

# Career Planning and Guidance Research in Higher Education: A Bibliometric Analysis

Kou Cheng and Zuraimy Mohamed Noordin

**Abstract** – A bibliometric analysis was conducted to examine trends and key metrics in career planning and guidance in higher education. 41 articles published between 2015 and 2024 were extracted from the Lens database. Key metrics analysed included annual publication trends, leading institutions, most cited works, top research domains, and contributing countries. The results revealed that 2024 saw the highest publication output with 10 articles. The Indonesia University of Education emerged as one of the leading institutions in the field. “A Need Assessment on Students’ Career Guidance” was the most cited work, with 22 citations. The psychology domain led with 29 articles, while Indonesia was the top contributing country, publishing 10 articles globally. The findings highlight the growing interest in career planning and guidance research, particularly in psychology and education, with increasing contributions from international institutions, especially in Indonesia. The implications of this study suggest a growing global focus on career guidance research in higher education, with particular attention to psychological factors and institutional contributions. However, the study is limited by the small dataset and its restriction to the Lens database, potentially excluding other relevant sources. Further research could expand the dataset and include additional databases to provide a more comprehensive view of the field.

**Keywords** – career planning, career guidance, higher education, bibliometric analysis, Lens

## I. INTRODUCTION

The dynamic and competitive nature of the global labour market underscores the importance of effective career planning, particularly within the realm of higher education. Career planning not only equips students with the skills and knowledge necessary to navigate their careers, but also fosters self-efficacy, adaptability, and long-term employability. As higher education institutions increasingly incorporate career planning courses and guidance programs into their curricula, the need for a robust understanding of the research landscape in this field has become critical.

Career planning research in higher education spans various dimensions, including career adaptability (Zhang et al., 2024), career self-efficacy (Kleine et al., 2023), guidance methodologies (Ituga, 2023), and their impact on students’ personal and professional development (Lingyu, 2024).

Studies have also explored the influence of institutional support systems (Joshi & Jaffer, 2024), industry collaboration (Ahmed et al., 2022), and evolving career trends (Fatima et al., 2022) on educational policies and practices. Despite this, the field remains fragmented, with limited integration of insights across diverse theoretical frameworks and practical implementations.

Bibliometric analysis offers a powerful tool to synthesize the existing literature, identify research trends, and map influential works in the domain of career planning research. By analysing authorship networks, key sources, keyword co-occurrences, citation patterns, and annual publication trends, bibliometric studies offer a robust empirical framework to trace the evolution of a field, identify knowledge gaps, and chart future research directions. Lens, as a leading database for peer-reviewed academic literature, serves as an ideal platform for conducting such an analysis due to its extensive coverage of multidisciplinary research.

This study aims to analyze the research landscape of career planning in higher education through a bibliometric approach using Lens database. Specifically, the objectives of this study are to:

- To analyze trends in publications related to career planning and career guidance during the period 2015–2024.
- To identify the leading institutions contributing to research in the field of career planning and guidance.
- To identify the most frequently cited scholarly works in the field of career planning and guidance.
- To explore the primary research domains within the field of career planning and guidance.
- To identify the top countries contributing to research in career planning and guidance.

By illuminating the trajectory of scholarly work in this domain, this study seeks to contribute to a more cohesive understanding of career planning in higher education and inform evidence-based policy and pedagogical innovations.

## II. PROBLEM STATEMENT

Despite the growing recognition of Career Planning and Employment Guidance (CPEG) courses as critical tools for enhancing students' career adaptability, planning confidence, and employability, their effectiveness remains inconsistent across Chinese universities. While extensive research has examined various aspects of career planning, such as adaptability, decision-making, and institutional support, bibliometric studies have primarily explored career-related dimensions in diverse contexts without a focused analysis of career planning within higher education settings. This study aims to address this gap by conducting a systematic bibliometric analysis of career planning research, with the goal of providing practical insights and identifying future research opportunities in this critical domain.

## III. LITERATURE REVIEW

The field of career planning in higher education has witnessed significant growth, reflecting its critical role in

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preparing students for increasingly dynamic and complex job markets. Current research has explored diverse aspects of career planning, including career adaptability, self-efficacy, and decision-making processes, often rooted in theories such as Savickas' Career Construction Theory (2020) and Bandura's Social Cognitive Theory (2023). Studies emphasize the importance of institutional support (Medill, 2024), career counselling (Orim, 2023), and the integration of career planning into broader educational frameworks to enhance students' readiness for professional challenges (Layton et al., 2020). These investigations highlight the multifaceted nature of career planning, which spans individual psychological factors, curriculum design, and systemic influences.

Existing bibliometric studies have examined various dimensions of career planning education, including career decidedness (Uzunbacak, 2024), career success (Pico-Saltos et al., 2021), proactivity (Jiang et al., 2023), counselling (Oraipoulou et al., 2024), maturity (Ghazali et al., 2024), and aspirations (Wang et al., 2024). These studies have provided valuable insights into specific aspects of career planning across different contexts, highlighting key trends and influential contributors. However, a notable gap exists in the bibliometric exploration of career planning research, specifically within the context of higher education. Despite the critical role of higher education in shaping students' career trajectories, there is a need to comprehensively map and analyse the research landscape in this domain, including its thematic evolution, influential works, and emerging areas of focus.

This study addresses this gap by providing a systematic bibliometric analysis of career planning research in higher education. By leveraging data from Lens, this analysis examines publication trends, top domains, institutions, and countries, offering a holistic view of the field. In doing so, it not only identifies key contributors, but also uncovers under-explored areas and future opportunities for research. This study thus contributes to the literature by establishing a foundational understanding of the state of career planning research in higher education and setting the stage for further scholarly inquiry and practical innovation in this critical field.

IV. METHOD

This study employs a bibliometric analysis to systematically evaluate the research landscape of career planning in higher education. Bibliometric analysis is a quantitative approach used to analyse large volumes of academic literature to identify patterns, trends, and influential contributors in a field. By examining metrics, such as authorship networks, key sources, keyword co-occurrences, citation patterns, and publication trends, this methodology provides a comprehensive understanding of the state and evolution of research in this domain.

The data for this study was extracted from Lens database, one of the most extensive repositories of peer-reviewed academic literature. The search strategy followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) (Page et al., 2021) framework to ensure a transparent and replicable process. The search terms were carefully developed to capture all relevant studies on career planning in higher education. The inclusion

criteria were set to focus on peer-reviewed journal articles published in English, excluding book chapters, conference papers, and gray literature. Articles were screened for relevance based on their titles, abstracts, and keywords. Table 1 presents the details of data extraction along with search terms and other details.

Table 1 summarises the data extraction process, including the search terms and selection criteria used in this study. The key search terms included "career planning," "career guidance" combined with "higher education," "university education," and "tertiary education." This initial search yielded a corpus of 1,185 documents. To refine the dataset, the publication period was restricted to 2015–2024, and only English-language, peer-reviewed journal articles were included. Non-relevant document types, such as patents, book reviews, book chapters, and conference papers were excluded. After this filtering process, the final corpus consisted of 41 articles, forming the basis for the bibliometric analysis.

TABLE 1: SEARCH QUERY FOR DATA EXTRACTION

Search Query	(title:(“career planning”) OR abstract:(“career planning”) OR keyword:(“career planning”) OR field_of_study:(“career planning”)) AND (title:(“career guidance”) OR abstract:(“career guidance”) OR keyword:(“career guidance”) OR field_of_study:(“career guidance”))AND (“higher education” OR “university” OR “tertiary education”) NOT (“school” OR “K-12”)
Period	2015-2024
Type	Peer-reviewed articles
Language	English
Additional Filters	Open access
No. of Articles	41

Following data extraction, the dataset was cleaned to remove duplicates, irrelevant entries, and incomplete records. This step ensured the reliability and accuracy of the analysis. The metadata fields retained included authors, affiliations, publication years, journal titles, keywords, and citation counts, providing a robust dataset for subsequent analysis.

Several bibliometric metrics were utilised to analyse the dataset comprehensively:

- a) Publication trends – To analyze the distribution of publications on career planning and guidance from 2015 to 2024.
- b) Leading institutions – To identify and evaluate the top institutions contributing significantly to research in career planning and guidance.
- c) Most cited works – To analyze the most impactful scholarly works based on citation metrics within the field of career planning and guidance.
- d) Primary research domains – To categorize and explore the dominant research domains in career planning and guidance studies.
- e) Top contributing countries – To assess the geographic distribution of research outputs and identify the leading countries in the field of career planning and guidance.

The cleaned dataset was analysed and visualized using Lens Analysis, a tool for statistical computing and data visualization. This systematic methodology ensures a rigorous and replicable analysis of career planning research in higher education. By leveraging Lens as a data source and advanced bibliometric tools in RStudio, the study provides valuable insights into the research landscape, addressing gaps in the literature and informing future directions for scholarship and practice.

V. FINDINGS

The findings of the bibliometric analysis are presented in this section.

Annual Publication Trends

Figure 1 illustrates the annual publication frequency of research articles in career planning and guidance between 2015 and 2024. The data indicates a significant increase in publications over time, with 2024 emerging as the peak year with 10 articles published, reflecting heightened research interest in recent years. Prior to this, consistent publication activity was observed during the years 2019, 2021, 2022, and 2023, each contributing 5 articles, suggesting stable engagement in the field during this period.

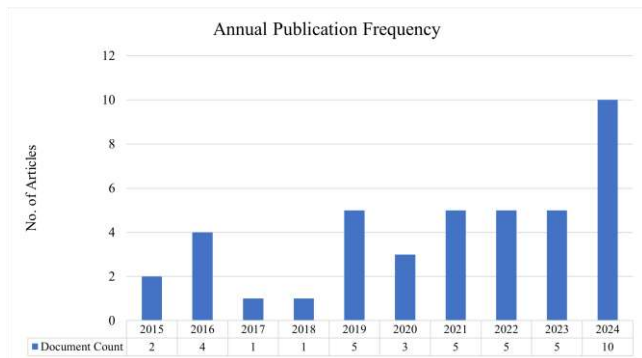


Figure 1. Annual Publication Frequency (2015-2024)

In contrast, the earlier years of the study (2015–2018) exhibited relatively lower publication outputs, with 2015 and 2016 accounting for 2 and 4 articles, respectively, while 2017 and 2018 recorded just 1 article each. This gradual upward trend highlights an increasing scholarly focus on career planning and guidance, particularly from 2019 onwards, culminating in the substantial spike observed in 2024. The overall trend suggests a growing awareness and prioritisation of the topic among researchers, institutions, and academic communities in recent years.

Leading Institutions

Figure 2 highlights the leading institutions contributing to research in career planning and guidance. The Indonesia University of Education, State University of Padang, State University of Semarang, and University of Naples Federico II emerged as the most productive institutions, each contributing 2 publications.

In addition to these leading contributors, several institutions made notable contributions with 1 publication each. These include Alupe University College, Armenian State Pedagogical University, Babeş-Bolyai University, Bauman Moscow State Technical University, Catholic University of Korea, and Catholic University of Portugal.

The distribution of publications across these institutions underscores the global interest in the topic, with contributions spanning multiple countries and regions, including Asia, Europe, and Africa. This diversity in institutional engagement highlights the international significance and growing emphasis on career planning and guidance as a critical area of educational research.

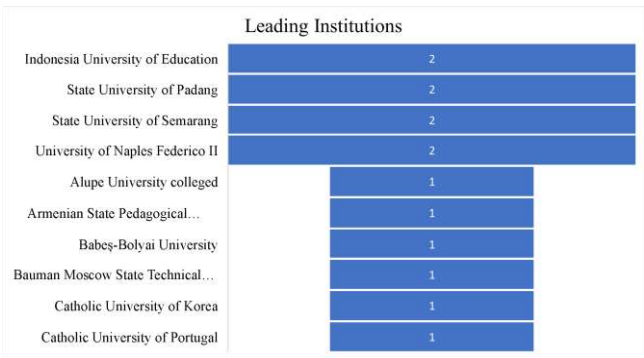


Figure 2. Leading Institutions

Most Cited Works

Table 2 highlights the most cited works in the field of career guidance and planning. The publication titled “A Need Assessment on Students’ Career Guidance” (2015) stands out as the most influential work, with 22 citations, indicating its significant impact on the field.

Table II: MOST CITED WORKS

Title	Year	No. of Citations
A Need Assessment on Students’ Career Guidance	2015	22
Prioritising career guidance and development services in post-apartheid South Africa	2020	14
A Career Guidance and Career Planning Assessment Method Based on Improved Correlation Analysis	2022	4
Computer-Assisted Career Guidance Tools for Students’ Career Path Planning: A Review on Enabling Technologies and Applications	2024	4
Career Guidance with Adolescents and Youths with Deviant Behavior: Professional Training Experience	2019	3
Gendered Perceptions’ regarding Career Guidance Needs at Higher Education Level	2021	2
Personnel Cooperation Between University and Industrial Partners in the Context of Youth Career Development	2022	1

The second most cited work is “Prioritising Career Guidance and Development Services in Post-Apartheid South Africa” (2020), which has garnered 14 citations,

reflecting its relevance in addressing career development in specific socio-cultural contexts.

Several other works contribute notable insights, with fewer citations, such as “A Career Guidance and Career Planning Assessment Method Based on Improved Correlation Analysis” (2022) – 4 citations, “Computer-Assisted Career Guidance Tools for Students’ Career Path Planning: A Review on Enabling Technologies and Applications” (2024) – 4 citations, “Career Guidance with Adolescents and Youths with Deviant Behavior: Professional Training Experience” (2019) – 3 citations, “Gendered Perceptions’ Regarding Career Guidance Needs at Higher Education Level” (2021) – 2 citations, and “Personnel Cooperation Between University and Industrial Partners in the Context of Youth Career Development” (2022) – 1 citation.

The distribution of these citations underscores the diverse themes within the research, ranging from technology-enhanced career guidance to specific societal and behavioural challenges. Moreover, the prominence of studies published in recent years highlights the ongoing interest and relevance of career guidance research in addressing evolving educational and career-related challenges.

### Primary Research Domains

As seen in Figure 3, the top research domains in career guidance and planning highlight the interdisciplinary nature of this field.

The Psychology domain leads with 29 articles, emphasizing its central role in understanding behavioural and cognitive processes related to career decision-making and development. This is followed closely by Medical Education with 22 articles, reflecting the growing importance of career guidance in specialized fields like healthcare training.



Figure 3. Top Research Domains

Other significant research domains include, Medicine and Pedagogy – each contributing 19 articles, showcasing the relevance of career guidance in educational and clinical settings. Sociology – with 17 articles, exploring societal and cultural factors influencing career development. Career Development – with 14 articles, focusing directly on the strategies and processes supporting career growth. Computer Science – contributing 13 articles, indicating the role of technology in modernising career planning tools and systems. Career Planning – with 11 articles, emphasising structured approaches to career decision-making. Political

Science – with 10 articles, addressing policy implications related to career guidance frameworks. Cognitive Information Processing – with 9 articles, underscoring theoretical approaches to decision-making and problem-solving in career planning.

The distribution of research across these domains highlights the multifaceted nature of career guidance, which intersects psychology, education, technology, and social sciences. This diversity underscores the comprehensive scope of career research, as it addresses individual needs, societal challenges, and technological innovations.

### Top Contributing Countries

As seen in Figure 4, the distribution of research contributions across countries reveals the global interest in career guidance and planning.

Indonesia leads with a notable 10 articles, reflecting its strong focus on addressing career guidance within its education systems and workforce development during the last decade. This dominance underscores Indonesia’s commitment to advancing career-related research, particularly in a rapidly changing economic and educational landscape.

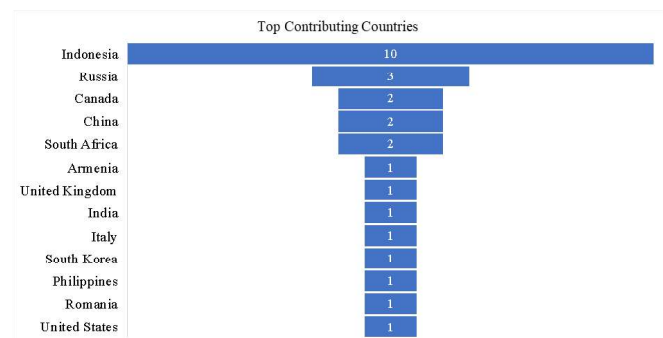


Figure 4. Top Contributing Countries

Other contributing countries include Russia, with 3 articles, highlighting its efforts in career planning research and tools. Canada, China, and South Africa each contributed 2 articles, reflecting diverse contexts and approaches to career development across different education systems and labour markets. Additionally, Armenia, United Kingdom, India, Italy, South Korea, Philippines, Romania, and the United States each contributed 1 article, representing a widespread but smaller-scale focus on career guidance research.

The contributions from multiple countries showcase the global relevance of career guidance and planning research. While Indonesia stands out as a major player, the presence of diverse nations, including both developed and developing countries, demonstrates a shared interest in understanding and improving career development strategies worldwide. This geographic diversity also highlights the cultural and contextual variations in career guidance practices, policies, and priorities.

## VI. DISCUSSION

The findings from this bibliometric analysis suggest that career planning and guidance in higher education has gained

increasing attention in recent years, with a notable surge in publications from 2019 onwards, reaching its peak in 2024. This rise indicates a growing awareness of the importance of career development in the context of higher education. The global distribution of publications across diverse institutions and countries highlights the widespread recognition of career guidance as a vital area of research. The substantial contributions from countries in Asia, Europe, and Africa demonstrate the universal relevance of this field, while also pointing to the cultural and contextual differences in how career planning is integrated within various educational systems. This indicates that, while the challenges faced by students and educators in the realm of career development may vary, the need for effective guidance remains a shared priority across regions.

Furthermore, the wide range of topics addressed in the research reflects the complex nature of career planning and guidance, encompassing areas such as psychology, medical education, pedagogy, and computer science (see Figure 3). The intersection of these fields emphasises the multifaceted nature of career development, as it touches on individual psychology, societal needs, and technological advancements. The increasing interest in technology-enhanced career guidance and the focus on specific behavioural challenges further highlight the evolving nature of career planning tools and approaches. These findings underscore the importance of continued research and innovation in career guidance, particularly as educational and labour market landscapes continue to shift. In conclusion, the growing body of research and global engagement underscores the critical role of career guidance in higher education, with implications for policy development, curriculum design, and the broader educational experience.

#### VII. LIMITATIONS

Several limitations of this study have been acknowledged. First, the study relied on a relatively small dataset spanning a fixed period from 2015 to 2024, which may not fully capture the broader trends or earlier developments in career planning and guidance research. Second, the analysis was limited to peer-reviewed articles that were available as open-access publications, which could exclude significant contributions published in subscription-based journals or other restricted sources. Additionally, the study focused solely on the Lens database, potentially excluding relevant studies indexed in other bibliographic databases such as Scopus, Web of Science, or Google Scholar. Only articles published in English were included, thereby excluding research published in other languages, which might reflect diverse regional perspectives and insights. Finally, the Lens analysis and visualisation tools, while effective, may have limited the depth of the bibliometric analysis compared to more advanced tools or methods. Future studies could address these limitations by expanding the dataset to include a broader time range, incorporating multiple databases, analysing works published in various languages, and using more sophisticated bibliometric tools such as Rstudio, VOS Viewer, CiteSpace, to ensure a comprehensive understanding of the research landscape.

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