in Psychology, Social and Emotional Learning: Research, Practice, and Policy, and Frontiers in Education are the most productive sources, while highly cited work centers on teacher well-being, program effectiveness, and core program components. Co-word and thematic analyses reveal three clusters and a shift from trial-based evaluation toward mental health, implementation, and self-related constructs. Six research gaps are identified: geographic and cultural breadth, curriculum as an object of inquiry, implementation, teacher agency, methodological breadth and long-term outcomes, and terminological consolidation.

Keywords: Bibliometric Analysis, Science Mapping, School Curriculum, Social and Emotional Learning.

1. Introduction

Social and emotional learning (SEL) is the process through which students develop and apply the knowledge, attitudes, and skills needed to understand and manage emotions, build relationships, and make responsible decisions. Over the past decade, SEL has moved from a specialized prevention topic to a mainstream component of school programs and curricula. The consolidation of competence frameworks such as the one promoted by the Collaborative for Academic, Social, and Emotional Learning (CASEL), together with growing global concern for student well-being, has added to this momentum and has encouraged education systems to treat SEL as part of formal curricula rather than as an optional add-on.

The empirical case for this shift is substantial. Meta-analytic evidence shows that universal school-based SEL programs improve social and emotional skills, behavior, and academic performance (Durlak et al., 2011), and that benefits can persist after programs end (Taylor et al., 2017). A more recent meta-analysis of 424 studies across 53 countries confirmed significant post-intervention improvements in student skills, attitudes, behaviors, school climate, and academic functioning (Cipriano et al., 2023). Evidence on academic outcomes is more modest but consistent: syntheses covering grades 1 to 12 report small positive gains in

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achievement, with standardized test scores as the most proximal indicator (Ha et al., 2025), and a meta-analysis of elementary and middle school programs found overall academic improvements alongside notable gains in grade point average (Zhao & Sang, 2025). Evaluations of specific curricula, from compassion-based programs in upper elementary grades to cognitive-behavioral programs in early childhood, point in the same direction (Frazier et al., 2025; Hosokawa et al., 2024).

Whether these benefits materialize, however, depends heavily on how SEL is placed within the curriculum. Population-level evaluations suggest that gains are strongest when programs teach targeted competencies explicitly and that under-evidenced programs yield no significant effects (Carpendale et al., 2025). Other studies show that embedding SEL in academic subjects such as mathematics can reduce instructional fragmentation and strengthen peer cooperation (Coelho et al., 2023; Molyneux & Diamond, 2025). Implementation, in turn, rests on teachers, whose own social and emotional competence shapes the fidelity of curriculum delivery (Agustina et al., 2025; Lee, 2024). Rigid testing pressures, crowded timetables, limited professional development, and cultural misalignment frequently constrain delivery in real school settings (Dyson et al., 2023; Lin et al., 2026). These findings make the curriculum, and not only the intervention, an important unit of analysis.

As the literature has expanded, it has also dispersed across psychology, education, public health, and teacher education, and it uses inconsistent terminology. Existing reviews have identified methodological constraints in the evidence base, including the tendency of non-randomized designs to report larger effects than randomized trials (Wigelsworth et al., 2021; Zhao & Sang, 2025), and they have documented geographic variability, such as curricula that emphasize explicit behavioral skills while neglecting internal attitudes like optimism and gratitude (Hall et al., 2026). Narrative reviews and meta-analyses answer questions about effectiveness, but they do not show how the field itself is organized: which countries, authors, and journals shape it, which documents anchor it, which themes dominate, and how those themes have changed. Bibliometric analysis addresses these questions by combining performance analysis with science mapping of large bibliographic datasets (Aria & Cuccurullo, 2017; Donthu et al., 2021a).

Prior bibliometric studies have examined the development and intellectual structure of social and emotional learning (SEL) research from different perspectives. (Ağırkan & Ergene, 2021) reviewed international and Turkish publications on SEL, identifying publication trends and research characteristics. (Alemdar, 2025) subsequently examined 915 publications on SEL in primary education through bibliometric and thematic analyses. More recently, (Yang et al., 2026) mapped the global landscape of SEL publications indexed in the Web of Science from 1973 to 2025, identifying influential research contributors, collaboration patterns, intellectual structures, and emerging themes. These studies demonstrate that the bibliometric landscape of SEL has already received systematic attention. However, the present study adopts a more focused scope by examining SEL research in school and curriculum contexts indexed in Scopus between 2015 and 2025. Rather than claiming that SEL research has not previously been mapped, this study examines publication trends, influential authors and documents, keyword structures, and thematic evolution within this specific scope. This focus provides a basis for identifying developments and research gaps relevant to the integration of SEL into school curricula.

This study therefore maps SEL research in school and curriculum contexts published in Scopus-indexed journals between 2015 and 2025, a period that covers eleven complete calendar years, follows the consolidation of SEL competence frameworks, and includes the COVID-19 pandemic, which redirected attention to student and teacher well-being. The

analysis is guided by five research questions that move from the general to the specific. It first asks how the number of SEL publications in school curricula has developed over time, and then asks which authors, journals, institutions, and countries are the most influential in shaping the field. It next identifies which documents attract the most citations, before examining the dominant themes and keywords and how they are structured conceptually. Finally, it asks how these themes have evolved and which research gaps emerge, so that the findings can inform an agenda for future work.

2. Literature Review

2.1. SEL Competencies as an Interpretive Lens for Thematic Clusters

Mahoney et al. (2021) formulated social-emotional competencies within the Collaborative for Academic, Social, and Emotional Learning (CASEL) framework through five domains: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. In bibliometric mapping, this framework serves as a conceptual reference for interpreting keywords related to emotion regulation, empathy, school climate, and peer relationships. Yet this linkage is illustrative and needs to be tested against the data.

CASEL also places these competencies within a systemic approach involving classrooms, schools, families, and communities (Mahoney et al., 2021). Accordingly, Oberle et al. (2016) developed a theory of action for implementing systemic SEL in schools. Durlak et al. (2011) and Taylor et al. (2017) demonstrated the benefits of SEL programs, but outcomes are also influenced by program content, intervention characteristics, context, and implementation quality (Cipriano et al., 2023). Thus, SEL spans diverse foci, from individual competencies to the conditions supporting their implementation, so bibliometric mapping is needed to identify the structure and development of this diversity.

Previous studies indicate that SEL research clusters do not always follow the five CASEL competencies. Alemdar (2025) found a shift from behavior and emotion regulation toward school-based systemic interventions encompassing mental health, resilience, professional development, and family engagement, while Yang et al. (2026) identified five research areas centered on developmental stages, program evaluation, implementation, and impact. Therefore, this study uses CASEL as an interpretive framework after clusters are formed from bibliographic data and keyword co-occurrence. Clusters that do not correspond to the five competencies, such as evaluation methodology, populations, or implementation, are reported as separate findings without being forced into the CASEL framework.

2.2. Conceptualization of Curriculum and Curriculum-Embedded SEL

The curriculum literature distinguishes three levels, namely the intended curriculum (the planned curriculum), the implemented curriculum (the curriculum as carried out), and the attained curriculum (the curriculum achieved by students). Rooted in Goodlad's thinking and elaborated by van den Akker (2004), this framework distinguishes the goals in curriculum documents, learning practices, and students' learning experiences and outcomes (Thijs & Akker, 2009). This distinction is relevant to SEL studies as program outcomes depend not only on design but also on implementation quality (Cipriano et al., 2023; Oberle et al., 2016).

Unlike dedicated SEL programs, curriculum-embedded SEL integrates social-emotional competencies into subjects, classroom interactions, and school culture. Storey (2019) emphasized the importance of natural SEL integration in learning, including in English Language Arts. Morrison et al. (2019) showed the importance of professional development, sustained support, collective decision-making, and school-level program integration.

Meanwhile, Zieher et al. (2024) affirmed that how SEL is taught is as vital as the competencies being taught. Thus, the inclusion of SEL in curriculum documents does not automatically guarantee consistent implementation or the attainment of students' competencies.

In this study, the three curriculum levels serve as a heuristic lens for the bibliometric map. Policy, standards, and design themes are linked to the intended curriculum; pedagogy, teacher practices, and professional development to the implemented curriculum; and competencies and learning outcomes to the attained curriculum. This linkage is an interpretive hypothesis tested against the themes and keywords in the data. The mapping shows the distribution of research attention, not the actual condition of curricula in schools, and since one article may span several levels, theme distribution represents only the selected corpus. Imbalances across levels are therefore concluded only when the mapping supports them.

2.3. Bibliometric Foundations and Science Mapping

Donthu et al. (2021b) described bibliometric analysis as examining large-scale literature through performance analysis, which assesses the productivity and contributions of authors, journals, institutions, countries, and documents, and science mapping, which identifies relationships among research constituents. Aria and Cuccurullo (2017) outlined science mapping through Bibliometrix and Biblioshiny, while Cobo et al. (2011) integrated both to trace theme evolution. This study follows the four stages of Donthu et al. (2021b): aims and scope, analytical techniques, data compilation, and analysis. Performance analysis covers publications, citations, and h-index, while science mapping covers keyword co-occurrence, thematic maps (centrality and density), and thematic evolution for 2015 to 2023 and 2024 to 2025. Without co-citation or bibliographic coupling, this study focuses on conceptual structure, productivity, and citation patterns rather than citation-network intellectual structure.

This approach suits identifying field-level patterns in SEL research development, not evaluating the effectiveness of specific programs. Still, results depend on Scopus coverage, query formulation, and keyword selection. Generic index keywords such as human, male, female, and article are not interpreted conceptually because they describe study characteristics rather than research themes. The mapping also shows the distribution of publications, not the quality or validity of their findings. Hence, results are interpreted using the CASEL framework and the curriculum conceptualization: the data determine cluster formation, while the two frameworks help interpret themes without forcing an unsupported fit.

3. Methods

3.1. Research design

The study follows the four-stage bibliometric procedure described by Donthu et al. (2021a): defining the aims and scope, choosing the analytical techniques, compiling the data, and conducting the analysis. Record selection was guided by the logic of the PRISMA 2020 statement (Page et al., 2021), and science mapping followed the workflow implemented in the Bibliometrix R package and its Biblioshiny interface (Aria & Cuccurullo, 2017).

3.2. Data source and search strategy

Data were retrieved from Scopus, chosen for its broad coverage of education and psychology journals and for the completeness of its metadata, including abstracts, keywords, affiliations, and cited references.

Table 1. Concept groups and search terms

Concept	Search terms
SEL	"social emotional learning", "social-emotional learning", "socio-emotional learning", "social and emotional learning", "SEL"
School context	school*, classroom*, "primary education", "secondary education", "K-12", "elementary school"
Curriculum	curricul*, "curriculum integration", "school-based program", "teaching"

As seen in Table 1, the search combined three concept groups. Terms within a group were joined with OR and the groups were joined with AND. Records were exported in CSV and BibTeX formats in 2026.

3.3. Eligibility criteria

Table 2 summarizes the criteria. Only English-language final journal articles published 2015–2025 were retained. Articles had to treat SEL as a central topic in a school or school-program setting and address curriculum, integrated instruction, school programs, or teaching practice. Incomplete-metadata entries and duplicates were removed, leaving 203 articles.

Table 2. Inclusion and exclusion criteria

Criterion	Inclusion	Exclusion
Database and stage	Indexed in Scopus; final publication	Other databases; articles in press
Years	2015 to 2025	Before 2015 or after 2025
Document and source type	Journal articles	Conference papers, book chapters, books, reviews, editorials, letters, notes, errata
Language	English	All other languages
Topic	SEL as the main focus, including spelling variants (social emotional, social-emotional, socio-emotional, social and emotional learning)	Passing mentions of SEL; "SEL" with a non-education meaning
Context	School settings from early childhood to K-12, or school-based programs	Non-school settings (clinics, families, workplaces, higher education) unrelated to school curricula
Curriculum link	Curriculum, integrated learning, school programs, or teaching practice	No link to curriculum or school learning
Metadata and duplicates	Complete title, authors, abstract, keywords, and references; unique entries	Incomplete metadata; duplicate entries

As presented in Table 2, the 2015–2025 window offers eleven complete years for tracing thematic change, captures growth after SEL competence frameworks consolidated, spans the 2020–2022 pandemic years, and ends with 2025 as the last complete year, avoiding partial-year bias.

3.4. Analytical procedure

The analysis had two parts. Performance analysis described production and impact through publication counts, citation counts, and the h-index. Science mapping examined conceptual structure through keyword co-occurrence networks, thematic maps based on centrality and density (Callon et al., 1991), and thematic evolution across time slices (Cobo et al., 2011). Thematic evolution compared two periods, 2015 to 2023 (124 articles) and 2024 to 2025 (79 articles, 38.9% of the corpus). For descriptive comparison of publication and citation

patterns, the corpus was also divided into three phases: 2015 to 2018, 2019 to 2021, and 2022 to 2025.

Supplementary statistics, including author keyword counts, corresponding-author countries, institutions, and term-based indicators, were computed from the Scopus export with Python. Because name disambiguation differs across tools, some counts may differ slightly from Biblioshiny output. The keyword maps contain generic indexing terms such as human, male, female, and article, which indicates that Scopus index keywords were part of the keyword field. These terms describe study populations and designs rather than research topics and are treated as non-substantive in the interpretation.

4. Results and Discussion

4.1. Research Results

4.1.1. Dataset overview

The corpus comprises 203 journal articles from 112 sources (Table 3), involving 814 unique authors (average 4.75 per article); 19 articles (9.4%) are single-authored, and 42 (20.7%) have authors from more than one country. The articles received 3,670 citations (average 18.1 per article), though the distribution is skewed: median 9, with 20 articles (9.9%) uncited. The corpus h-index is 29.

Table 3. Main information about the corpus

Indicator	Value
Timespan	2015 to 2025
Documents (all final journal articles in English)	203
Sources (journals)	112
Unique authors	814
Single-authored documents	19 (9.4%)
Authors per document (mean)	4.75
Documents with authors from more than one country	42 (20.7%)
Total citations / mean per document / median	3,670 / 18.1 / 9
Uncited documents	20 (9.9%)
h-index of the corpus	29
Unique author keywords (192 documents with keywords)	667

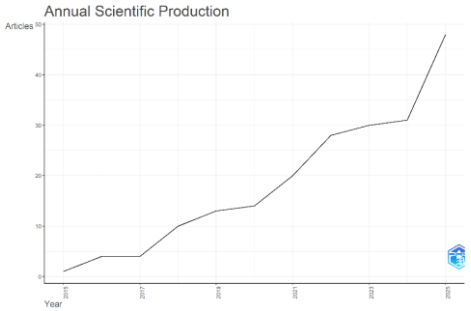
Source: data compiled by the author, 2026

As shown in Table 3, SEL research appears broad but fragmented: 814 unique authors across 203 articles and 112 journals indicate wide distribution rather than concentration among a small group of established researchers. Yet the average of 4.75 authors per article and the 20.7% international-collaboration rate suggest collaboration does not necessarily mean extensive cross-country cooperation. Citation patterns also show uneven visibility: despite an h-index of 29, the median of 9 is well below the mean of 18.1, indicating that a subset of highly cited publications drives overall impact.

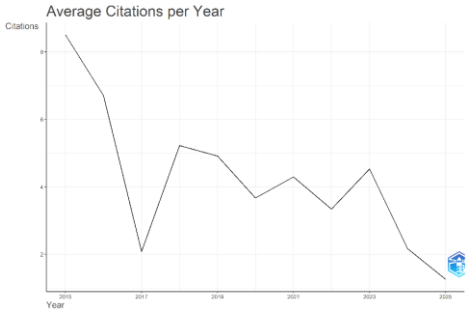
4.1.2. Publication trends

Annual output grew from a single article in 2015 to 48 in 2025 (Figure 1a). Growth was gradual until 2018, when output reached 10 articles, and then accelerated. Output rose from 14 articles in 2020 to 20 in 2021 (+42.9%) and 28 in 2022 (+40.0%), consistent with heightened attention to student and teacher well-being during and after the pandemic, and with the publication lag that follows research conducted in those years. Thirteen articles

mention COVID-19 explicitly. Growth flattened in 2023 and 2024 (30 and 31 articles) before rising to 48 in 2025, an increase of 54.8% over the previous year. With 2016 as the base year, the compound annual growth rate is about 31.8%. Overall, 67.5% of the corpus appeared in 2022 to 2025 (Table 4).



(a) Annual scientific production



(b) Average citations per year

Figure 1. Annual scientific production (a) and average citations per article per year (b), 2015 to 2025
Source: Biblioshiny analysis of Scopus data

Average citations per article per year fall from about 8.5 in 2015 to about 1.3 in 2025 (Figure 1b), with a dip in 2017 and rebounds in 2018 and 2023. This decline mainly reflects citation windows, because older articles have had more time to accumulate citations, and should not be read as declining quality or influence. Table 4 shows the same pattern: the earliest phase averages 50.0 citations per article and the latest 9.7, although the latest phase holds the largest share of articles and total citations are similar across the last two phases.

Table 4. Publication and citation patterns by phase

Phase	Years	Articles	Share	Citations	Mean cites
1	2015 to 2018	19	9.4%	950	50.0
2	2019 to 2021	47	23.2%	1,386	29.5
3	2022 to 2025	137	67.5%	1,334	9.7
Total	**2015 to 2025**	**203**	**100%**	**3,670**	**18.1**

Source: data compiled by the author, 2026

The phase-based distribution reveals a shift in the volume and maturity of SEL research. Publications from 2022–2025 account for 67.5% of the corpus, indicating a substantial concentration of recent scholarly output. However, this growth has not yet translated into citation averages comparable to those of earlier publications. The mean of 9.7 citations per article in the latest phase, compared with 50.0 in 2015–2018, should be interpreted cautiously because recent articles have had less time to accumulate citations. Thus, the findings indicate an expansion of research activity rather than sufficient evidence of a corresponding increase or decrease in scholarly influence.

4.1.3. Influential authors, sources, institutions, and countries

Regarding the authors, Humphrey N. is the most productive with 10 articles, followed by Simões C. with 5 (Figure 2a). Eight authors have four articles each: Bonell C., Cavioni V., Conte E., Grazzani I., Hennessey A., Martinsone B., Ornaghi V., and Qualter P. In terms of citations within the corpus, Humphrey N. leads with 431, followed by Wigelsworth M. (274) and Martinsone B. (239). Productivity is highly uneven: 704 of the 814 authors (86.5%) appear in only one article and just 24 contributed three or more, so the field is sustained largely by one-time contributors, consistent with an interdisciplinary area.

Regarding the sources, publication is spread across 112 journals, of which 77 published a single article. The three most productive sources, Frontiers in Psychology (15 articles), Social and Emotional Learning: Research, Practice, and Policy (12), and Frontiers in Education (11), together publish 18.7% of the corpus (see Table 5). By impact, School Mental Health has the highest total citations (374 from 6 articles), and single articles in JAMA Network Open (173) and Contemporary Educational Psychology (134) exceed the totals of several high-volume journals.

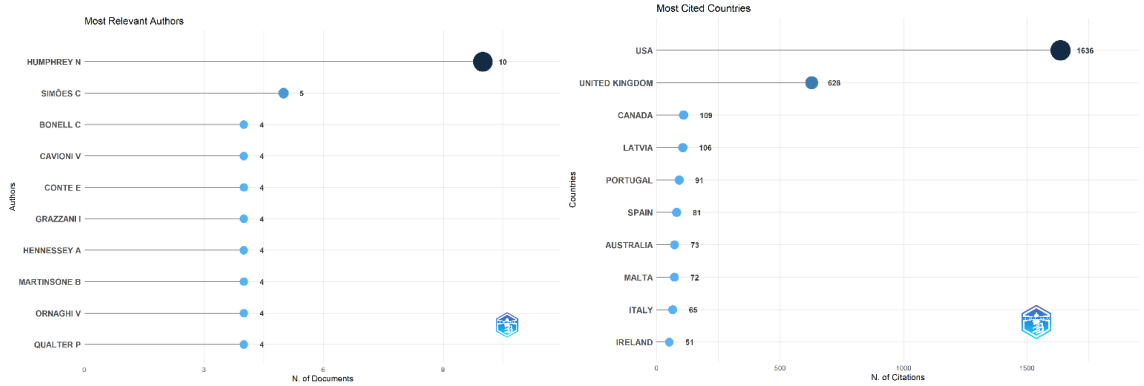
Table 5. Leading sources by output and by citations

Source	Articles	Citations	Cites per article
Frontiers in Psychology	15	276	18.4
Social and Emotional Learning: Research, Practice, and Policy	12	96	8.0
Frontiers in Education	11	66	6.0
School Mental Health	6	374	62.3
Prevention Science	3	236	78.7
Journal of School Psychology	2	215	107.5
JAMA Network Open	1	173	173.0

Source: data compiled by the author, 2026

Regarding the institutions, the University of Manchester is the most productive institution (11 articles), which likely reflects the output of Humphrey N. and colleagues, followed by Pennsylvania State University (9) and the University of Milano-Bicocca (5). Universidade de Lisboa, Monash University, the University of Virginia, the University of Exeter, New York University, and the University of Latvia each contribute four articles.

The comparison between publication volume and citation impact demonstrates that productivity and scholarly visibility are not equivalent. Frontiers in Psychology leads in publication output with 15 articles, whereas School Mental Health records the highest total citations among the listed multi-article sources, with 374 citations from six articles. Prevention Science and Journal of School Psychology also achieve relatively high citation averages despite publishing fewer articles. These differences suggest that the visibility of SEL research varies across publication outlets and that a journal's contribution cannot be assessed solely by the number of articles it publishes. Nevertheless, citation counts should be interpreted as indicators of scholarly attention rather than direct measures of research quality.



(a) Most relevant authors (b) Most cited countries

Figure 2. Most relevant authors by number of documents (a) and most cited countries by total citations (b)

Source: Biblioshiny analysis of Scopus data

Corresponding-author records are dominated by the United States (83 articles, 40.9%) and the United Kingdom (23, 11.3%), which together account for 52.2% of the corpus (Figure 3). Portugal (8), Australia (6), Canada (6), and France (5) follow. International collaboration is limited: 20.7% of articles include authors from more than one country. Indonesia appears as the corresponding-author country for 4 articles, which have received 9 citations in total.

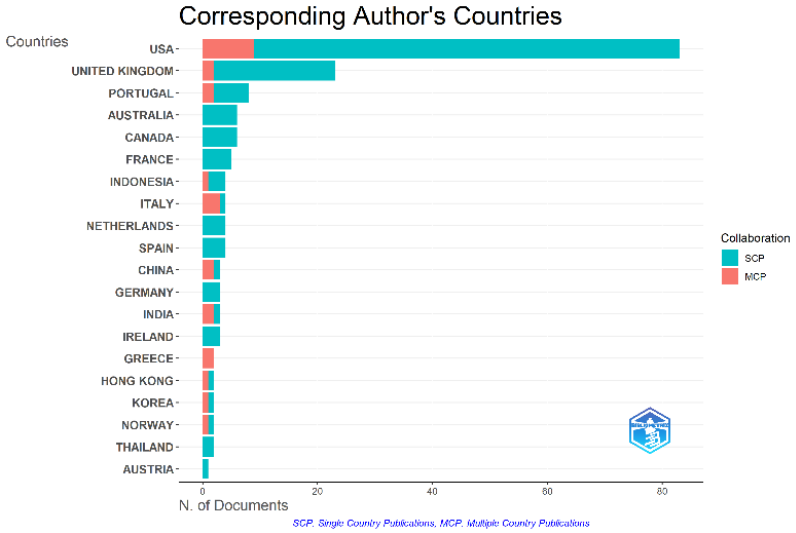
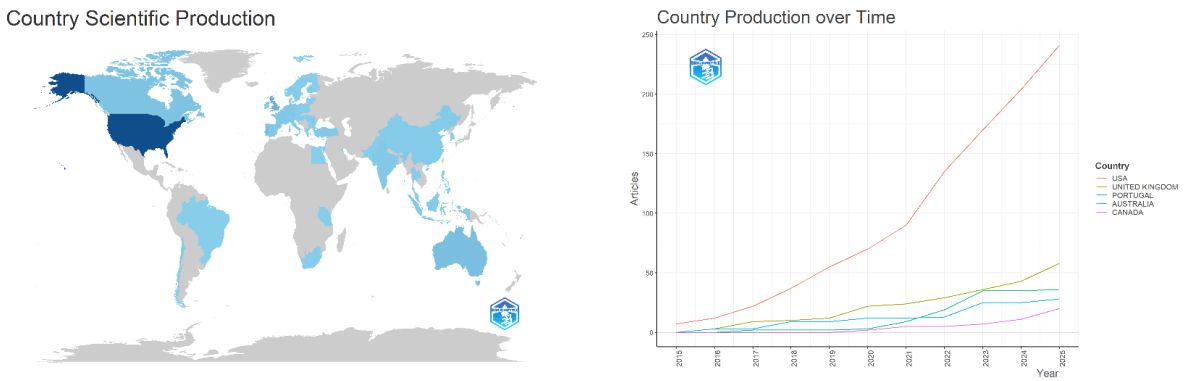


Figure 3. Corresponding author countries by collaboration type (SCP = single country publications, MCP = multiple country publications)
Source: Biblioshiny analysis of Scopus data

The country map (Figure 4a) shows contributions from parts of Asia, South America, Africa, and Oceania, but at much lower volumes than North America and Western Europe. The cumulative country production curves (Figure 4b) count author-level country occurrences, so their totals exceed the number of articles. They show the United States rising to about 240 occurrences by 2025, roughly four times the United Kingdom (about 58). Portugal grew from single digits in 2021 to about 35 in 2023, approaching the United Kingdom, and Australia and Canada grew steadily at a lower level.



(a) Country scientific production (b) Country production over time

Figure 4. Country scientific production (a) and country production over time, cumulative (b)
Source: Biblioshiny analysis of Scopus data

The same concentration appears in impact (Figure 2b). Corresponding authors in the United States and the United Kingdom account for 1,636 and 628 citations, respectively, or

61.7% of all citations, with averages of 19.7 and 27.3 citations per article. Canada (109), Latvia (106), Portugal (91), Spain (81), Australia (73), Malta (72), Italy (65), and Ireland (51) complete the top ten, and Latvia and Malta reach it on the strength of one article each.

4.1.4. Most cited documents

Table 6 lists the ten most cited articles, which together hold 1,270 citations (34.6% of all citations) although they represent only 4.9% of the articles. The top 20 account for 51.7%, 19 articles have at least 50 citations, and 7 have at least 100. Three themes stand out. Four articles provide effectiveness evidence for SEL programs: a meta-analysis of curriculum-based interventions in early childhood centers (Blewitt et al., 2018), a cluster-randomized trial on academic achievement (Schonfeld et al., 2015), a classroom-based program for middle school students (Green et al., 2021), and a randomized study of mindfulness and yoga (Bazzano et al., 2018). Three concern teachers: stress during the pandemic (Robinson et al., 2023), preschool supports and teacher well-being (Zinsser et al., 2016), and trauma-informed, mindfulness-based SEL and burnout (Kim et al., 2021). The remaining three address the core components of effective programs (Lawson et al., 2019), the link between SEL and academic performance (Panayiotou et al., 2019), and relationship-centered environments for sustainable SEL (Ferreira et al., 2020). Notably, the most cited article was published in 2023 and gathered 181 citations in about three years, which shows how quickly teacher well-being has become a central concern.

The concentration of citations among the ten leading articles indicates uneven scholarly attention across the corpus. The prominence of studies on program effectiveness, teacher well-being, and the SEL-academic outcomes relationship suggests substantial attention to these topics. However, high citation counts of individual publications do not necessarily mean these topics dominate the field, as the ranking reflects citation accumulation rather than theme frequency across all 203 articles. The coexistence of intervention studies, teacher-focused research, and conceptual contributions also indicates that influential SEL scholarship addresses both program outcomes and the conditions required to support implementation.

Table 6. Ten most cited articles in the corpus

No.	First author (year)	Source	Focus	Cites
1.	Robinson et al. (2023)	School Mental Health	Teacher stress during the COVID-19 pandemic (qualitative)	181
2.	Blewitt et al. (2018)	JAMA Network Open	Meta-analysis of curriculum-based SEL in early childhood centers	173
3.	Lawson et al. (2019)	Prevention Science	Core components of evidence-based SEL programs	166
4.	Zinsser et al. (2016)	Journal of School Psychology	Preschool center supports and teacher well-being	144
5.	Panayiotou et al. (2019)	Contemporary Educational Psychology	SEL and academic performance	134
6.	Ferreira et al. (2020)	J. of Teacher Education for Sustainability	Relationship-centered environments for sustainable SEL	106
7.	Schonfeld et al. (2015)	School Psychology Quarterly	Cluster-randomized trial, academic achievement	102
8.	Kim et al. (2021)	School Mental Health	Trauma-informed, mindfulness-based SEL and teacher burnout	94

No.	First author (year)	Source	Focus	Cites
9.	Green et al. (2021)	Psychology in the Schools	Classroom-based SEL for middle school students	92
10.	Bazzano et al. (2018)	Psychology Research and Behavior Management	Mindfulness and yoga for students and teachers (randomized)	78

Source: data compiled by the author, 2026

4.1.5. Themes, keywords, and conceptual structure

Of the 203 articles, 192 provide author keywords, yielding 667 unique keywords. The SEL label appears in at least seven forms (Table 7), totaling 124 occurrences, and the most common, "social and emotional learning," accounts for only 39.5%. The hyphenated form led in 2015 to 2018 (5 of 19 articles), whereas "social and emotional learning" dominated in 2019 to 2021 (16 occurrences) and 2022 to 2025 (31). Other frequent author keywords are mental health (18), implementation (13), children (12), and mindfulness (12). Curriculum is an author keyword in only 7 articles despite being among the highest-frequency terms in the combined keyword field (Figure 5), suggesting it often serves as a setting or indexing term rather than the object of study.

Table 7. SEL label variants and most frequent other author keywords

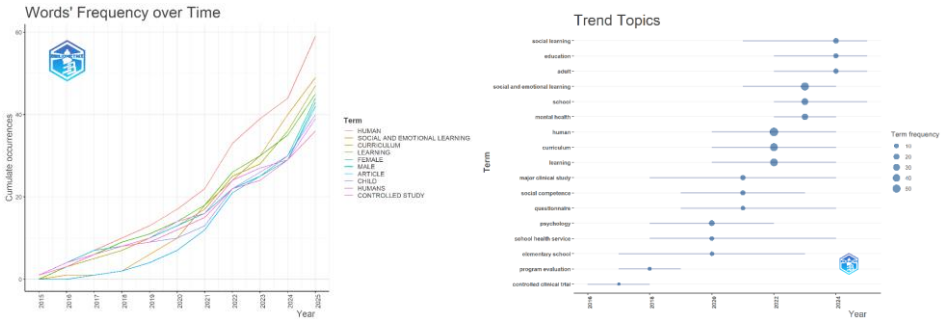
SEL label variant	n	Other author keyword	n
social and emotional learning	49	mental health	18
social-emotional learning	28	implementation	13
social emotional learning	19	children	12
socio-emotional learning	9	mindfulness	12
sel	7	resilience	9
social and emotional learning (sel)	6	adolescents	9
social-emotional learning (typographic variant)	6	intervention	8
		elementary school	8
		curriculum	7
		preschool	7

Source: data compiled by the author, 2026

Figure 5. Word cloud of the most frequent keywords
Source: Biblioshiny analysis of Scopus data

The word cloud is dominated by SEL label variants and generic indexing terms (human, humans, male, female, child, article, controlled study, randomized controlled trial, human experiment), which show a heavily empirical, participant-based corpus but carry little thematic information. Substantive terms such as curriculum, learning, school, teacher, mental

health, mindfulness, wellbeing, and implementation are more informative. Cumulative frequency (Figure 6a) shows steady growth, with human, SEL, curriculum, and learning ending 2025 at roughly 59, 49, 47, and 45 occurrences. The SEL label was rare before 2018 (about 2 cumulative occurrences), reflecting the small early corpus and varied spellings. Trend topics (Figure 6b) show a vocabulary shift: controlled clinical trial (2017) and program evaluation (2018) in the earliest period; elementary school, psychology, and school health service about 2020; questionnaire, social competence, and major clinical study 2021; human, curriculum, and learning around 2022; social and emotional learning, school, and mental health around 2023; and social learning, education, and adult around 2024. The field has thus moved from trial and evaluation vocabulary toward school-wide, mental health, and broader educational vocabulary.



(a) Words' frequency over time (b) Trend topics

Figure 6. Cumulative frequency of leading terms (a) and trend topics by median year (b)
Source: Biblioshiny analysis of Scopus data

The keyword network (Figure 7) has three clusters. The red cluster, the largest and densest, combines curriculum, child, teacher, controlled study, randomized controlled trial, and human experiment with mindfulness, resilience, prevention, physical activity, and school-level labels (elementary, primary, preschool), representing curriculum-based interventions and their trial evidence. The green cluster centers on schools, students, emotions, adolescents, mental health, psychology, and academic achievement, reflecting a psychological and well-being framing. The blue cluster (SEL, implementation, intervention, education, wellbeing) lies at the periphery, weakly linked to the others. Curriculum sits inside the trial-oriented cluster, indicating it is mostly a vehicle for delivering and testing interventions, and SEL spelling variants are spread across two clusters, a sign of terminological fragmentation.

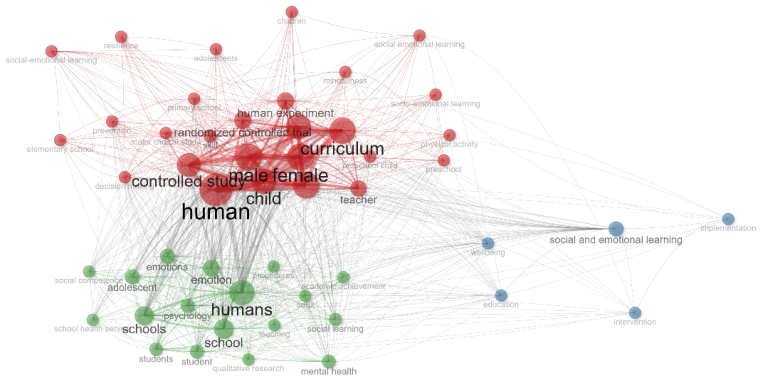


Figure 7. Keyword co-occurrence network (three clusters)
Source: Biblioshiny analysis of Scopus data

In the thematic map of the full period (Figure 8), the motor themes (high centrality and density) are school-related terms (humans, school, schools), teacher, and emotion. Human, curriculum, and learning form a basic theme, central but less internally developed, so curriculum vocabulary connects to almost everything without forming a cohesive research stream. Mental health, wellbeing, and adult lie near the center. SEL labels and implementation fall in the emerging or declining quadrant, which, given rising output, more plausibly reflects spelling fragmentation and weak links to other terms than declining interest.

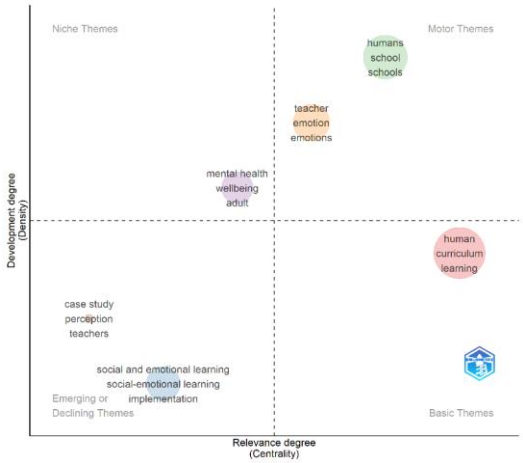


Figure 8. Thematic map of the full period (centrality by density)
Source: Biblioshiny analysis of Scopus data

4.1.6. Thematic evolution and research gaps

The thematic evolution diagram (Figure 9) links the themes of 2015 to 2023 with those of 2024 to 2025. Human, psychology, mental health, humans, high school, and SEL in the first period feed a second-period structure of human, curriculum, implementation, SEL, mental health, primary school, self-concept, and social-emotional learning. Mental health and SEL each maintain a distinct pathway across the periods. Curriculum, implementation, and self-concept emerge as separate themes in 2024 to 2025, drawing on several earlier themes rather than one, primary school also appears as a distinct theme, and high school does not continue as its own cluster. Attention has thus moved from general psychology and human-subject vocabulary toward curriculum, implementation, and self-related constructs.

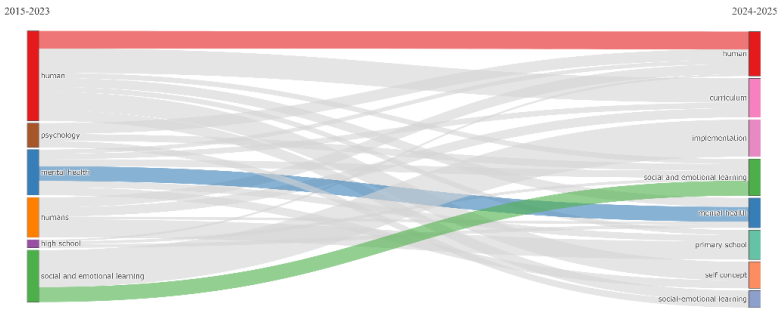
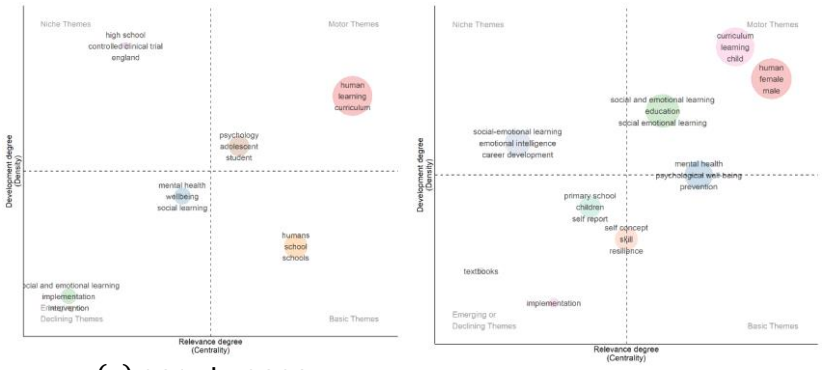


Figure 9. Thematic evolution between 2015 to 2023 and 2024 to 2025
Source: Biblioshiny analysis of Scopus data

The period-specific maps (Figure 10) refine this picture. In 2015 to 2023, the motor themes are human, learning, curriculum, psychology, adolescent, and student; humans, school, and schools are basic; high school, controlled clinical trial, and England are niche; and

SEL, implementation, and intervention are emerging or declining. In 2024 to 2025, curriculum, learning, and child are motor themes, and the SEL label variants move into the motor quadrant with education, suggesting the label has consolidated despite differing spellings. Mental health, psychological well-being, and prevention sit between motor and basic themes. Social-emotional learning with emotional intelligence and career development is niche, while self-concept, skill, resilience, and textbooks are emerging. Implementation stays emerging or declining in both periods despite 72 articles (35.5%) mentioning it.



(a) 2015 to 2023 (b) 2024 to 2025

Figure 10. Thematic maps for 2015 to 2023 (a) and 2024 to 2025 (b)
Source: Biblioshiny analysis of Scopus data

Read together with the term-based indicators, these results point to six research gaps (Table 8). Indicators in the table are counts of articles whose titles, abstracts, or keywords contain the relevant terms and should be read as approximate screening figures.

Table 8. Research gaps and agenda for future work

Gap	Evidence in this corpus	Suggested agenda
Geographic and cultural breadth	US and UK hold 52.2% of corresponding-author records; only 4 articles mention developing countries, low- and middle-income settings, Africa, or Indonesia; 29 mention culture-related terms; 4 Indonesian articles have 9 citations in total	Cultural adaptation and validation of SEL curricula in Asia, Africa, and Latin America; comparative studies; locally grounded competence frameworks
Curriculum as an object of inquiry	Curriculum is an author keyword in only 7 articles; it sits in the trial-oriented cluster and is a basic theme; textbooks are only a small emerging theme	Analysis of SEL in subject content, textbooks, and national curriculum documents; curriculum design and alignment studies
Implementation and scale	Implementation is emerging or declining in both periods and peripheral in the network, although 72 articles mention it	Studies of fidelity, adaptation, school conditions, sustainability, and cost, linked to student outcomes
Teacher agency and competence	117 articles (57.6%) mention teachers; three of the ten most cited articles concern teacher well-being or burnout	Teachers' own social and emotional competence, professional learning, workload, and links to student outcomes

Gap	Evidence in this corpus	Suggested agenda
Methodological breadth and long-term outcomes	38 articles (18.7%) mention randomization and 25 cluster designs; 14 use mixed methods; 60 mention qualitative approaches; about one in ten mentions digital or online delivery	Longitudinal follow-up, mixed-methods and student-voice designs, cross-cultural measurement, and evaluation of digital delivery
Terminology and indexing	Seven SEL label spellings split across clusters; generic index terms dominate keyword maps	A shared label and keyword thesaurus; more specific author keywords (competency, grade level, program name)

Source: data compiled by the author, 2026

Table 8 identifies six SEL research gaps, namely limited geographic and cultural coverage, limited curriculum studies, program implementation, teacher competence, methodological breadth and long-term outcomes, and terminological inconsistency. As shown in Table 8, future research agendas need to focus on the cross-cultural adaptation of SEL curricula, the integration of SEL into instruction, the strengthening of teacher competence, the evaluation of implementation and long-term impact, and the standardization of research terminology.

4.2. Discussion

The bibliometric mapping results show three main tendencies in Social and Emotional Learning (SEL) research, namely the concentration of scientific production, a shift in research focus toward implementation, and the underdeveloped study of curriculum as an object of analysis. These findings extend previous bibliometric studies conducted by Ağırkan and Ergene (2021), Alemdar (2025), and Yang et al. (2026), by connecting publication structure, theme development, and the position of curriculum within a single analytical framework.

First, publication growth has not been accompanied by a more even distribution of scientific contributions. Although the number of publications increased twelvefold during 2016–2025, more than half of the articles originated from two countries and 86.5% of authors contributed only once. This pattern shows that the growth of the SEL field is still accompanied by geographic concentration and limited continuity of author contributions. This condition is relevant to the studies by Ağırkan and Ergene (2021) and Yang et al. (2026) on the development of the SEL literature. However, the dominance of certain countries does not necessarily reflect disparities in research capacity, because it may also be influenced by the use of English, Scopus coverage, and journal visibility. The low citation count of the four Indonesian articles, for example, indicates limited representation in this corpus, not evidence of low quality in national research. This finding underscores the importance of expanding SEL research in sociocultural contexts that remain underrepresented before adopting frameworks and programs developed in Anglo-American contexts.

Second, the focus of SEL research shows a shift from testing program effectiveness toward understanding implementation and school conditions. This initial direction is consistent with Durlak et al. (2011) and Taylor et al. (2017), who examined the impact of SEL interventions, as well as Cipriano et al. (2023), who updated the synthesis of evidence on the effectiveness of universal school-based interventions. Meanwhile, the growing attention to teachers and the school environment is in line with the systemic approach of Mahoney et al. (2021) and the study of SEL pedagogy by Zieher et al. (2024). This development shows that

the success of SEL cannot be understood through program outcomes alone, but must also consider teacher readiness and implementation quality. Although this thematic change occurred during and after the pandemic period, this bibliometric analysis cannot establish a causal relationship. The shift may also reflect the accumulation of evidence on program effectiveness and the expansion of the research agenda toward aspects of delivery.

Third, curriculum is still more often the context in which SEL is applied than the main object of study. Although it appears as a central term in the network, curriculum is relatively rarely used as an author keyword and is categorized as a basic theme in the thematic map of the entire period. This finding needs to be read together with Blewitt et al. (2018), who examined curriculum-based SEL interventions, and Storey (2019), who discussed the integration of SEL in English Language Arts learning. The curriculum framework of van den Akker (2004) also helps position curriculum as a design encompassing goals, content, learning processes, and evaluation. Compared with studies focusing on program effectiveness, research that directly analyzes the integration of SEL competencies in national curriculum documents, subjects, teaching materials, and assessment still needs to be strengthened. The emergence of the textbook theme in 2024–2025 may indicate growing attention to teaching materials, but it is not sufficient to conclude that curriculum studies have become a dominant theme.

Overall, the contribution of this study lies in linking the structure of knowledge production, the evolution of themes, and the position of curriculum within the SEL research landscape. The implication is that researchers need to use consistent keywords and report the country and school context clearly to improve the comparability of mapping (Aria & Cuccurullo, 2017; Donthu et al., 2021b). For practitioners and curriculum developers, evidence of program effectiveness needs to be considered together with teacher readiness, school support, and sociocultural fit. In the Indonesian context, SEL programs from abroad should not be applied directly without local adaptation and evaluation. The study by Agustina et al. (2025) on the implementation of SEL in the Merdeka Curriculum in elementary schools can serve as a point of comparison for developing further research.

This study has several limitations. The use of Scopus alone limits the coverage of regional publications, while the restriction to English-language journal articles may reduce the representation of non-Anglophone research. All records were also recorded as open access, so the possible application of an open access filter needs to be checked and reported transparently. Keyword variations that have not been standardized may affect cluster formation, while citation counts depend on the data retrieval date and tend to be lower for recent articles. In addition, term mapping is not a substitute for content analysis, and keyword-based searching may include articles that discuss SEL only peripherally. Therefore, future research needs to expand the database, standardize keywords, and conduct manual checks of titles and abstracts so that the picture of SEL research development is more representative.

5. Conclusion

This study mapped the development of publications on Social and Emotional Learning (SEL) in school curricula during 2015–2025. The mapping results show an increase in publication productivity, particularly after 2021, with scientific contributions concentrated in certain countries, authors, institutions, and journals. The conceptual structure of the research forms three main clusters, while the most prominent publications address teacher well-being, program effectiveness, and the core components of SEL interventions. The development of themes also shows a shift in attention from program evaluation toward mental health,

implementation, and aspects related to the individual self. Although curriculum occupies a central position in the conceptual network, curriculum itself has not been widely studied as a main research object.

These findings indicate the need to expand SEL research to more diverse geographic and cultural contexts and to examine the integration of SEL directly in curriculum documents, subjects, teaching materials, and assessment. Future research needs to deepen the mechanisms of implementation and the role of teachers, broaden methodological approaches through longitudinal studies that assess the sustainability of outcomes, and standardize terminology to improve the consistency of knowledge mapping. These efforts are expected to strengthen understanding of the relationship between the SEL framework, curriculum design, and learning practice, while also supporting curriculum development that suits local sociocultural needs and educational contexts.

5.1. Conflict of Interest Statement

The author declares no financial or personal relationships that could reasonably be seen as competing interests in connection with this publication.

5.2. Author Contributions

All works in this article were carried out solely by the author.

5.3. Funding Statement

No funding was received for this research from any public, commercial, or not-for-profit funding body.

5.4. Informed Consent

The study analyzes published bibliographic records and involves no human participants, interviews, or collection of personal data.

5.5. Ethical Approval

Not applicable.

5.6. Data Availability

No new empirical data were generated.

5.7. Declaration of Generative AI and AI-assisted Technologies

During the preparation of this manuscript, the author utilized Claude (Anthropic) for language editing and clarity improvement. All outputs generated with the assistance of the tool were critically reviewed and revised by the author to ensure factual accuracy, consistency with the Biblioshiny output, and adherence to academic writing standards. The author assumes full responsibility for the integrity and content of this manuscript.

6. References

Ağırkan, M., & Ergene, T. (2021). What do we know about social and emotional learning? A review and bibliometric analysis of international and national studies. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi*, *23*(1), 280–297. https://doi.org/10.17556/erziefd.822759

Agustina, O. D., Nasution, N., Gunansyah, G., Mariana, N., & Puspita, A. M. I. (2025). Implementation of Social Emotional Learning In Elementary Schools Within the Merdeka Curriculum. *Journal of Innovation and Research in Primary Education*. https://doi.org/10.56916/jirpe.v4i2.1216

Alemdar, M. (2025). Mapping the evolution of social and emotional learning research in primary education contexts: A bibliometric and thematic analysis. *Journal of Intelligence*, *13*(9), 123. https://doi.org/10.3390/jintelligence13090123

Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, *11*(4), 959–975. https://doi.org/10.32614/cran.package.bibliometrix

Bazzano, A. N., Anderson, C. E., Hylton, C., & Gustat, J. (2018). Effect of mindfulness and yoga on quality of life for elementary school students and teachers: results of a randomized controlled school-based study. *Psychology Research and Behavior Management*, *11*, 81–89. https://doi.org/10.2147/PRBM.S157503

Blewitt, C., Fuller-Tyszkiewicz, M., Nolan, A., Bergmeier, H., Vicary, D., Huang, T., McCabe, P., McKay, T., & Skouteris, H. (2018). Social and Emotional Learning Associated With Universal Curriculum-Based Interventions in Early Childhood Education and Care Centers. *JAMA Network Open*, *1*(8), e185727. https://doi.org/10.1001/jamanetworkopen.2018.5727

Callon, M., Courtial, J. P., & Laville, F. (1991). Co-word analysis as a tool for describing the network of interactions between basic and technological research: The case of polymer chemsitry. *Scientometrics*, *22*(1), 155–205. https://doi.org/10.1007/bf02019280

Carpendale, E., Green, M., Dix, K., Tzoumakis, S., Williams, K., White, S., Carr, V., & Laurens, K. (2025). An exploratory evaluation of universal social-emotional learning programs delivered during elementary school to Australian students. *Journal of School Psychology*, *110*, 101447. https://doi.org/10.1016/j.jsp.2025.101447

Cipriano, C., Strambler, M., Naples, L. H., Ha, C., Kirk, M., Wood, M., Sehgal, K., Zieher, A., Eveleigh, A., McCarthy, M., Funaro, M., Ponnock, A., Chow, J., & Durlak, J. (2023). The state of evidence for social and emotional learning: A contemporary meta-analysis of universal school-based SEL interventions. *Child Development*. https://doi.org/10.1111/cdev.13968

Cobo, M. J., López-Herrera, A. G., Herrera-Viedma, E., & Herrera, F. (2011). An approach for detecting, quantifying, and visualizing the evolution of a research field: A practical application to the Fuzzy Sets Theory field. *Journal of Informetrics*, *5*(1), 146–166. https://doi.org/10.1016/j.joi.2010.10.002

Coelho, V., Peixoto, C., Azevedo, H., Machado, F., Soares, M., & Espain, A. (2023). Effects of a Portuguese social–emotional learning program on the competencies of elementary school students. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1195746

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, *133*, 285–296. https://doi.org/10.1016/j.jbusres.2021.04.070

Donthu, N., Kumar, S., Pattnaik, D., & Lim, W. M. (2021). A bibliometric retrospection of marketing from the lens of psychology: Insights from Psychology & Marketing. *Psychology & Marketing*, *38*(5), 834–865. https://doi.org/10.1002/mar.21472

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*(1), 405–432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Dyson, B., Shen, Y., Howley, D., & Baek, S. (2023). Social emotional learning matters: Interpreting educators' perspectives at a high-needs rural elementary school. *Frontiers in Education*, *8*, 1100667. https://doi.org/10.3389/feduc.2023.1100667

Ferreira, M., Martinsone, B., & Talić, S. (2020). Promoting Sustainable Social Emotional Learning at School through Relationship-Centered Learning Environment, Teaching Methods and Formative Assessment. *Journal of Teacher Education for Sustainability*, *22*(1), 21–36. https://doi.org/10.2478/jtes-2020-0003

Frazier, T., Roeser, R. W., Schonert-Reichl, K. A., & Negi, L. T. (2025). Evaluating the feasibility and preliminary impact of the Social, Emotional, and Ethical (SEE) Learning program: A compassion-based social and emotional learning program for elementary school children. *PLOS One*, *20*(8), e0328519. https://doi.org/10.1371/journal.pone.0328519

Green, A. L., Ferrante, S., Boaz, T. L., Kutash, K., & Wheeldon-Reece, B. (2021). Social and emotional learning during early adolescence: Effectiveness of a classroom-based SEL program for middle school students. *Psychology in the Schools*, *58*(6), 1056–1069. https://doi.org/10.1002/pits.22487

Ha, C., McCarthy, M., Strambler, M., & Cipriano, C. (2025). Disentangling the Effects of Social and Emotional Learning Programs on Student Academic Achievement Across Grades 1–12: A Systematic Review and Meta-analysis. *Review of Educational Research*, *96*, 1839–1880. https://doi.org/10.3102/00346543251367769

Hall, J., Ritchie, K., & King, S. (2026). A Pan-Canadian Analysis of Social-Emotional Learning Curriculum Outcomes in Elementary Grades. *Canadian Journal of School Psychology*, *41*, 131–156. https://doi.org/10.1177/08295735261430424

Hosokawa, R., Matsumoto, Y., Nishida, C., Funato, K., & Mitani, A. (2024). Enhancing social-emotional skills in early childhood: intervention study on the effectiveness of social and emotional learning. *BMC Psychology*, *12*(1), 761. https://doi.org/10.1186/s40359-024-02280-w

Kim, S., Crooks, C. V., Bax, K., & Shokoohi, M. (2021). Impact of Trauma-Informed Training and Mindfulness-Based Social–Emotional Learning Program on Teacher Attitudes and Burnout: A Mixed-Methods Study. *School Mental Health*, *13*(1), 55–68. https://doi.org/10.1007/s12310-020-09406-6

Lawson, G. M., McKenzie, M. E., Becker, K. D., Selby, L., & Hoover, S. A. (2019). The Core Components of Evidence-Based Social Emotional Learning Programs. *Prevention Science*, *20*(4), 457–467. https://doi.org/10.1007/s11121-018-0953-y

Lee, J. (2024). The role of teachers' social and emotional competence in implementing social and emotional learning (SEL) curriculum in Malawi. *School Psychology International*, *45*, 681–698. https://doi.org/10.1177/01430343241247221

Lin, Z., Huang, C., & Shi, J.-P. (2026). Promoting Holistic Student Development Through Universal School-Based Social-Emotional Learning in China: A Meta-Analysis. *Behavioral Sciences*, *16*. https://doi.org/10.3390/bs16030368

Mahoney, J. L., Weissberg, R. P., Greenberg, M. T., Dusenbury, L., Jagers, R. J., Niemi, K., Schlinger, M., Schlund, J., Shriver, T. P., VanAusdal, K., & Yoder, N. (2021). Systemic social and emotional learning: Promoting educational success for all preschool to high school students. *American Psychologist*, *76*(7), 1128–1142. https://doi.org/10.1037/amp0000701

Molyneux, T. M., & Diamond, A. (2025). Integrating Social and Emotional Learning into Mathematics Education: A Multiple Case Study of JUMP Math's Approach to Creating Socially and Emotionally Supportive Learning Environments. *Behavioral Sciences*, *15*(10), 1426. https://doi.org/10.3390/bs15101426

Oberle, E., Domitrovich, C. E., Meyers, D. C., & Weissberg, R. P. (2016). Establishing systemic social and emotional learning approaches in schools: a framework for schoolwide implementation. *Cambridge Journal of Education*, *46*(3), 277–297. https://doi.org/10.1080/0305764X.2015.1125450

Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … McKenzie, J. E. (2021). PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews. *BMJ*, n160. https://doi.org/10.1136/bmj.n160

Panayiotou, M., Humphrey, N., & Wigelsworth, M. (2019). An empirical basis for linking social and emotional learning to academic performance. *Contemporary Educational Psychology*, *56*, 193–204. https://doi.org/10.1016/j.cedpsych.2019.01.009

Robinson, L. E., Valido, A., Drescher, A., Woolweaver, A. B., Espelage, D. L., LoMurray, S., Long, A. C. J., Wright, A. A., & Dailey, M. M. (2023). Teachers, stress, and the COVID-19 pandemic: A qualitative analysis. *School Mental Health*, *15*(1), 78–89. https://doi.org/10.1007/s12310-022-09533-2

Schonfeld, D. J., Adams, R. E., Fredstrom, B. K., Weissberg, R. P., Gilman, R., Voyce, C., Tomlin, R., & Speese-Linehan, D. (2015). Cluster-randomized trial demonstrating impact on academic achievement of elementary social-emotional learning. *School Psychology Quarterly*, *30*(3), 406–420. https://doi.org/10.1037/spq0000099

Storey, M. (2019). Engaging minds and hearts: Social and emotional learning in English Language Arts. *Language and Literacy*, *21*(1), 122–139. https://doi.org/10.20360/langandlit29355

Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting Positive Youth Development Through School-Based Social and Emotional Learning Interventions: A Meta-Analysis of Follow-Up Effects. *Child Development*, *88*(4), 1156–1171. https://doi.org/10.1111/cdev.12864

Thijs, A., & Akker, J. van den. (2009). *Curriculum in Development*. SLO.

van den Akker, J. (2004). Curriculum Perspectives: An Introduction. In *Curriculum Landscapes and Trends* (pp. 1–10). Springer Netherlands. https://doi.org/10.1007/978-94-017-1205-7_1

Wigelsworth, M., Verity, L., Mason, C., Qualter, P., & Humphrey, N. (2021). Social and emotional learning in primary schools: A review of the current state of evidence. *The British Journal of Educational Psychology*, *92*, 898–924. https://doi.org/10.1111/bjep.12480

Yang, Z., Ge, S., Yahya, A. N., Kamaruddin, A. Y., Yang, P., & Zhang, H. (2026). A Bibliometric Landscape of Social-Emotional Learning Publications over the Past Decades. *School Mental Health*, *18*(1), 1–24. https://doi.org/10.1007/s12310-025-09828-0

Zhao, Y.-Y., & Sang, B. (2025). The Effect of Social–Emotional Learning Programs on Elementary and Middle School Students' Academic Achievement: A Meta-Analytic Review. *Behavioral Sciences*, *15*(11), 1527. https://doi.org/10.3390/bs15111527

Zieher, A. K., Bailey, C. S., Cipriano, C., McNaboe, T., Smith, K., & Strambler, M. J. (2024). Considering the "How" of SEL: A framework for the pedagogies of social and emotional learning. *Social and Emotional Learning: Research, Practice, and Policy*, *3*, 100030. https://doi.org/10.1016/j.sel.2024.100030

Zinsser, K. M., Christensen, C. G., & Torres, L. (2016). She's supporting them; who's supporting her? Preschool center-level social-emotional supports and teacher well-being. *Journal of School Psychology*, *59*, 55–66. https://doi.org/10.1016/j.jsp.2016.09.001