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(IJEPC)**www.ijepe.com**GLOBAL TRENDS AND THEMES IN SOCIAL AND EMOTIONAL
LEARNING (SEL) COMPETENCIES AMONG EDUCATORS: A
BIBLIOMETRIC ANALYSIS**Abdul Karim Gazi¹, Marcia Jane Ganasan^{2*}, Mohamad Fadhili B. Yahaya³¹ Academy of Language Studies, Universiti Teknologi MARA (UiTM), Perlis, Malaysia
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DOI: 10.35631/IJEPC.1059058**This work is licensed under** [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)**Abstract:**

Educators' Social and Emotional Learning (SEL) competencies foster a comprehensive teaching and learning process. This bibliometric analysis investigates the research landscape of lecturers' SEL competencies over the last 25 years. Data are collected from Scopus and were analysed using MS Excel, Harzing's Publish or Perish, and VOSviewer. A total of 151 papers were selected for analysis using PRISMA. The results of this study highlighted publication trends, influential contributors, key research areas, and international collaborations in SEL. The number of publications related to SEL competencies rose sharply after 2020, peaking at 32 papers in 2024. The United States takes the lead in research contributions with 99 papers, followed by Canada and other countries across Europe and Asia. The concentration of SEL research in Social Sciences (128 papers) and Psychology (59 papers) illustrates a wide-ranging interdisciplinary relevance in SEL. SEL research indicates key themes include emotional intelligence, classroom management, student engagement, equity, and mental health. The widely cited works of Hellman & Milling (2020) and Mondy & Reynolds (2021) underscore the importance of SEL in education and early intervention studies. Co-authorship and co-citation analyses demonstrate active collaborative networks among scholars and institutions such as Arizona State University. Keyword co-occurrence analyses further revealed emerging trends like social justice, inclusion, and the integration of SEL into digital and culturally responsive educational practices. The study further suggests that it is essential to cultivate an SEL supportive learning environment through educator SEL skills and techniques.

Keywords:

Social and Emotional Learning (SEL), SEL Competencies, Bibliometric Analysis, Educational Research, Mental Health

Introduction

Social and Emotional Learning (SEL) is an increasingly accepted educational approach. This approach includes several skills that are not essential only for educators but also for students' well-being. Teachers play a crucial role in modelling and supporting SEL in their classrooms to create emotionally supportive learning environments.

In recent years, the prevalence of mental health issues, such as anxiety, depression, sleep problems, and suicide attempts among students has significantly increased (Chen et al., 2022). Traditional teaching approaches are not sufficient to support student mental health (Payne, 2022). Social and emotional learning (SEL) interventions for teachers show positive effects on students reduced psychological distress (Oliveira et al., 2021). Additionally, Positive teacher-student and peer relationship interactions positively impact classroom engagement, while negative interactions negatively impact engagement (Li et al., 2024). Traditional teaching methods have limitations for student engagement, while modern teaching, particularly SEL approaches, can enhance student engagement and success (Yue, 2024). Undesired student behaviors in the classroom include disturbing the peace, not being prepared, distraction, disrespectful behaviors, not obeying the rules, and coming late to class (Kazak & Koyuncu, 2021). Traditional teaching approaches alone are insufficient for controlling students' disruptive behavior, and a combination of traditional and innovative approaches is recommended (Akhter & Akhter, 2021).

However, Social and Emotional Learning (SEL) is applied across a broad educational spectrum, from pre-primary to higher education levels (Bergin et al., 2024; Elmi, 2020). Although numerous studies highlight the benefits of teachers' SEL competencies, there is a noticeable gap in systematically mapping research on SEL skills among educators across all levels of education. A bibliometric analysis can offer valuable insights into publication trends, influential authors and institutions, frequently co-occurring keywords, and thematic developments over time. This lack of quantitative synthesis and visual representation presents a significant opportunity to understand how the field has evolved and to identify directions for future research on educators' SEL competencies.

Objectives

1. To identify research trends specifically on educators' Social and Emotional Learning (SEL) competencies in education.
2. To examine the major contributors, influential publications, and leading institutions in the field.
3. To explore collaborative networks and patterns of knowledge dissemination within SEL research focused on educators.

Literature Review

SEL has become a key element of contemporary education, hence greatly improving the whole teaching and learning process. It increases relationships between educators and pupils and promotes a good learning environment (Norman et al., 2021). When properly integrated into

teaching, SEL techniques can increase students' interest in learning, involvement in extracurricular activities, and academic success (Cullen et al., 2017). Thus, SEL helps to promote long-term emotional well-being by enabling pupils to control social and academic pressures.

Apart from its effects on pupils, SEL also helps to change teachers' instructional methods. Faculty members who interact with SEL courses can see a change in their teaching strategies, which leads to more compassionate and encouraging classrooms (Cullen et al., 2017). Programs such as PROMEHS (a Program for Promoting Mental Health at Schools), which aim to develop social-emotional competencies of both teachers and students, have shown gains in SEL abilities for both students and teachers (Poulou et al., 2022). Significantly, instructors' well-being and social-emotional competence are closely related to their ability to assist students' social and emotional growth (Billy & Garríguez, 2021; Schonert-Reichl, 2017).

SEL enables educators to gain social-emotional qualities if SEL is to be implemented successfully. These competencies consist of self-management, self-awareness, social awareness, relationship skills, and responsible decision-making skills (Gimbert et al., 2023). Teachers who have high SEL competencies are better able to build emotionally supportive environments (Zinsser et al., 2015). Therefore, the SEL skills of teachers are fundamental for providing effective SEL initiatives (Pasco & Cruz, 2023). Moreover, effective SEL education relies on teachers' capacity to include relationship-building, teamwork, emotional involvement, and techno-pedagogical knowledge into their lessons (Levin & Segev, 2023).

Methodology and Materials

This study provides a bibliometric analysis of SEL competencies among educators at all levels of education, such as kindergartens, primary, secondary, and tertiary levels. The data were obtained on 15 May 2025 from Scopus to ensure a reliable data source. The authors followed PRISMA guidelines to conduct the search and final selection of documents, including identification, screening, eligibility, and inclusion (Page et al., 2021). Figure 1 displays the specific keywords for the search: "Social and emotional learning competencies" OR "social emotional learning competencies" OR "social-emotional learning skills" OR "Socio-emotional learning competencies" OR "SEL Competencies" OR "SEL Skills" AND "Lecturer" OR "Lecturers" OR "educators" OR "educator" OR "instructors" OR "Teachers" OR "academic staff" OR "education professionals".

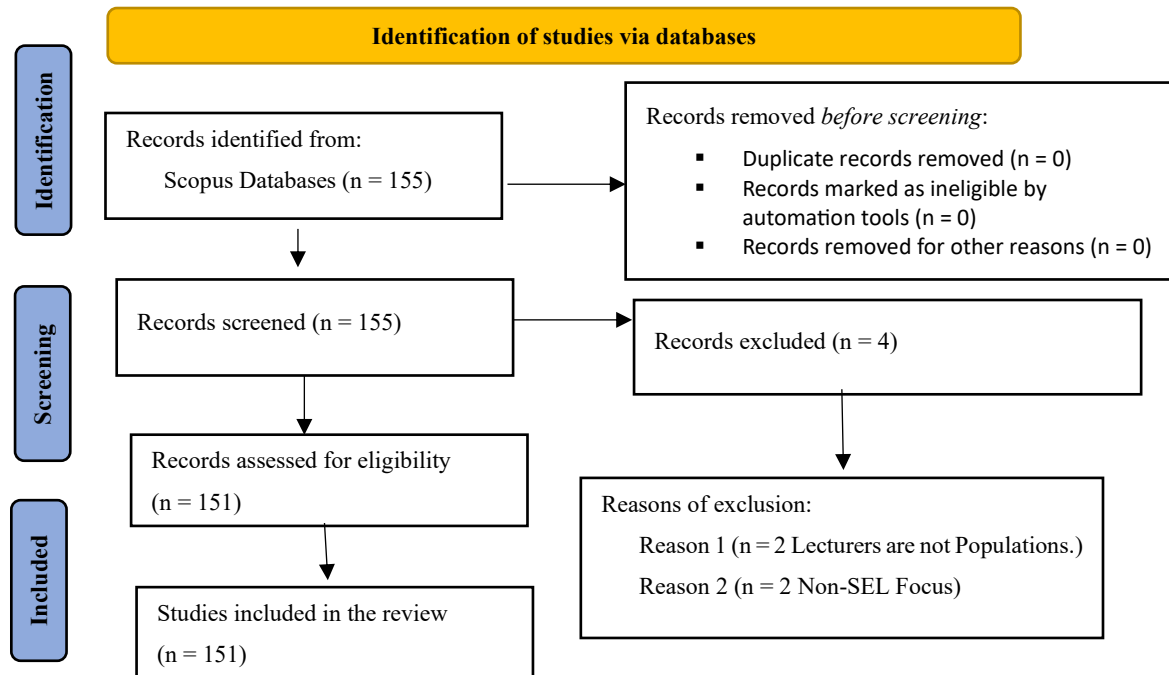


Figure 1: PRISMA Guidelines

The authors used the fields “Article title, Abstract, Keywords” to search for specific keywords in the Scopus database to ensure comprehensive coverage, as SEL is often discussed in the abstract or keywords rather than in the title alone (Dash, 2016). Initially, the search found a total of 155 papers, and all papers underwent a thorough screening process because no paper was duplicated. Subsequently, four documents were excluded from the review: two papers did not include lecturers as the target population, and the other two documents did not focus on SEL.

To analyse 151 documents, the authors employed various software, namely Microsoft Excel, Harzing’s Publish or Perish software, and VOS Viewer. The tools applied in this study included Microsoft Excel for visualizing publication trends, Harzing’s Publish or Perish for metric analysis, and VOSviewer for graphical representation of data.

Result and Discussion

Documents Metrics

The document metric shows the summary of research on teachers’ SEL competencies over the last 25 years. In Table 1, a total of 151 papers focusing on SEL skills of educators have received 2,448 citations.

Table 1: Document Metrics

1	Papers	151
2	Citations	2448
3	Years	25
4	Cites_Year	97.92
5	Cites_Paper	16.21

6	Cites_Author	872.79
7	Papers_Author	73.35
8	Authors_Paper	3.11
9	h_index	23
10	g_index	47

This topic has gained significant recognition within the academic world, averaging 97.92 citations per year and 16.21 citations per manuscript. The analysis indicates a notable degree of collaboration, with an average of 3.11 writers per manuscript. The h-index of 23 and g-index of 47 prove the production and impact of the articles in this field. The mean citations per author (872.79) and papers per author (73.35) are the central cohort of scholars delivering significant contributions. These measurements underscore the research on teachers' SEL abilities within the wider scope of educational research.

Year-wise Documents and Citations

The annual distribution of publications and the total citations garnered by those publications concerning teachers' social-emotional skills during the last 25 years. According the Table 2 and Figure 2, the results indicate a distinct rising trend in publication production, particularly in recent years. Between 2000 and 2010, the volume of publications was minimal, with merely a handful of articles per year. Over time, early contributions, such as a 2000 paper, have achieved high impact, with citation counts reaching 311.

Table 2: Year-wise Documents and Citations

Year of documents and citations	Documents	Citations
2025	15	1
2024	32	21
2023	23	75
2022	18	102
2021	22	332
2020	6	76
2019	9	146
2018	5	67
2017	8	516
2016	3	15
2015	4	337
2014	1	10
2013	3	313
2010	3	37
2009	1	87
2007	1	2
2000	1	311
Total	151	2448

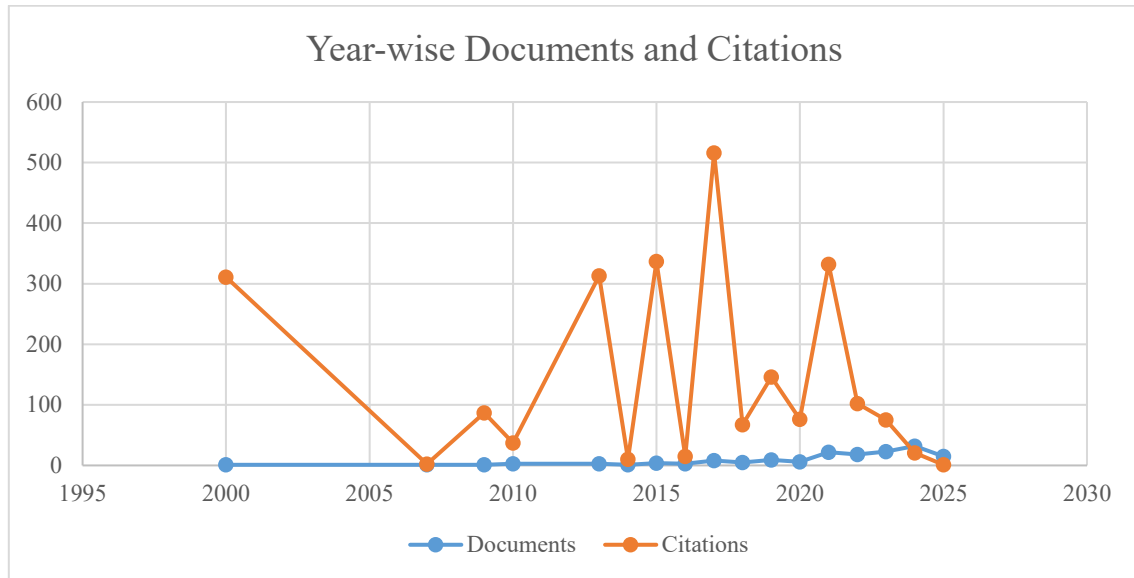


Figure 2: Line Graph

A clear transition took place following 2013, with a significant increase in publication volume and citation influence. The most frequently cited publications originated in 2017 (516 citations from 8 papers), 2015 (337 citations from 4 papers), and 2013 (313 citations from 3 papers), suggesting that some years had notably impactful investigations. The quantity of publications peaked in 2024 with 32 articles, indicating an increasing scholarly emphasis on SEL among educators. Citations for the years 2024 and 2025 are minimal (21 and 1, respectively), probably due to insufficient time for these works to garner citations. The findings indicate an increasing amount and academic significance of research on SEL abilities in educators, especially post-2020, due to global educational transformations and the effects of the COVID-19 pandemic. The annual distribution of publications about teachers' SEL competencies over the past 25 years reveals a notable upward trend, especially in recent years. Since 2020, the volume of publications has significantly increased, reaching a peak in 2024 with 32 articles, followed by 2023 with 23 papers, and 2025 with 15 papers as of mid-year. This growth signifies a growing academic focus on SEL competencies, likely influenced by heightened global concern for educators' well-being and emotional resilience, particularly in the context of post-pandemic education. Between 2000 and 2019, publication rates were persistently low, typically in the single digits annually. Since 2020, there has been a notable increase in SEL research addressing educators' skills. This trend indicates the increasing recognition of SEL as a fundamental component of teacher development and effective educational practice.

Subject Areas

The distribution of publications about teachers' socio-emotional abilities underscores the heterogeneous aspect of this research field. The Table 3 shows that the majority of the documents were published from educational, psychological, and health-related fields. Especially, the highest number of publications appeared in Social Sciences (128 papers), followed by notable contributions from Psychology (59 papers), Medicine (28 papers), and the Arts and Humanities (20 papers).

Table 3: Subject Areas

Social Sciences	128
Psychology	59
Medicine	28
Arts and Humanities	20
Health Professions	14
Computer Science	9
Engineering	6
Mathematics	4
Business, Management and Accounting	3
Physics and Astronomy	3
Decision Sciences	1
Economics, Econometrics and Finance	1
Energy	1
Environmental Science	1
Multidisciplinary	1
Neuroscience	1
Pharmacology, Toxicology and Pharmaceutics	1

Moreover, disciplines like Health Professions (14), Computer Science (9), and Engineering (6) have participated in SEL research, apparently within contexts of digital learning environments, educational technologies, and teacher training. Minimal contributions from fields like as Mathematics, Business, Management and Accounting, Physics and Astronomy, among others, indicate an increasing interest in incorporating SEL viewpoints across other academic disciplines. The existence of papers in the Multidisciplinary domains further emphasizes the expanding depth and relevance of SEL research in modern education.

Top Ten Cited Documents

Table 4 shows the most highly cited documents in the field of social-emotional learning that emphasize the educators' SEL competencies. The most cited article (311 citations) by Hellman and Milling (2000) discussed the role of integrating SEL into teacher education policy and curriculum, particularly within the context of arts education.

Table 4: Top Ten Cited Documents

Authors	Title	Source title	Cited by
Hellman & Milling (2020)	Social emotional learning in arts teacher education policy: a content analysis of assurance standards and course descriptions	Arts Education Policy Review	311
Mondi & Reynolds (2021)	Socio-Emotional Learning among Low-Income Prekindergarteners: The Roles	Early Education and Development	201

	of Individual Factors and Early Intervention		
Mäkinen et al. (2021)	Significant in life: Core learning outcomes of a social and emotional course in physical education teacher education	International Approaches to Promoting Social and Emotional Learning in Schools: A Framework for Developing Teaching Strategy	141
Pinchumphonsang & Chanchalor (2020)	The development of social emotional learning programs in a cross-cultural elementary classroom	International Journal of Innovation and Learning	136
Richards et al. (2019)	Combining the Skill Themes Approach with Teaching Personal and Social Responsibility to Teach Social and Emotional Learning in Elementary Physical Education	Journal of Physical Education, Recreation and Dance	124
Theophilou et al. (2019)	Soële: A Tool for Teachers to Evaluate Social Awareness in Their Learning Designs	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	113
Gresham et al. (2020)	Psychometric Fundamentals of the Social Skills Improvement System: Social-Emotional Learning Edition Rating Forms	Assessment for Effective Intervention	112
Anthony et al. (2020)	Multirater assessment of young children's social and emotional learning via the SSIS SEL Brief Scales – Preschool Forms	Early Childhood Research Quarterly	88
Smith & Low (2013)	The Role of Social-Emotional Learning In Bullying Prevention Efforts	Theory into Practice	87
Gol-Guven (2016)	The lions quest program in Turkey: Teachers' views and classroom practices	International Journal of Emotional Education	75

Mondi and Reynolds (2021), cited 201 times, explore how individual and early intervention factors influence SEL in low-income pre-kindergarteners. Other prominent works focus on SEL implementation in cross-cultural and physical education contexts (Mäkinen et al., 2021; Pinchumphonsang & Chanchalor, 2020; Richards et al., 2019), showcasing its adaptability across disciplines. Tools and assessments also emerge as a critical theme, such as SOËLE for evaluating social awareness (Theophilou et al., 2019) and the SSIS SEL brief scales (Anthony et al., 2020; Gresham et al., 2020), emphasizing the need for reliable SEL measurement. Additional studies link SEL to bullying prevention (Smith & Low, 2013) and teacher perceptions of SEL programs (Gol-Guven, 2016), demonstrating its wide-ranging applications. Collectively, these studies show how SEL is being developed, measured, and applied in different educational settings.

Top Ten Sources of Documents

Table 5 explores the ten principal sources contributing to the literature on teachers' SEL proficiency. The International Journal of Emotional Education and the Journal of Physical Education, Recreation and Dance each have 5 publications, indicating their focus on emotional development and holistic education.

Table 5: Top Ten Sources of Documents

International Journal Of Emotional Education	5
Journal Of Physical Education Recreation And Dance	5
Early Childhood Education Journal	4
Frontiers In Psychology	4
Future Of Children	4
Journal Of General Music Education	4
Frontiers In Education	3
Psychology In The Schools	3
School Psychology Review	3
Strategies	3

Numerous additional journals have significantly contributed to social-emotional learning across developmental stages and disciplines, including the Early Childhood Education Journal, Frontiers in Psychology, Future of Children, and the Journal of General Music Education, each with four publications. Furthermore, Frontiers in Education, Psychology in the Schools, School Psychology Review, and Strategies each published 3 articles focusing on SEL subjects from educational theory and practice to school-based psychological assistance. The wide range of sources reflects the role of SEL research across multiple academic disciplines.

Top Ten Funding Sources

A wide range of organizations funded research on teachers' social-emotional effectiveness. Figure 3 discusses the ten principal funding sources and their involvement across different regions and sectors. The European Commission leads six financed studies, followed by the U.S. Department of Education with four, indicating robust regional and national support.

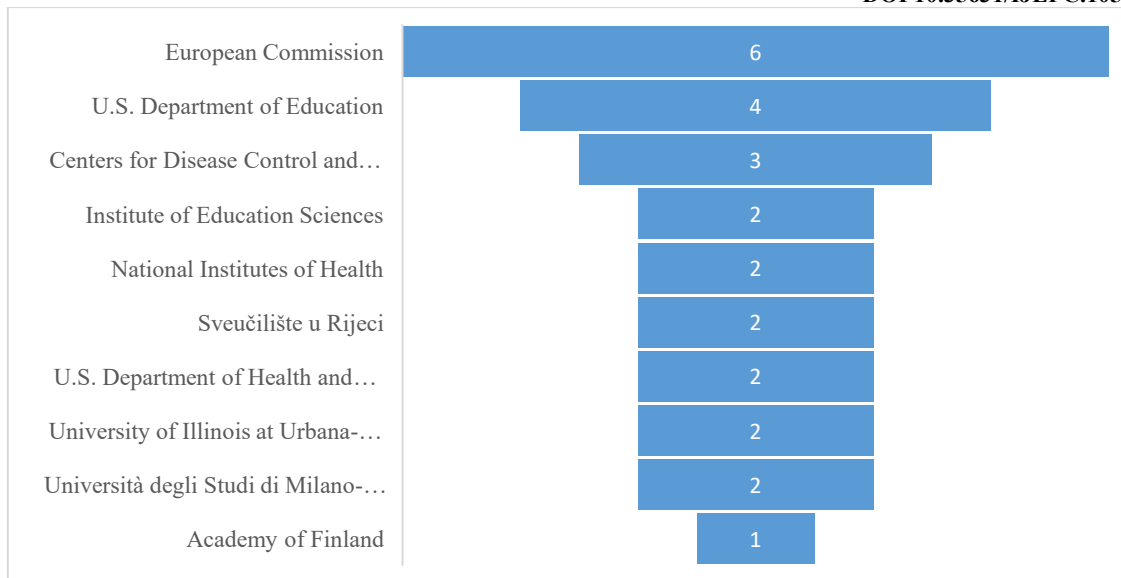


Figure 3: Top Ten Funding Sources

The Centres for Disease Control and Prevention (CDC) supported three studies focusing on SEL and public health. Research-oriented entities, including the Institute of Education Sciences and the National Institutes of Health (NIH), each financed two research, in partnership with the U.S. Department of Health and Human Services. Several academic institutions demonstrated global academic involvement in this field, such as the University of Illinois at Urbana-Champaign, Sveučilište u Rijeci, and Università degli Studi di Milano-Bicocca. The Academy of Finland ends the list, supporting global interest in SEL. This varied collection of sponsors highlights the increasing acknowledgement of SEL as crucial for teacher efficacy.

Type of Documents

Figure 4 shows that the analysis of document types reveals the majority of publications related to teachers' SEL capabilities are journal articles, which account for 77% (116 documents) of the total.

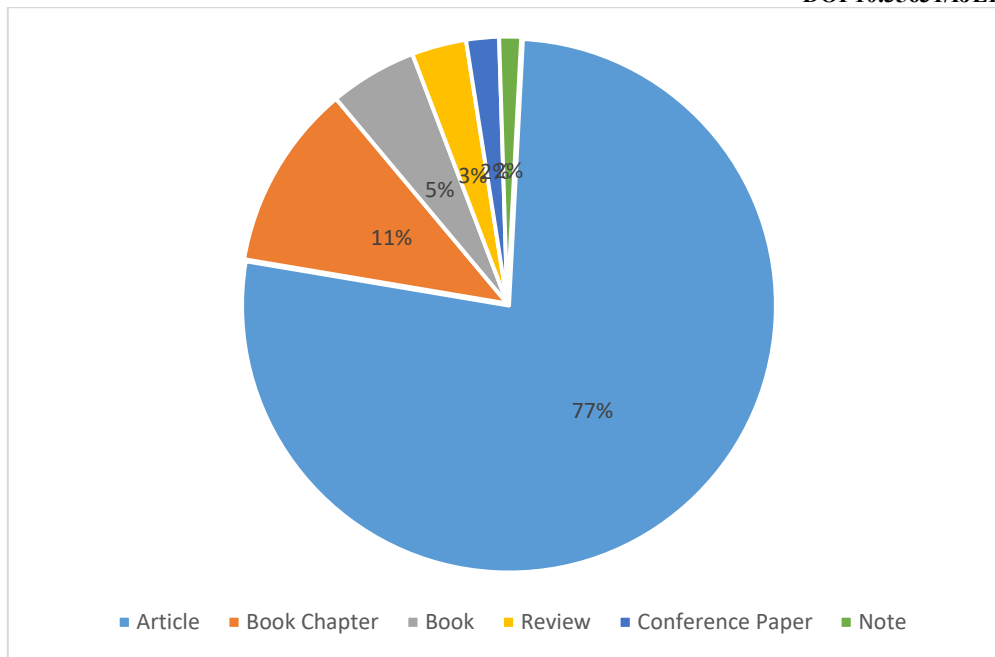


Figure 4: Types of Documents

This highlights the central role of peer-reviewed journals as the primary medium for disseminating SEL research. Book chapters form the second-largest category with 11% (17 documents), followed by books at 5% (8 documents), reflecting a growing interest in comprehensive and in-depth explorations of SEL topics. Reviews make up 3% (5 documents), indicating ongoing efforts to synthesize existing literature. Additionally, conference papers (3%) and notes (2%) suggest contributions of early-stage findings and brief scholarly commentary. Overall, this distribution emphasizes a strong academic foundation for SEL research, supported by diverse scholarly formats.

Top 10 Countries

The global landscape of SEL research reveals that many countries actively contribute to advancing educator development through social-emotional learning. The table 6 shows the leading ten countries' contribution and global presence to research on educators' SEL competences. The USA played a leading role in contributing more than half of the publications.

Table 6: Top Ten Countries

United States	99
Canada	8
Italy	7
Greece	6
Israel	6
India	5
Portugal	5
Turkey	5
United Kingdom	5
Australia	4

Canada has 8 publications, indicating North America's extensive involvement in teacher-centered SEL research. European nations, including Italy (7), Greece (6), Portugal (5), and the United Kingdom (5), exhibit significant engagement on social-emotional learning within European educational frameworks. With six publications, Israel reflects a robust regional interest in social-emotional development. India (5) and Turkey (5) from Asia exemplify substantial engagement in the global significance of SEL in educator development. Australia, contributing four publications, promotes geographic diversity, underscoring the global acknowledgement of SEL as an essential element of effective pedagogy and learning.

Top 10 Authors

Table 7 presents the top ten authors contributing to research on teachers' SEL proficiency. Among them, Anthony, C.J. and Elliott, S.N. stand out as leading contributors to SEL research, each has 8 publications.

Table 7: Top 10 Authors

Anthony, C.J.	8
Elliott, S.N.	8
Cavioni, V.	5
DiPerna, J.C.	5
Hemi, M.E.	5
Kasperski, R.	5
Conte, E.	4
Espelage, D.L.	4
Grazzani, I.	4
Lei, P.W.	4

In addition to leading contributors, Cavioni, V., DiPerna, J.C., Hemi, M.E., and Kasperski, R. actively involved in this field by contributing individually to 5 publications. Conte, E., Espelage, D.L., Grazzani, I., and Lei, P.W. each appear on the list with four articles, offering significant insights into educators' competencies in SEL implementation. The inclusion of these authors underscores the collaborative essence of SEL research.

Top 10 Universities

A diverse range of academic institutions globally have contributed to the SEL field. Table 8 explores the ten leading institutions contributing to research on teachers' SEL abilities. Arizona State University, a robust institutional emphasis on SEL research, tops the list with 12 publications.

Table 8: Top Ten Universities

Arizona State University	12
University of Florida	8
Pennsylvania State University	6
Gordon College of Education	6
University of Illinois Urbana-Champaign	5
Università degli Studi di Milano-Bicocca	5
University of Patras	5

Shaanan Academic Religious Teachers' College	5
The University of British Columbia	4
Rush University Medical Center	4

The University of Florida has 8 publications, while Pennsylvania State University and Gordon College of Education each have 6 research articles, indicating significant academic engagement in the topic. Other distinguished universities comprise the University of Illinois Urbana-Champaign, Università degli Studi di Milano-Bicocca, University of Patras, and Shaanan Academic Religious Teachers' College, each contributing 5 articles, thereby demonstrating worldwide presence from both the United States and Europe. The University of British Columbia and Rush University Medical Centre, both with four publications, underscore the interdisciplinary and geographic diversity of SEL research, which spans education and health sciences. This circulation underscores the worldwide and cross-sectoral interest in enhancing teachers' social and emotional learning competencies.

Co-authorship Analysis

The Figure 5 shows network visualization of co-authorship analysis of 38 authors who have at least 2 papers, with Total Link Strength (TLS) used as a key indicator of the extent and intensity of co-authorship.

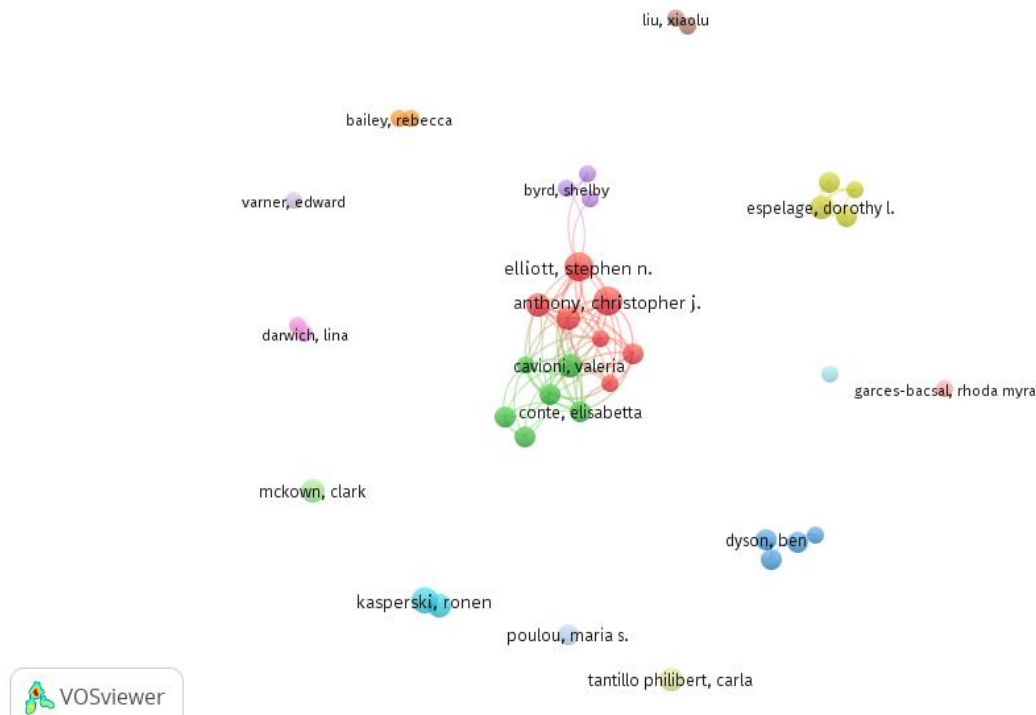


Figure 5: Co-authorship Analysis

Authors with higher TLS values occupied central positions within the network, which indicates frequent collaborations among SEL research teams. In contrast, authors with lower TLS values, such as “Bailey, Rebecca” or “Varner, Edward” are positioned on the peripheral figures of the network, suggesting limited or emerging collaborative ties. Noteworthy multi-author entities, such as “Elliott, Stephen N.,” “Anthony, Christopher J.,” and “Garces-Bacsal, Rhoda Myra,” performed as key hubs across different segments of the network. Collectively, the network

demonstrates a core-periphery structure, where central actors engage in highly interconnected research activity, while peripheral contributors participate less frequently.

Co-authorship based on Organizations

There are many global institutions contributed to research on Social-Emotional Learning (SEL) competencies. In Figure 6, the analysis includes 298 institutions, each with at least one publication. In the network visualization, the size and visibility of each institution's name are based on its Total Link Strength (TLS).

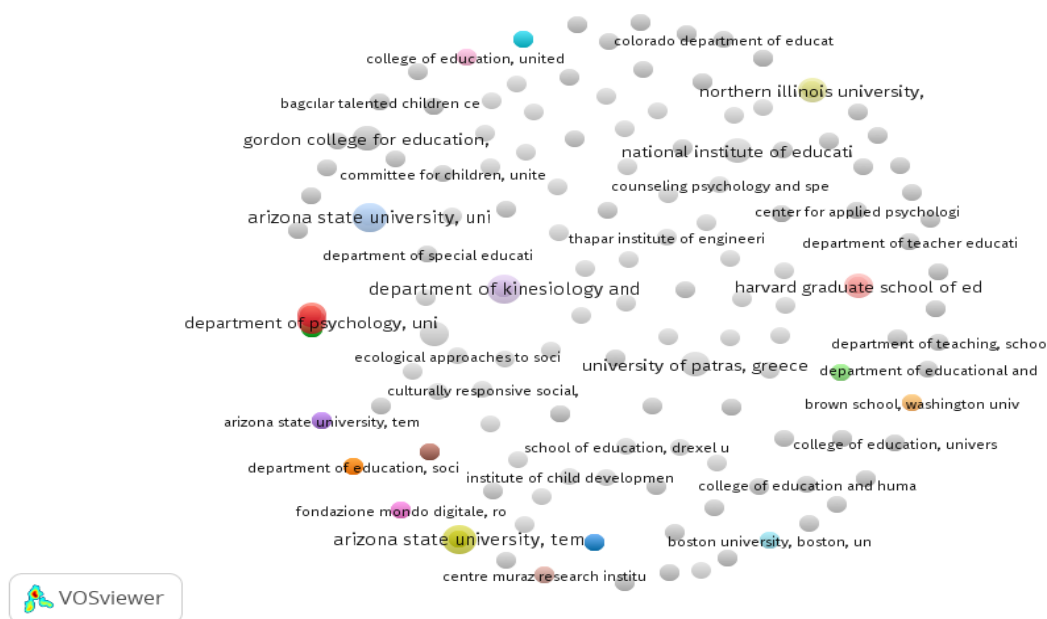


Figure 6: Co-authorship based on Institutions

The visualization reveals a hierarchical structure, where institutions with higher TLS scores are shown as larger and more brightly coloured nodes. Leading institutions such as Arizona State University and the Harvard Graduate School of Education indicate their strong collaborative roles in global SEL research. U.S. institutions dominate the network, with others like the Brown School at Washington University and Northern Illinois University occupying mid-level positions with moderate TLS. A few international contributors, such as the University of Patras (Greece) and Fondazione Mondo Digitale (Italy), are present but with smaller nodes, reflecting limited collaboration. Many institutions from the original list do not appear in the visualization due to their low TLS, showing that only the most active collaborators are visible. This suggests that SEL research is heavily concentrated in influential institutions.

Co-cooccurrence Analysis: Index Keywords

The co-occurrence analysis of index keywords reveals a highly interconnected research landscape, with 62 out of 261 keywords meeting the minimum occurrence threshold of 2, indicating their prominence in the field.

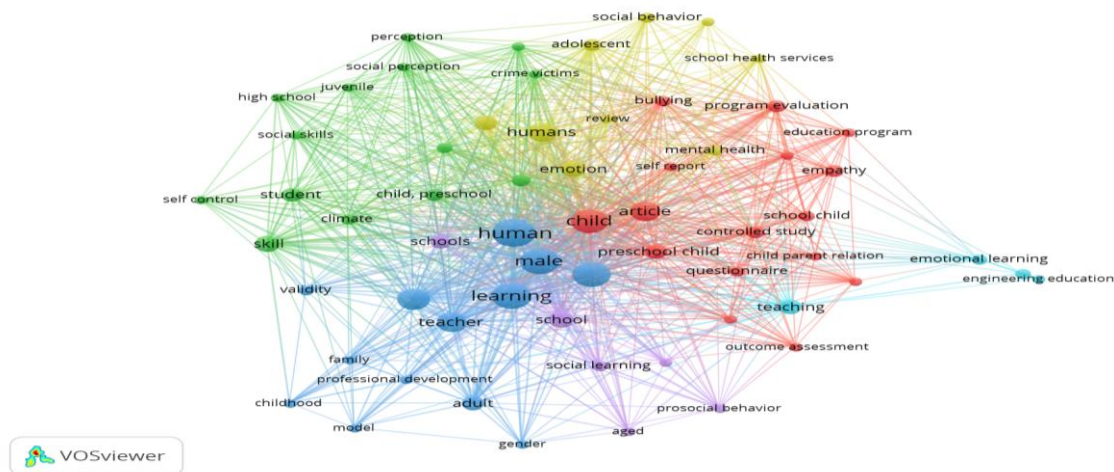


Figure 7: Co-cooccurrence Analysis based on Index Keywords

The total link strength (TLS) values, represented visually by the varying sizes of nodes (colour balls) in the network, highlight the most influential keywords such as larger balls denote higher TLS, meaning these terms are more central and frequently co-occur with others. Leading themes include social and emotional development, as seen in large nodes like “social behaviour,” “social skills,” and “prosocial behaviour,” which likely serve as core concepts bridging multiple studies. Keywords such as “child, preschool,” “school child,” and “education program” also appear as sizable nodes, reflecting their strong connections to research on childhood development and learning. Meanwhile, terms like “mental health” and “school health services” form critical intersections between psychology and education, suggesting integrated approaches to well-being. Smaller nodes, such as “gender” or “validity,” while still connected, have lower TLS, indicating peripheral roles.

Co-cooccurrence Analysis: Author Keywords

Figure 8 shows a co-occurrence analysis based on the author’s keywords. A total of 58 keywords from 406 keywords were identified, which have at least two occurrences.

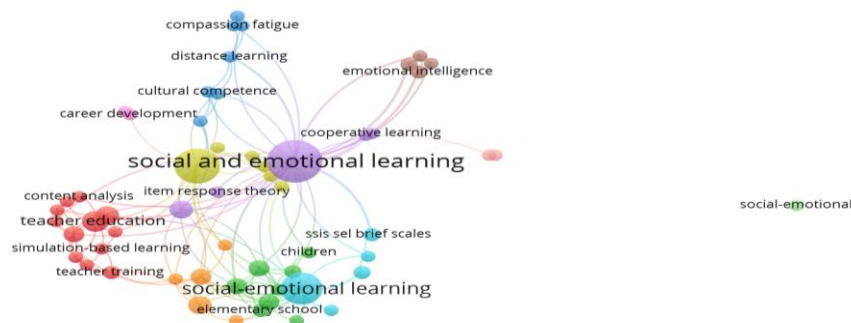


Figure 8: Co-cooccurrence Analysis based on Author Keywords

The most prominent keywords, “social-emotional learning” and “social and emotional learning”, appear frequently, emphasizing their central role in the literature. Closely associated terms such as “children” and “teacher education/training” highlight SEL’s focus on youth development and educator preparation. Other recurring keywords, including “distance learning,” “simulation-based learning,” and “career development,” suggest a growing interest

in integrating SEL into diverse educational contexts and professional growth. Additionally, methodological terms like “content analysis” and “item response theory” indicate a strong emphasis on assessment and measurement in SEL research. These keywords show that teachers’ SEL competencies are a key focus, especially in how they are trained, supported, and prepared for different teaching environments.

Co-citation analysis based on Cited Sources

The co-citation analysis based on cited sources, as shown in Figure 9, was conducted using a minimum threshold of five citations, resulting in the inclusion of 226 sources in the network visualization. Key sources with high citation counts and strong total link strength, such as *Child Development*, *Journal of Educational Psychology*, *Psychology in the Schools*, *Review of Educational Research*, and *School Psychology Review*, form the core of the citation network.



Figure 9: Co-citation Analysis based on Cited Sources

These sources reflect the central influence and interconnection within the literature on social-emotional learning. In addition, widely recognized publications like the *Handbook of Social and Emotional Learning*, *Educational Psychologist*, and *Phi Delta Kappan* further demonstrate strong scholarly impact. The visualization reveals distinct clusters and linkages, underscoring a concentrated academic focus on SEL, particularly with educational psychology, developmental studies, and teacher competencies.

Co-citation Analysis based on Cited Authors

In Figure 10, the visualization network reveals co-citation analysis based on 472 cited authors, using a minimum citation threshold of five.

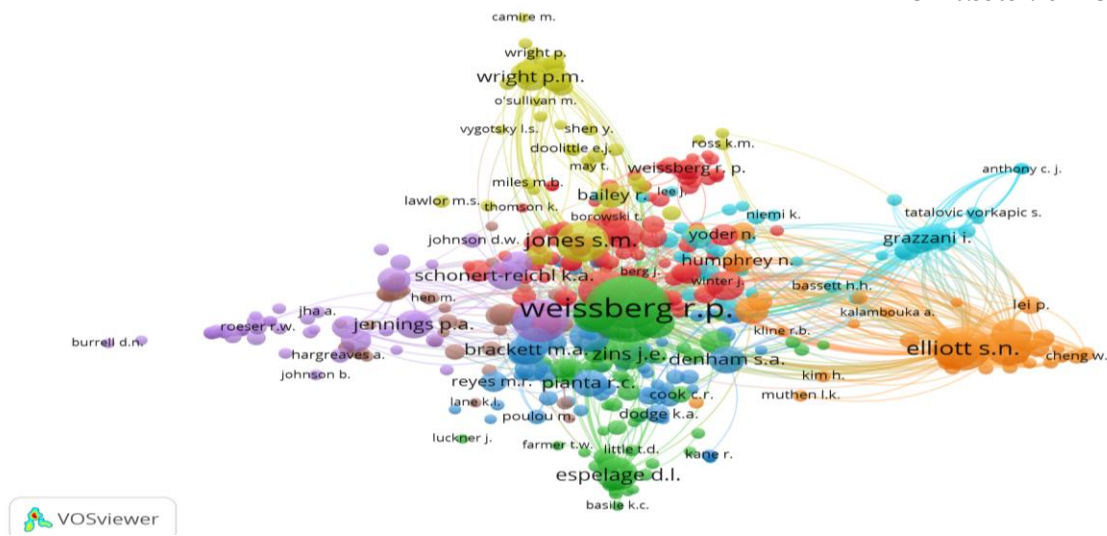


Figure 10: Co-citation Analysis based on Cited Authors

The co-authorship map displays a dense and interconnected structure of scholars contributing to SEL research. Node sizes reflect the influence of each author, measured by TLS, with Weissberg, R.P. occupying the central position as the most prominent and highly connected figure. His extensive collaborations span multiple clusters, linking with notable researchers such as Elliott, S.N., Espelage, D.L., Jennings, P.A., Bailey, R., Jones, S.M., and Wright, P.M. The distinct colours in the visualization represent different collaborative groups within the SEL field. Authors like Grazzani, I., Anthony, C.J., and Lei, P.W. form tightly linked subgroups, suggesting strong intra-cluster collaboration with occasional cross-cluster interaction. Overall, this network highlights the foundational and collaborative nature of authors.

Map based on Text Data

This is an overlay visualization map based on text data, where terms were extracted from titles and abstracts using the full counting method. A minimum occurrence threshold of five was set, resulting in 274 terms being visualized out of a total of 3,627.

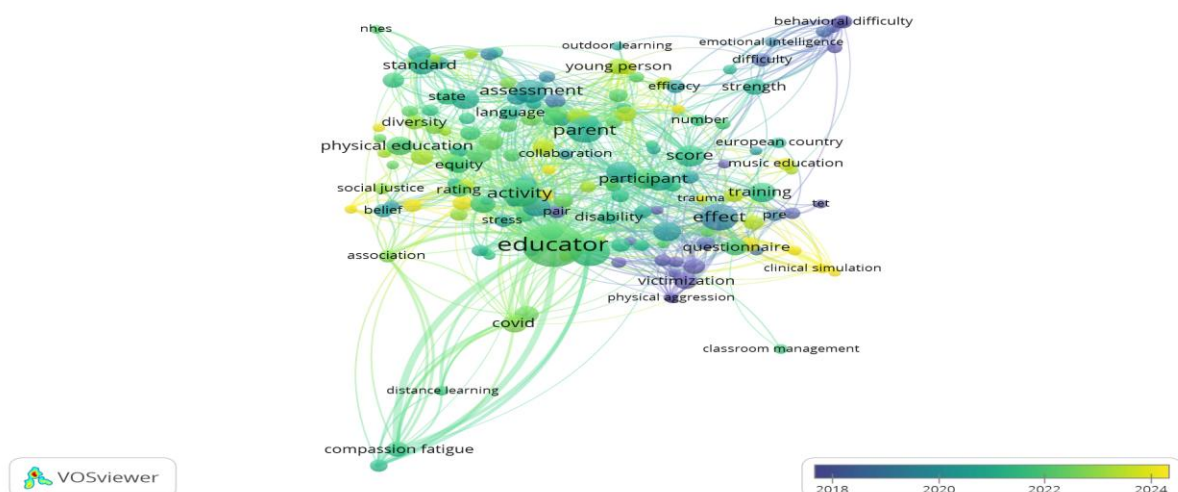


Figure 11: Map based on Text Data

Key central terms with high TLS, such as educator, parent, assessment, and activity, show that much of the research focuses on the important roles of teachers and family in SEL implementation. More recent trends, represented by yellow nodes, emphasize social justice, equity, diversity, and belief, indicating growing interest in inclusive and culturally responsive SEL frameworks. The emergence of clinical simulation suggests new directions in experiential training for educators. The impact of the COVID-19 pandemic is evident through terms like distance learning, compassion fatigue, and stress, underscoring the challenges of remote education. In contrast, older themes shown in blue, such as behavioral difficulty, trauma, and emotional intelligence, reflect the early focus on emotional regulation and student behaviour. Overall, the map presents a dynamic and expanding SEL research landscape, increasingly oriented toward equity, educator well-being, and innovative delivery methods.

Conclusion

The bibliometric analysis provides collaboration networks among authors, institutions, and countries. Influential authors and institutions have played pivotal roles in shaping the SEL discourse, as evidenced by their high citation counts and strong co-authorship linkages. The co-occurrence of keywords and keywords from abstracts shows an increasing focus on digital learning, equity, and culturally responsive teaching strategies. Future research should investigate the long-term effects of SEL training for lecturers on students' academic and emotional outcomes. There is also a need to develop culturally adaptive SEL frameworks that cater to diverse educational settings, particularly in underrepresented regions such as Southeast Asia, Africa, and Latin America. Moreover, emerging technologies like AI-driven tools and digital learning platforms offer new opportunities for scaling and assessing SEL interventions. Overall, this study underscores the growing importance of SEL and provides a solid foundation for future inquiry and practical application. Strengthening lecturers' SEL competencies through targeted research, policy support, and innovative tools will be key to promoting inclusive, resilient, and emotionally intelligent learning environments.

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