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"Mapping the Global Research Landscape of Guidance and Counseling: A Bibliometric Analysis of Publication Trends, International Collaboration Networks, and Emerging Research Themes"

WANG BINGBING
OUR LADY OF FATIMA UNIVERSITY GRADUATE SCHOOL
RISE Tower, Fatima Avenue corner MacArthur Highway, Barangay Marulas, Valenzuela City, 1440, Metro Manila, Philippines

ABSTRACT : Background: Guidance and counseling play a vital role in promoting academic development, career decision-making, personal growth, and social-emotional well-being. With the evolving educational, social, and professional landscape, scholarly research in this field has expanded across various domains, including school counseling, educational guidance, career development, vocational counseling, and counselor education. Understanding the global development of this research is essential for identifying major contributions, emerging themes, and future research directions.
Aim: This study aimed to map the global research landscape of guidance and counseling by examining publication trends, international collaboration networks, intellectual structures, and emerging research themes.
Methods: A bibliometric analysis was conducted using Scopus-indexed publications covering the period 2000–2026. Following a structured identification, deduplication, and screening process, 982 publications were retained for analysis. Bibliometric techniques, including citation analysis, co-citation analysis, international collaboration analysis, and keyword co-occurrence analysis, were employed to examine the scientific development, intellectual foundations, collaborative patterns, and thematic structure of the field. VOS viewer was utilized for bibliometric network visualization and mapping.
Results: The screening process yielded a final corpus of 982 publications, comprising 949 research articles and 33 review articles. The retained publications included 2,718 contributing authors representing 103 countries and territories. The bibliographic dataset contained 42,763 cited references, including 27,516 unique cited references, and 1,752 unique author keywords. These indicators provide a basis for examining intellectual structure, international research collaboration, and conceptual development of guidance and counseling scholarship. Co-citation and keyword co-occurrence analyses are used to identify influential scholarly foundations, dominant research themes, and emerging areas of investigation.
Conclusions: This study provides a comprehensive bibliometric perspective on the global development of guidance and counseling research. By examining publication patterns, intellectual structures, international collaborations, and thematic relationships, the findings are expected to identify knowledge gaps and emerging research directions. The study may inform future scholarly investigations, strengthen international research partnerships, and support evidence-informed educational policies and professional counseling practices.
Keywords: Guidance and Counseling; School Counseling; Educational Guidance; Career Counseling; Bibliometric Analysis; Co-Citation Analysis; Keyword Co-occurrence; International Collaboration; Research Trends; VOS viewer.

I. INTRODUCTION

Guidance and counseling have become essential components of educational, personal, and career development across different societies. In an increasingly complex and rapidly changing world, individuals face diverse challenges involving academic performance, career decision-making, personal adjustment, social relationships, and professional development. Guidance and counseling services provide structured support that enables individuals to understand their abilities, recognize their interests, make informed decisions, and develop competencies necessary for personal and professional growth. Within educational institutions, these services contribute to students' academic achievement, career readiness, and social-emotional well-being, positioning guidance and counseling as an important element of holistic education and lifelong development.

The scope of guidance and counseling extends beyond traditional school-based services. It encompasses educational guidance, career counseling, vocational development, student support services, and professional counseling practices across various institutional and community settings. The International Association for Educational and Vocational Guidance emphasizes the importance of making educational, vocational, and career guidance and counseling accessible to individuals through competent and qualified practitioners. Similarly, the Inter-Agency Working Group on Career Guidance (2021) recognizes career guidance as a lifelong process that assists individuals in making meaningful educational, training, and occupational decisions. These perspectives demonstrate the multidisciplinary and international character of guidance and counseling, reflecting its relevance to educational systems, labor markets, individual development, and social inclusion.

In contemporary educational environments, guidance and counseling have assumed increasingly significant responsibilities in responding to the diverse academic, psychological, and career-related needs of learners. School counselors contribute to students' academic development, career exploration, decision-making, and social-emotional adjustment through structured counseling programs and collaborative interventions. The American School Counselor Association (ASCA, 2023) identifies academic, career, and social-emotional development as interconnected domains of student growth. Furthermore, changing educational and employment environments, technological advancements, digital transformation, and evolving workforce requirements have created new opportunities and challenges for guidance and counseling professionals. These developments highlight the importance of evidence-based practices, professional competencies, inclusive counseling approaches, and innovative service delivery models in addressing the changing needs of individuals across different contexts.

Despite the expanding relevance of guidance and counseling, scholarly research in this field encompasses diverse concepts, theoretical orientations, professional practices, and research contexts. Publications may address school counseling, educational guidance, career development, vocational counseling, counseling interventions, student support systems, counselor education, and professional practice. The diversity of these research areas reflects the breadth of the discipline but also presents challenges in understanding how knowledge has developed, which research themes have received substantial scholarly attention, and how researchers and institutions contribute to the advancement of the field globally. Moreover, variations in terminology, professional standards, educational systems, and counseling practices across countries may influence the direction and visibility of research. Consequently, a systematic examination of scientific literature is necessary to identify the major contributions, intellectual foundations, collaborative relationships, and emerging research directions within guidance and counseling.

Bibliometric analysis provides a systematic and quantitative approach to examining the development and structure of scholarly research. By analyzing publication records, citation patterns, authorship, institutional affiliations, geographical distribution, and keyword relationships, bibliometric techniques offer an overview of research productivity, scientific influence, and knowledge development within a particular discipline. Donthu et al. (2021) emphasized that bibliometric analysis facilitates the examination of large volumes of scientific publications, allowing researchers to identify research trends, intellectual structures, influential contributions, and emerging areas of investigation. In particular, citation and co-citation analyses help identify influential publications and the intellectual foundations of a research field, while keyword co-occurrence analysis reveals relationships among frequently discussed concepts and helps identify established and emerging research themes. Although guidance and counseling have developed into multidisciplinary areas of scholarly inquiry, understanding their global research landscape requires an integrated examination of publication patterns, international research collaborations, intellectual structures, and thematic developments. Examining these dimensions together can provide a broader understanding of how guidance and counseling scholarships have evolved across different periods, geographical regions, and research communities. In addition, identifying frequently investigated topics and underrepresented research areas may help reveal opportunities for future investigations, strengthen international scholarly collaboration, and support the development of evidence-informed policies and professional practices.

In response to this need, the present study, entitled **"Mapping the Global Research Landscape of Guidance and Counseling: A Bibliometric Analysis of Publication Trends, International Collaboration Networks, and Emerging Research Themes,"** aims to examine the development and intellectual structure of global research on guidance and counseling through a bibliometric analysis of Scopus-indexed publications from 2000 to 2026. Specifically, the study seeks to analyze annual publication and citation trends, identify the most productive and influential authors, sources, institutions, and countries, and examine patterns of international research collaboration. Furthermore, co-citation analysis will be employed to identify the intellectual foundations and influential scholarly contributions within the field, while keyword co-occurrence analysis will be used to identify dominant research themes, conceptual relationships, and emerging areas of scholarly interest.

By integrating performance analysis and science mapping, this study seeks to provide a comprehensive overview of the global development of guidance and counseling research. The findings are expected to contribute to a clearer understanding of the field's scholarly evolution, highlight opportunities for interdisciplinary and international collaboration, and identify research directions that may inform future academic investigations, educational policies, counselor preparation, and professional practice. Ultimately, this study aims to establish a knowledge-based foundation for understanding the current state and future trajectory of guidance and counseling research in an increasingly interconnected and evolving global environment.

II. PRESENT STUDY

Guidance and counseling play an essential role in supporting individuals' academic achievement, career development, personal growth, and social-emotional well-being. As educational systems and professional environments continue to evolve, research on guidance and counseling has expanded across various areas, including school counseling, educational guidance, career counseling, vocational development, student support services, and counselor education. Despite the growing body of scholarly literature, a comprehensive understanding of the global research landscape, intellectual foundations, and emerging research directions in this field remains important. To address this need, the present bibliometric study examines global publications on guidance and counseling to identify major research trends, international collaboration patterns, and emerging thematic areas. Specifically, the study aims to:

1. To examine the global research landscape of guidance and counseling by analyzing publication trends, citation patterns, and the contributions of influential authors, journals, institutions, and countries.
2. To identify and analyze the intellectual structure of guidance and counseling research through co-citation analysis, highlighting influential publications, foundational literature, and major research clusters.
3. To investigate the conceptual structure and emerging research themes through keyword co-occurrence analysis, identifying dominant topics, thematic relationships, and potential directions for future research.
4. To examine international research collaboration networks among authors, institutions, and countries, providing insights into the global distribution and collaborative development of guidance and counseling scholarship.

The findings of this study are expected to provide a comprehensive overview of the evolution of guidance and counseling research and establish a foundation for future scholarly investigations, international collaboration, and evidence-informed professional practice.

III. METHODS

Research Design

This study employed a quantitative bibliometric research design to examine the global research landscape of guidance and counseling. Bibliometric analysis provides a systematic approach to evaluating scientific publications, citation patterns, intellectual structures, and research developments within a particular field. Through the quantitative examination of bibliographic information, this approach enables researchers to identify influential scholarly contributions, research productivity, collaboration patterns, and emerging thematic areas (Donthu et al., 2021; Zupic & Čater, 2015).The study integrated performance analysis and science mapping to investigate the development of guidance and counseling research from 2000 to 2026. Performance analysis was conducted to examine publication productivity, citation impact, and the contributions of authors, journals, institutions, and countries. Science mapping techniques were employed to explore the intellectual and conceptual structures of the field through co-citation analysis and keyword co-occurrence analysis. International collaboration patterns were also examined to determine the extent of scholarly cooperation among researchers, institutions, and countries.

Data Source and Search Strategy

The bibliographic records were retrieved from the Scopus database, a multidisciplinary abstract and citation database that provides comprehensive coverage of peer-reviewed scholarly publications across education, psychology, social sciences, health sciences, and other academic disciplines. Scopus was selected because of its extensive bibliographic coverage, citation indexing capabilities, and compatibility with bibliometric software, particularly VOSviewer.

The database search was conducted on May 15, 2026, using the Title, Abstract, and Keywords (TITLE-ABS-KEY) fields. The search strategy was developed to capture publications related to guidance and counseling across educational, career, vocational, and professional contexts. Relevant search terms included variations of guidance and counseling, school counseling, educational guidance, career counseling, vocational guidance, student counseling, and counseling services, including both American and British English spelling variations.

The search covered publications published from 2000 to 2026. To maintain consistency in the bibliographic corpus, the retrieval was limited to English-language publications classified as research articles and review

articles. No initial subject-area restriction was imposed to accommodate the multidisciplinary nature of guidance and counseling research.

The search strategy was designed to balance comprehensiveness and topical relevance by capturing different terminology used across international research communities while minimizing the retrieval of unrelated clinical and medical counseling literature.

Table 1. Search strategy and database parameters

Table 1. Scopus Search Strategy, Corpus Definition, and Screening Criteria

Parameter	**Setting**
Year filter	2000–2026
Export date	May 21, 2026*
Database	Scopus
Search field	TITLE-ABS-KEY
Exact Scopus search string (as executed)	sql TITLE-ABS-KEY (("guidance and counseling" OR "guidance and counselling" OR "school counseling" OR "school counselling" OR "educational guidance" OR "educational counseling" OR "educational counselling" OR "career guidance" OR "career counseling" OR "career counselling" OR "vocational guidance" OR "vocational counseling" OR "vocational counselling" OR "student counseling" OR "student counselling" OR "guidance services" OR "counseling services" OR "counselling services" OR "counselor education" OR "counsellor education" OR "guidance programs" OR "guidance programme")) AND PUBYEAR > 1999 AND PUBYEAR < 2027 AND (LIMIT-TO(SRCTYPE,"j")) AND (LIMIT-TO(DOCTYPE,"ar") OR LIMIT-TO(DOCTYPE,"re")) AND (LIMIT-TO(LANGUAGE,"English"))
Document Type	Article and Review Articles
Inclusion Criteria	1. Scopus-indexed journal articles and review articles. 2. Publications published between 2000 and 2026. 3. English-language publications. 4. Records containing at least one of the predefined guidance and counseling search terms in the title, abstract, or keywords. 5. Publications relevant to school counseling, educational guidance, career guidance and counseling, vocational counseling, student counseling, guidance programs and services, counselor education, or related guidance and counseling domains.
Exclusion Criteria	1. Publications outside the period 2000–2026. 2. Conference papers, editorials, notes, letters, books, book chapters, and other ineligible document types. 3. Non-English publications. 4. Records not directly related to guidance and counseling. 5. Clinical psychotherapy, psychiatric treatment, and medical counseling studies unrelated to educational, career, or professional guidance and counseling. 6. Duplicate records and records with insufficient bibliographic information for the intended analysis.

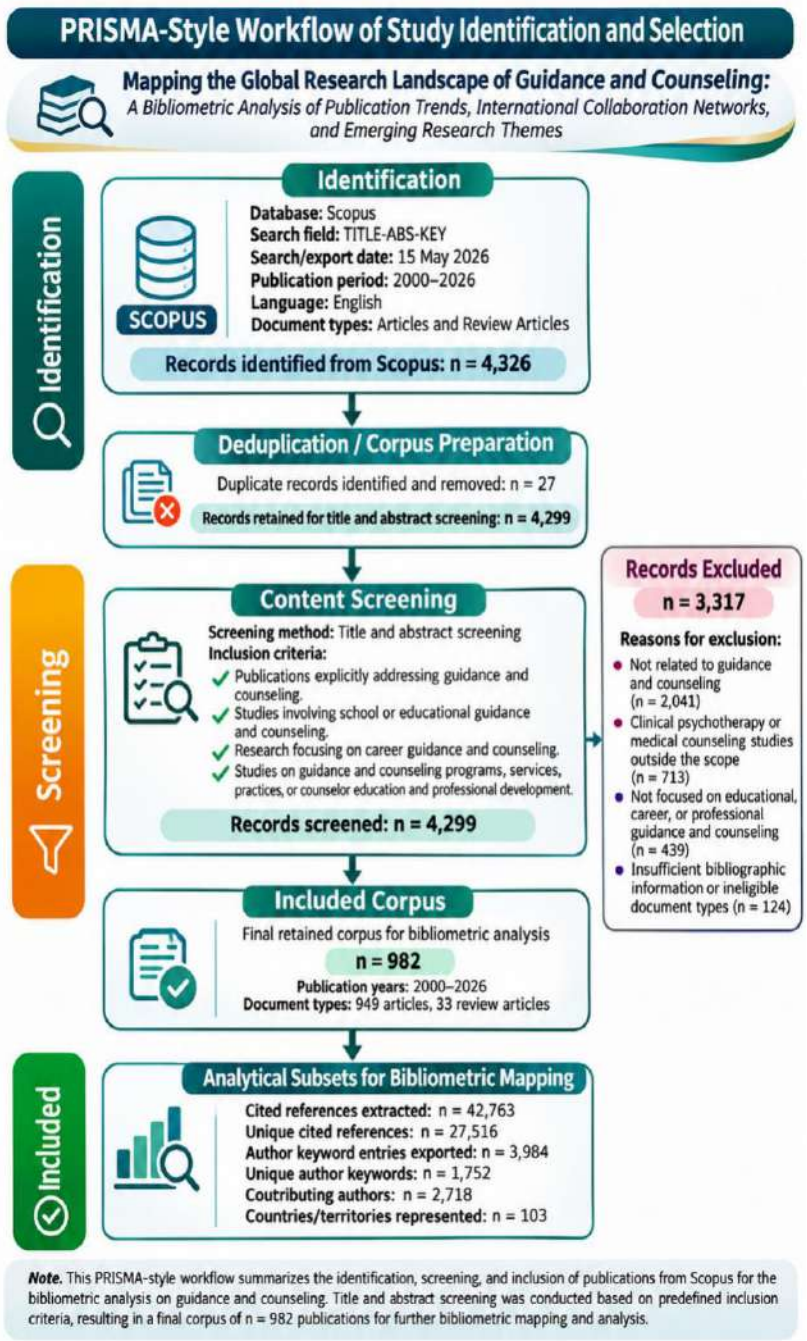
The exact executed Scopus search string should be reproduced in the final version of this table's accompanying search-strategy subsection, using the query saved in the Scopus search history.

Eligibility Criteria and Screening Process

A structured screening procedure was implemented to identify publications relevant to the objectives of the study. The inclusion criteria covered publications explicitly addressing guidance and counseling, including school-based and educational guidance, career guidance and counseling, student counseling, counseling programs and services, counselor education, and professional development within the field.

Publications primarily focusing on clinical psychotherapy, medical counseling, or psychiatric treatment without a clear connection to educational, career, or professional guidance and counseling were excluded. Studies unrelated to the central research topic, publications lacking sufficient bibliographic information, and ineligible document types were also excluded.

The identification and selection process followed a PRISMA-style workflow to provide transparency in the construction of the bibliometric corpus. The initial Scopus search identified 4,326 records. Following deduplication, 27 duplicate records were removed, leaving 4,299 publications for title and abstract screening.



Note. This PRISMA-style workflow summarizes the identification, screening, and inclusion of publications from Scopus for the bibliometric analysis on guidance and counseling. Title and abstract screening was conducted based on predefined inclusion criteria, resulting in a final corpus of n = 982 publications for further bibliometric mapping and analysis.

During the screening process, 3,317 records were excluded based on predefined eligibility criteria. These included 2,041 publications unrelated to guidance and counseling, 713 studies focusing on clinical

psychotherapy or medical counseling outside the scope of the study, 439 publications not addressing educational, career, or professional guidance and counseling, and 124 records with insufficient bibliographic information or ineligible document types.

Following the screening process, 982 publications were retained as the final bibliometric corpus. The retained publications consisted of 949 research articles and 33 review articles, covering the publication period from 2000 to 2026. These records served as the basis for subsequent descriptive bibliometric analysis and science mapping procedures.

Data Extraction and Preparation

The bibliographic records of the retained publications were exported from Scopus in CSV format for data processing and bibliometric analysis. The extracted information included publication titles, authors, publication years, source titles, author affiliations, countries and territories, abstracts, author keywords, index keywords, citation counts, and cited references.

Data preparation involved examining the bibliographic records for completeness, consistency, and suitability for network analysis. Duplicate records were removed during corpus preparation, while variations in author names, institutional affiliations, and keyword terminology were considered during data cleaning. Where appropriate, synonymous or equivalent keyword expressions were standardized to minimize fragmentation in the keyword network while preserving their original conceptual meaning.

The final bibliographic corpus contained 42,763 cited-reference entries, representing 27,516 unique cited references. The dataset also included 3,984 author-keyword entries, corresponding to 1,752 unique author keywords. Furthermore, the retained publications involved 2,718 contributing authors representing 103 countries and territories. These bibliographic indicators provided the foundation for examining scientific productivity, citation relationships, international collaboration, and thematic development within guidance and counseling research.

Bibliometric Analysis

The bibliometric analysis integrated performance analysis and science mapping to examine the global development of guidance and counseling research. VOSviewer was utilized to construct and visualize bibliometric networks, identify relationships among research entities, and generate network maps representing the intellectual and conceptual structure of the field (van Eck & Waltman, 2010).

Performance Analysis

Performance analysis was conducted to evaluate the scientific productivity and citation impact of guidance and counseling research. The analysis included annual scientific production, citation patterns, productive authors, influential publication sources, leading institutions, and the geographical distribution of research contributions. The distribution of publications and citations across the study period was examined to identify changes in scholarly productivity and research visibility. Author, journal, institutional, and country-level contributions were also considered to determine the major contributors to the development of the field.

International Collaboration Network Analysis

International collaboration analysis was performed to examine the collaborative structure of guidance and counseling research across individual researchers, academic institutions, and countries. Co-authorship relationships were used to identify patterns of scholarly cooperation and the distribution of collaborative research activities. The analysis focused on identifying productive researchers, institutions, and countries and examining their connections within the global research network. Total link strength was considered in assessing the intensity of relationships among connected entities. The resulting network visualizations provided insights into the extent of international research cooperation and the geographical distribution of scholarly contributions.

Co-Citation Analysis

Document co-citation analysis was conducted to identify the intellectual structure and foundational knowledge of guidance and counseling research. Co-citation analysis examines the frequency with which two publications are cited together by subsequent scholarly works. Publications that are frequently cited together are considered to have related intellectual or conceptual contributions to a particular research field (McCain, 1990; Hota et al., 2020).

The analysis utilized cited references extracted from the Scopus bibliographic records. Citation thresholds were evaluated to identify sufficiently influential references while maintaining meaningful network connections and interpretable clusters. The selected threshold and resulting number of included references were documented following the actual VOSviewer output.

The resulting co-citation network was examined according to the number of citations, total link strength, and cluster membership. Publications grouped within the same cluster were examined to determine their common research focus and intellectual contributions. Cluster labels were assigned through an interpretative examination of representative publications within each group.

This procedure enabled the identification of influential scholarly works, major intellectual foundations, and interconnected research traditions that have shaped the development of guidance and counseling.

Keyword Co-occurrence Analysis

Keyword co-occurrence analysis, also referred to as co-word analysis, was performed to investigate the conceptual structure and emerging research themes in guidance and counseling. This technique examines the frequency with which keywords appear together in scholarly publications, with frequently co-occurring terms indicating conceptual relationships among research topics (Callon et al., 1983; Zupic & Čater, 2015).

The analysis utilized author keywords extracted from the Scopus records. Keyword entries were examined and standardized to address spelling variations, synonymous expressions, and differences in terminology. A minimum occurrence threshold was evaluated to identify frequently appearing keywords and produce an interpretable network visualization.

The resulting keyword network was examined based on keyword occurrences, total link strength, and cluster membership. Keywords with stronger connections represented more closely related research concepts, while clusters reflected groups of interconnected topics within the field. Each cluster was interpreted according to its representative keywords and the relationships among its constituent terms.

Cluster labels were developed through an interpretative examination of the dominant keywords to identify established research areas, interconnected themes, and emerging directions in guidance and counseling scholarship.

Network Visualization and Interpretation

VOSviewer was used to generate network visualizations for co-citation, keyword co-occurrence, and international collaboration analyses. In the resulting maps, nodes represented individual bibliographic entities, while links indicated the relationships among them. Node size reflected the relative importance or frequency of an entity, depending on the type of analysis, whereas link thickness represented the strength of the relationship between connected nodes. Different colors represented distinct clusters identified through the software's clustering procedure.

The resulting maps were examined to identify dominant research structures, influential scholarly contributions, collaborative relationships, and emerging thematic areas. Cluster interpretation was conducted by examining the representative publications and keywords within each group and relating their conceptual connections to the broader development of guidance and counseling research.

The integration of performance indicators and network visualizations provided a comprehensive approach to understanding the publication trends, intellectual foundations, international collaboration networks, and emerging research themes within the global guidance and counseling literature.

IV. RESULTS AND DISCUSSION

Descriptive Analysis

The Scopus database search initially identified 4,326 records related to guidance and counseling research. Following the removal of 27 duplicate records, 4,299 publications were retained for title and abstract screening. Of these, 3,317 records were excluded based on the predefined eligibility criteria, resulting in a final corpus of 982 publications for bibliometric analysis. The retained corpus comprised 949 research articles and 33 review articles published between 2000 and 2026.

The bibliographic characteristics of the final dataset revealed 2,718 contributing authors representing 103 countries and territories, demonstrating the international scope of scholarly contributions to guidance and counseling research. Furthermore, the dataset contained 42,763 cited-reference entries, representing 27,516 unique cited references. In terms of conceptual coverage, 3,984 author-keyword entries corresponding to 1,752 unique author keywords were identified. These indicators provide an overview of the productivity, geographical distribution, intellectual foundations, and thematic diversity of global guidance and counseling scholarship.

Figure 1 presents the annual scientific production and citation trends in guidance and counseling research throughout the study period. The annual distribution of publications provides an indication of the development and changing scholarly attention given to the field from 2000 to 2026. The examination of citation patterns further provides insights into the scholarly influence and visibility of published research. Publications from earlier years may accumulate more citations because of their longer exposure within the academic literature, whereas recently published studies may have fewer citations due to the citation accumulation period.

Overall, the descriptive findings establish the bibliometric foundation for examining the global development of guidance and counseling research. The substantial number of contributing authors, represented countries and territories, cited references, and author keywords demonstrates the breadth of the retained scholarly literature. These characteristics provide a basis for the subsequent examination of influential publications, international research collaboration networks, intellectual structures, and emerging research themes through bibliometric mapping.

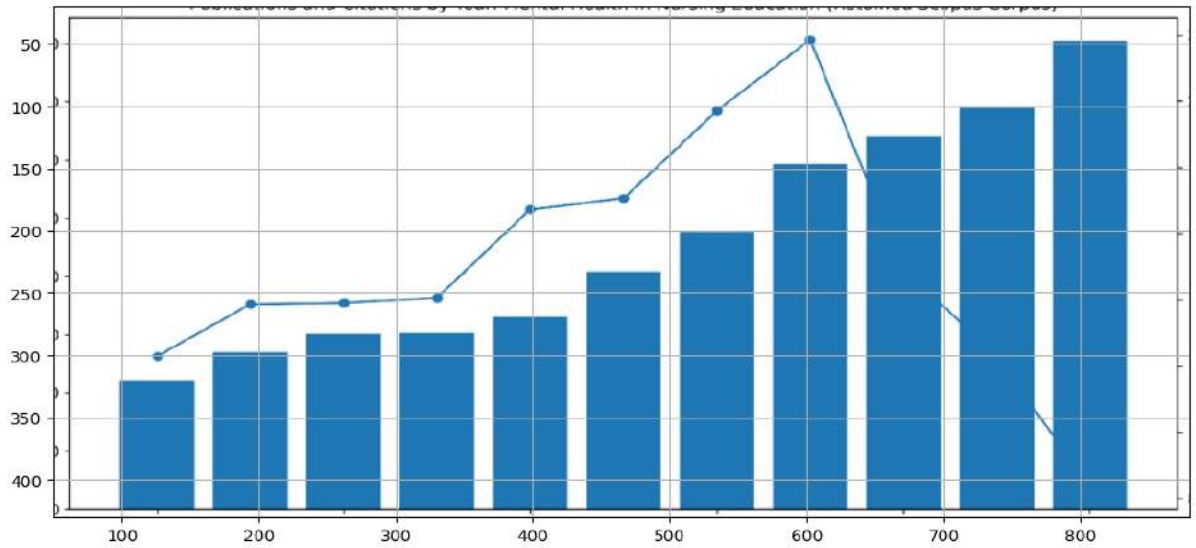


Figure 1: Citations and publications (authors' work)

Co-Citation Analysis

Co-citation analysis was conducted to examine the intellectual structure and foundational literature of guidance and counseling research. By identifying publications that are frequently cited together, this technique reveals influential scholarly contributions, interconnected theoretical perspectives, and the knowledge foundations that have shaped the development of the field. The resulting co-citation network provides an overview of the major intellectual traditions informing guidance and counseling research, particularly in relation to career development, vocational psychology, self-efficacy, and counseling practice.

Based on the VOSviewer analysis, 62 cited references met the minimum threshold of four citations and were included in the co-citation network visualization. The resulting map shows four visually distinguishable clusters, indicating interconnected but conceptually distinct areas of scholarship. The green cluster is prominently associated with career development and vocational psychology, as reflected in the works of Super, Holland, Savickas, and Gottfredson. These contributions highlight career development across the life span, vocational interests, career construction, and career adaptability. The blue cluster contains influential works associated with social cognitive theory, self-efficacy, and career-related decision-making, including the contributions of Bandura, Betz, and Hackett. The red cluster includes methodological and professional foundations, with visible references concerning statistical analysis, qualitative research, thematic analysis, and ethical standards in school counseling. Meanwhile, the yellow cluster appears to connect theoretical and methodological perspectives relevant to career development and counseling research.

The network also demonstrates substantial interconnections among these clusters, suggesting that guidance and counseling scholarship draws on complementary theoretical, methodological, and professional perspectives. In particular, the prominence of career development theories and social cognitive perspectives indicates the importance of understanding individuals' career choices, self-efficacy, vocational interests, and developmental processes. The presence of methodological and ethical references further reflects the role of rigorous research approaches and professional standards in advancing the field.

Overall, the co-citation network suggests that the intellectual foundations of guidance and counseling research are strongly anchored in career development, vocational psychology, social cognitive theory, and counseling-related research methodologies. These interconnected knowledge domains provide a foundation for understanding the evolution of the field and identifying areas for further scholarly investigation. In VOSviewer, the total link strength represents the cumulative strength of a document's co-citation links with other documents in the network and can be used to assess the connectedness of influential publications (van Eck & Waltman, 2010)

Rank	Cited reference (as displayed in VOSviewer)	Citations	Total link strength
1	Savickas, M. L. — The theory and practice of career construction	125	333
2	Hackett, G. — Toward a unifying social cognitive theory of career	125	329

3	Bandura, A. — Social foundations of thought and action	147	315
4	Holland, J. L. — Making vocational choices: A theory of vocational personalities and work environments	152	309
5	Parsons, F. — Choosing a vocation (1909)	161	288
6	Bandura, A. — Self-efficacy: The exercise of control (1997)	147	274
7	Cohen, J. — Statistical power analysis for the behavioral sciences	233	236
8	Super, D. E. — The psychology of careers (1957)	113	195
9	Blustein, D. L. — The psychology of working: A new perspective	78	185
10	Betz, N. E. — Applications of self-efficacy theory to the understanding of career development	54	182

Note. Citation counts and total link strength are transcribed from the supplied VOSviewer "Verify selected cited references" screen. The ten records are ordered by total link strength as displayed in that screen. Some cited-reference titles are shortened because the VOSviewer display truncates the labels.
Note. These are representative cited works identifiable from the supplied co-citation network (Figure 2), not a verified ranking of the ten most-cited documents. Exact citation counts and total link strength require the VOSviewer item/network export.

The co-citation analysis revealed four distinct clusters in the network visualization, representing the major intellectual foundations of global guidance and counseling research. The clusters were identified and characterized through an examination of their representative publications and the conceptual relationships among the cited works. The total link strength refers to the cumulative strength of a document's co-citation links with other documents in the network, indicating the degree of its connectedness within the intellectual structure of the research field (van Eck & Waltman, 2010). Figure 2 presents the resulting co-citation network, illustrating the relationships among influential publications and the four identified clusters. The labeling and interpretation of each cluster were based on the researcher's examination of the prominent references, their underlying concepts, and their contributions to the development of guidance and counseling scholarship.

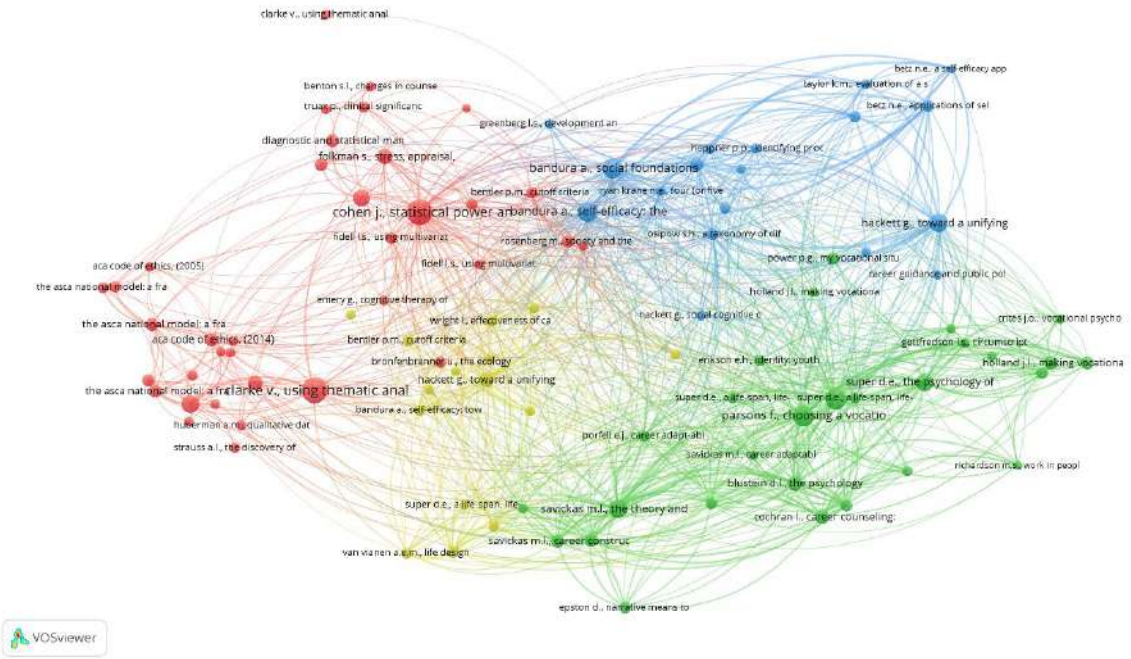


Figure 2: Co-citation analysis of Global Research Landscape of Guidance and Counseling

Cluster 1 (Red): Research Methodological and Professional Foundations of Guidance and Counseling

The first cluster highlights the methodological and professional foundations underlying guidance and counseling research. Its representative publications include works on statistical power analysis, qualitative data analysis, thematic analysis, and professional ethical standards. The presence of Cohen's work on statistical power, Clarke's contribution to thematic analysis, and references to the American School Counselor Association's ethical and professional standards suggests that this cluster reflects the importance of methodological rigor and ethical practice in the development of the field. These publications provide essential foundations for conducting systematic investigations, interpreting research findings, and ensuring that guidance and counseling services are delivered in accordance with established professional principles. The cluster emphasizes that the advancement of guidance and counseling requires not only theoretical development but also sound research methods, professional accountability, and ethical decision-making.

Cluster 2 (Blue): Social Cognitive Theory and Self-Efficacy in Career Development

The second cluster centers on social cognitive theory and the role of self-efficacy in career development and decision-making. Prominent publications associated with this cluster include Bandura's *Social Foundations of Thought and Action*, together with the works of Betz and Hackett on self-efficacy and career-related processes. These contributions emphasize the influence of personal beliefs, perceived capabilities, environmental conditions, and social experiences on individuals' educational and occupational choices. The cluster illustrates how self-efficacy serves as an important consideration in understanding career interests, aspirations, and decision-making among individuals. Within guidance and counseling, these perspectives provide a theoretical basis for developing interventions that strengthen confidence, support career exploration, and assist individuals in making informed educational and vocational decisions. Overall, this cluster demonstrates the significance of psychological and social factors in shaping career development and counseling outcomes.

Cluster 3 (Green): Career Development, Vocational Psychology, and Career Construction

The third cluster represents a major intellectual foundation of guidance and counseling research, particularly in the areas of career development and vocational psychology. Its prominent publications include Super's life-span, life-space approach, Holland's theory of vocational personalities and work environments, Savickas's career construction theory, Gottfredson's theory of circumscription and compromise, and Parsons's foundational work on vocational choice. These publications demonstrate the development of career guidance from early approaches to vocational decision-making toward more comprehensive perspectives that recognize career development as a lifelong and dynamic process. Super's perspective emphasizes career development across different life stages, while Holland's work highlights the relationship between personality characteristics and occupational environments. Savickas further contributes to this area through career construction and adaptability, emphasizing how individuals develop and manage their career identities in changing contexts. The presence of these influential works indicates the continuing importance of career theories in understanding vocational interests, career choices, adaptability, and professional development. This cluster highlights career development as a central research domain within the broader field of guidance and counseling.

Cluster 4 (Yellow): Integrative Developmental and Ecological Perspectives in Guidance and Counseling

The fourth cluster reflects the integration of developmental, ecological, and career-related perspectives in understanding individuals' educational and vocational experiences. Representative publications include Bronfenbrenner's ecological approach, Hackett's work on the integration of social cognitive perspectives in career theory, and Van Vianen's contribution to life design. These works suggest that career development and counseling should be understood within the broader contexts of individuals' personal characteristics, social relationships, educational experiences, and environmental influences. The ecological perspective highlights how multiple systems, including family, school, community, and society, may shape individual development and career-related decisions. Meanwhile, integrative approaches to career theory emphasize the interaction of psychological and contextual factors in explaining vocational behavior. The presence of these publications suggests that guidance and counseling research increasingly recognizes the importance of considering individuals within their broader developmental and social environments. This cluster underscores the value of holistic and context-sensitive approaches in designing guidance interventions and supporting educational, personal, and career development.

Table 3 summarizes the four co-citation clusters identified in the network, presenting their interpretive labels and representative cited works. The complete network contained 62 cited references that met the minimum citation threshold.

Cluster	Cluster label	Representative cited works

1 (Red)	Research Methodological and Professional Foundations of Guidance and Counseling	Cohen (statistical power analysis); Clarke (thematic analysis); Strauss and Huberman (qualitative research); ASCA ethical and professional standards.
2 (Blue)	Social Cognitive Theory and Self-Efficacy in Career Development	Bandura (social cognitive theory); Betz (self-efficacy); Hackett (social cognitive career theory); Ryan; Heppner; Taylor.
3 (Green)	Career Development, Vocational Psychology, and Career Construction	Super (life-span, life-space theory); Holland (vocational personalities and work environments); Savickas (career construction and adaptability); Gottfredson (circumscription and compromise); Parsons (vocational choice).
4 (Yellow)	Integrative Developmental and Ecological Perspectives in Guidance and Counseling	Bronfenbrenner (ecological perspective); Van Vianen (life design); Hackett (integrative career theory perspectives).

Note. A total of 62 cited references met the minimum threshold of four citations and were included in the four-cluster co-citation network. The supplied map does not display the number of cited references assigned to each individual cluster; therefore, cluster-specific counts are not reported.

Co-Word Analysis

Co-word analysis was performed to examine the conceptual structure and major research themes in global guidance and counseling research. This technique identifies the relationships among frequently occurring keywords based on their co-occurrence within publications. The resulting network visualization provides an overview of the central concepts, interconnected research areas, and thematic concentrations that characterize the field. As illustrated in Figure 3, the VOSviewer network revealed four distinct keyword clusters, represented by red, green, blue, and yellow nodes.

Ranking	Keyword	Occurrences	Total link strength
1	human	6,694	63,863
2	article	5,395	49,693
3	female	4,220	48,631
4	humans	3,999	44,379
5	male	3,624	42,724
6	adult	3,569	42,261
7	counseling	2,829	25,731
8	vocational guidance	2,545	17,482
9	adolescent	1,503	17,722
10	major clinical study	1,486	18,162
11	controlled study	1,413	17,530
12	psychology	1,324	16,428
13	questionnaire	1,268	16,192
14	middle aged	1,122	14,993

15	young adult	1,037	14,923

Note. Occurrence and total link strength values are reproduced from the keyword table in the supplied manuscript. The terms represent the index/keyword labels visible in the co-word analysis (Figure 3); retain these values only if they correspond to the final 982-record VOSviewer analysis.

The co-word network visualization is presented in Figure 3. Four distinct keyword clusters were identified, representing the major thematic areas within global guidance and counseling research. Each cluster was labeled based on the researcher's inductive interpretation of the keywords and their conceptual relationships. The visualization further illustrates the interconnected nature of these themes, as evidenced by the links among keywords across clusters. These connections suggest that the identified research areas are not entirely independent but are closely related and partially overlapping, reflecting the multidisciplinary and interconnected character of guidance and counseling scholarship.

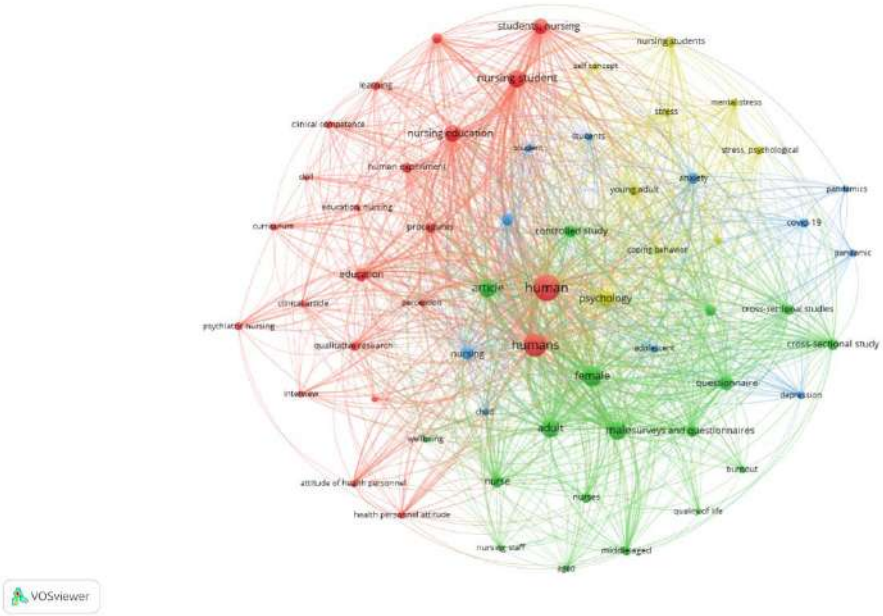


Figure 3: Co-word analysis of Global Guidance

Cluster 1 (Red): Counseling Practice, Clinical Applications, and Research Approaches

The first cluster encompasses keywords associated with counseling practice, clinical applications, and research methodologies. Prominent terms visible in this cluster include *humans*, *human article*, *patient counseling*, *patient education*, *genetic counseling*, *qualitative research*, *interview*, and *follow-up*. The presence of these terms suggests that a portion of the literature examines counseling as a professional and supportive intervention across different contexts, including healthcare and clinical settings. The inclusion of qualitative research and interview-related terms also reflects the use of exploratory approaches to understand counseling experiences, professional practices, and client-related concerns. This cluster highlights the broad application of counseling principles and the importance of examining counseling interventions, communication, and support mechanisms across diverse populations and service settings.

Cluster 2 (Green): Educational, School, and Career Counseling

The second cluster represents the educational and career-oriented dimensions of guidance and counseling. Key terms include *counseling*, *school counseling*, *career counseling*, *counselor*, *career*, *career choice*, *education*, *students*, *university*, and *decision making*. Their interconnections indicate the importance of guidance and counseling services in educational institutions and in supporting individuals' academic and occupational decisions. The presence of school counseling and university-related terms highlights the role of counselors in addressing students' developmental, educational, and psychosocial needs. Meanwhile, career choice and decision-making emphasize the contribution of counseling to career exploration, goal setting, and informed occupational decisions. This cluster reflects the central role of educational and career guidance in helping individuals navigate academic pathways and prepare for future employment.

Cluster 3 (Blue): Psychological Well-Being, Mental Health, and Individual Characteristics

The third cluster focuses on psychological well-being, mental health, and individual characteristics associated with counseling research. Frequently visible terms include *psychology*, *mental health*, *depression*, *anxiety*,

adolescent, *adult*, *female*, *male*, *young adult*, and *cross-sectional study*. These keywords suggest that guidance and counseling research also addresses psychological and emotional concerns across different age groups and population characteristics. The presence of depression, anxiety, and mental health indicates the relevance of psychological support and counseling interventions in responding to individuals' emotional and psychosocial needs. Furthermore, demographic and population-related terms suggest that studies examine counseling-related concerns across diverse groups. This cluster underscores the relationship between psychological well-being and the provision of appropriate guidance and counseling support.

Cluster 4 (Yellow): Vocational Guidance, Rehabilitation, and Career Development Support

The fourth cluster highlights vocational guidance and rehabilitation as important areas of scholarly interest. Prominent terms include *vocational guidance*, *vocational rehabilitation*, *rehabilitation*, *controlled study*, *methodology*, and *comparative study*. These keywords indicate research concerned with supporting individuals in identifying suitable occupational pathways, improving work-related capabilities, and facilitating participation in employment. The presence of vocational rehabilitation suggests attention to individuals who require specialized assistance in returning to work, adapting to occupational demands, or pursuing meaningful employment opportunities. The inclusion of controlled and comparative study-related terms also reflects the use of evaluative research approaches in examining guidance and rehabilitation interventions. Overall, this cluster emphasizes the contribution of vocational guidance and rehabilitation to career development, occupational participation, and individual functioning.

Taken together, the four clusters demonstrate the multidisciplinary and interconnected nature of global guidance and counseling research. The network reflects four broad areas of scholarly concentration: counseling practice and clinical applications, educational and career counseling, psychological well-being, and vocational guidance and rehabilitation. The close relationships among several keywords suggest that these areas are not isolated but are interconnected through shared concerns involving individual development, decision-making, psychological support, and occupational participation. These findings highlight the broad scope of guidance and counseling research and provide a basis for identifying areas that warrant further investigation, particularly the integration of educational, psychological, and vocational perspectives in guidance and counseling services.

The cluster label and representative keywords in Table 5 provide a summary of co-word analysis.

Cluster No. and colour	Cluster label	Representative keywords
1 (Red)	Counseling Practice, Clinical Applications, and Research Approaches	Humans; human article; patient counseling; patient education; genetic counseling; qualitative research; interview; follow-up.
2 (Green)	Educational, School, and Career Counseling	Counseling; school counseling; career counseling; counselor; career; career choice; education; students; university; decision making.
3 (Blue)	Psychological Well-Being, Mental Health, and Individual Characteristics	Psychology; mental health; depression; anxiety; adolescent; adult; female; male; young adult; cross-sectional study.
4 (Yellow)	Vocational Guidance, Rehabilitation, and Career Development Support	Vocational guidance; vocational rehabilitation; rehabilitation; controlled study; methodology; comparative study.

Note. Cluster labels and representative keywords are based on the four colour-coded groups and visible terms in the supplied co-word network (Figure 3). The exact number of keywords assigned to each cluster is not displayed in the image and should be obtained from the VOSviewer cluster/item export.

V. IMPLICATIONS

Theoretical Implications

The present bibliometric study contributes to the theoretical understanding of guidance and counseling by examining the intellectual foundations, conceptual relationships, and development of scholarly research across different educational, career, and professional contexts. Through document co-citation analysis, the study provides a basis for identifying influential publications and interconnected scholarly contributions that have shaped the development of the field. These intellectual relationships may help clarify the theoretical perspectives, conceptual approaches, and research traditions underlying guidance and counseling scholarship.

The breadth of the retained literature, encompassing school counseling, educational guidance, career counseling, vocational development, student support services, and counselor education, highlights the multidisciplinary character of the field. This provides an opportunity to examine how different theoretical perspectives contribute to understanding individuals' academic development, career decision-making, personal adjustment, and social-emotional well-being. In particular, the integration of educational, developmental, vocational, and counseling perspectives provides a broader conceptual foundation for understanding the diverse functions and applications of guidance and counseling across institutional and social settings.

Furthermore, keyword co-occurrence analysis offers a means of examining the conceptual structure of guidance and counseling research by identifying frequently associated concepts and their relationships. The identification of dominant and interconnected keywords can help clarify the major areas of scholarly investigation, while less frequently represented topics may indicate opportunities for further theoretical development. Such an examination may contribute to refining existing conceptual perspectives and encouraging interdisciplinary approaches to the study of guidance and counseling.

The international scope of the dataset, which includes contributions from 2,718 authors representing 103 countries and territories, also emphasizes the importance of considering cultural, educational, and geographical contexts when examining the theoretical development of the discipline. Guidance and counseling practices may differ according to educational structures, professional standards, cultural expectations, and socioeconomic conditions. Consequently, future theoretical investigations should consider contextual differences and explore the applicability of established counseling frameworks across diverse populations and international settings.

Overall, this study provides a bibliometric foundation for understanding the intellectual and conceptual development of guidance and counseling research. By examining citation relationships, keyword associations, and international scholarly contributions, the findings may support the identification of established knowledge areas, conceptual connections, and potential directions for future theoretical inquiry.

Practical Implications

The findings of this study may offer practical insights for educational institutions, guidance counselors, counselor educators, professional organizations, researchers, and policymakers. By mapping the global research landscape of guidance and counseling, the study provides an overview of the scholarly areas that have received research attention and the relationships among different domains of the discipline. This information may help stakeholders identify relevant research directions and strengthen the development of evidence-informed guidance and counseling programs and services.

For educational institutions, the analysis may inform the development and improvement of school-based guidance and counseling programs. Research concerning academic guidance, student counseling, career development, and social-emotional support can provide a foundation for identifying students' diverse needs and strengthening institutional support mechanisms. Educational administrators and guidance personnel may use relevant research evidence to improve counseling service delivery, develop appropriate student support interventions, and promote holistic learner development.

For guidance counselors and other counseling professionals, the study highlights the importance of continuing professional development, evidence-based practice, and responsiveness to emerging concerns in the field. The examination of scholarly contributions and research themes may help practitioners identify developing areas of professional interest, strengthen their understanding of contemporary counseling approaches, and recognize the importance of adapting services to the changing academic, personal, and career-related needs of individuals. Furthermore, the growing importance of career guidance and vocational development underscores the need for counseling services that support informed educational and occupational decision-making throughout different stages of life.

For counselor education institutions and academic program developers, the intellectual and thematic structures identified through bibliometric mapping may provide useful insights for reviewing curriculum content, strengthening research-based instruction, and identifying areas requiring greater scholarly attention. The identified research domains may also guide the development of training initiatives that emphasize professional competencies, ethical practice, multicultural responsiveness, career counseling, and the delivery of appropriate guidance services.

At the institutional and policy levels, the international collaboration analysis may help identify existing scholarly partnerships and opportunities for strengthening research cooperation among universities, research institutions, and professional organizations. The representation of 103 countries and territories in the retained corpus demonstrates the geographical breadth of contributions to guidance and counseling scholarship. Strengthening international research partnerships may facilitate the exchange of knowledge, comparative investigations, and the development of contextually appropriate approaches to counseling practice and educational guidance.

For future researchers, the co-citation and keyword co-occurrence findings may serve as a reference for identifying influential scholarly contributions, established research areas, and potentially underexplored topics.

The mapped intellectual and conceptual relationships can help researchers formulate new research questions, explore interdisciplinary perspectives, and develop empirical studies addressing gaps in the existing literature.

Ultimately, the practical value of this bibliometric study lies in providing an organized overview of global guidance and counseling scholarship that may support research development, professional preparation, institutional planning, and evidence-informed service improvement. However, bibliometric indicators should be interpreted as measures of scholarly activity and relationships rather than direct evidence of the effectiveness of particular counseling interventions or programs.

VI. CONCLUSION, LIMITATIONS, AND FUTURE RESEARCH

This study maps the global research landscape of guidance and counseling through bibliometric analysis of Scopus-indexed publications from 2000 to 2026. The screening process retained 982 publications, comprising 949 articles and 33 review articles. The corpus involved 2,718 contributing authors across 103 countries and territories and contained 42,763 cited-reference entries, 27,516 unique cited references, 3,984 author-keyword entries, and 1,752 unique author keywords. These descriptive characteristics provide the basis for examining publication development, citation relationships, international collaboration, and research themes.

The study's interpretation of intellectual and conceptual structures depends on the final co-citation and keyword co-occurrence outputs. The number and meaning of clusters, leading cited works, frequently occurring keywords, and total link strengths must be reported from the verified VOSviewer maps and exported data. Accordingly, no specific cluster-level conclusions should be drawn until these outputs have been checked against the final 982-record corpus.

Several limitations should be considered. First, the study relies on Scopus-indexed publications and therefore does not represent all research available in other databases or non-indexed sources. Second, the search was restricted to English-language journal articles and review articles, which may exclude relevant scholarship published in other languages or document types. Third, the search was conducted on a specific date, and Scopus records and citation counts may change over time. Fourth, citation-based indicators may favor older publications because they have had more time to accumulate citations. Finally, the interpretation of network clusters involves researcher judgment and should be supported by transparent reporting of thresholds and representative records.

Future research may extend this work by comparing guidance and counseling scholarship across databases, languages, geographical regions, and specific practice settings. Longitudinal analyses may also examine changes in thematic emphasis over time, while qualitative reviews may provide deeper insight into the content and implications of the research themes identified through bibliometric mapping.

Overall, the study is intended to provide a structured overview of publication trends, intellectual foundations, international research collaboration, and emerging themes in guidance and counseling. Its contribution will depend on ensuring that all reported bibliometric indicators, network visualizations, and interpretations are derived from the same verified corpus of 982 publications.

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Ethical Compliance: This study analyzes bibliographic records of published literature and does not involve direct recruitment of human participants or intervention. The authors should nevertheless confirm whether their institution requires an ethics determination for bibliometric research and ensure that all source records are cited and represented accurately.

Data Access Statement: The bibliographic data and analysis files may be made available by the corresponding author upon reasonable request, subject to Scopus terms of use and any applicable institutional requirements. Confirm the actual data-sharing arrangement before submission.

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Author Contributions: Specify each author's actual contributions to conceptualization, methodology, data collection, data curation, formal analysis, visualization, writing, and manuscript review. Do not retain generic contribution statements unless they accurately describe the authors' roles.

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