EXPLORING THE PUBLICATION METRICS OF JOB PROMOTION RESEARCH: A BIBLIOMETRIC ANALYSIS IN FOUR DECADES

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Abstract*: Job promotion is a career advancement where an employee moves up in the company's hierarchical structure to a higher position with more responsibilities, authority, and usually better pay. It's a recognition of an employee's hard work, dedication, and contributions to the company. Job promotion can also provide opportunities for professional growth and development, and enhance an employee's job satisfaction and morale. This study aims to explore job promotion-related publishing patterns and rank the most used author keywords in the Scopus and Web of Science (WoS) databases. The eminent software, ScientoPy and VOSviewer, are used to run and execute relevant publication data retrieved from Scopus and WoS. The results showed a positive trend in the growth of job promotion literature in both databases since 1982. The top three research areas that dominate this topic are "business & economics", "public, environmental & occupational health", and "psychology". Based on the country analysis, the United States has become an active publisher, followed by Germany and China. Importantly, this study emphasised the scholarly communication practices prevalent in job promotion research have impressively propagated. The trends will assist researchers in recognising the various fields in identifying the core areas, proactive institutions, and core source titles published in this knowledge for supplementary investigation. Besides, by examining the most popular keywords, the results of this study enable researchers to discover the possibility for future research that may be conducted, particularly concerning the annual growth rates, which have been trending in the last five years.*

Keywords*: Exploring, Job Promotion, Bibliometric, Analysis*

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Introduction

Job promotion is a process of elevating an employee to a higher position within a company, department or organization, typically with an increase in pay, responsibilities, and status (Roslan et al., 2022; Asaari et al., 2019). It is a form of recognition for an employee's hard work, achievements, and potential. A promotion can be based on various factors, such as an employee's job performance, experience, seniority, or educational qualifications (Razak et al., 2019; Samad et al., 2020). In general, a job promotion is a positive career move that can offer new opportunities for personal and professional growth and advancement.

Job promotion is important for both employees and employers for recognition, motivation and career advancement in an organization (Azman & Sieng, 2021). Job promotion also is an essential aspect of employee engagement, career development, and organizational success because they offer opportunities for learning, advancement, networking, professional growth, and personal satisfaction (Razak & Ali, 2021; Yusof & Alias, 2020). Therefore, it is important for an organization to give appreciation to its employees to ensure that each employee is always appreciated and create a happy and harmonious work environment.

It is challenging for researchers to evaluate the material's current grasp, usefulness, and future direction due to the volume of information and the never-ending publication of the study on any research topic (Abdullah & Sofyan, 2023). It is, thus, in order to address the issue of excessive information availability and the breadth of different research topics, specific methodologies, such as bibliometric analysis, assist scholars and researchers in gaining a broad or even microscopic view of the overall progress and steady and continuous flow status (Gazali et al., 2021). Information retrieval is crucial to the cross-disciplinary field; this process can analyse aspects of information science and publication trend analysis. The bibliometric technique visualises vast publishing outputs necessary for deriving valid conclusions, such as the evolution of publications, study fields, and influential authors (Sofyan & Abdullah, 2022).

Bibliometrics made it easier for researchers to identify research gaps, emerging research prospects, and significant research areas (Abdullah & Othman, 2022). It indirectly enables them to summarise the significant trends of a particular study field. In terms of job promotion, there is still no researcher who has produced a bibliometric study related to job promotion in detail. Nevertheless, past researchers have undertaken minimal bibliometric investigation with only subtopic of job promotion. This study used Scopus and Web of Science (WoS) databases and was executed using ScientoPy to accomplish bibliometric analysis. The current study's primary goal was to identify patterns in job promotion-focused publications.

Data and Methods

Figure 1 depicts the data processing sequence in this analysis based on Abdullah (2022). It consists of a systematic strategy that has been divided into three primary parts. First, the title should be determined, and the datasets be developed and gathered. The second phase involves integrating the databases and obtaining the ScientoPy-analysable parameters. In the last stage, ScientoPy and VOSviewer parameters are used to evaluate and analyse the results.
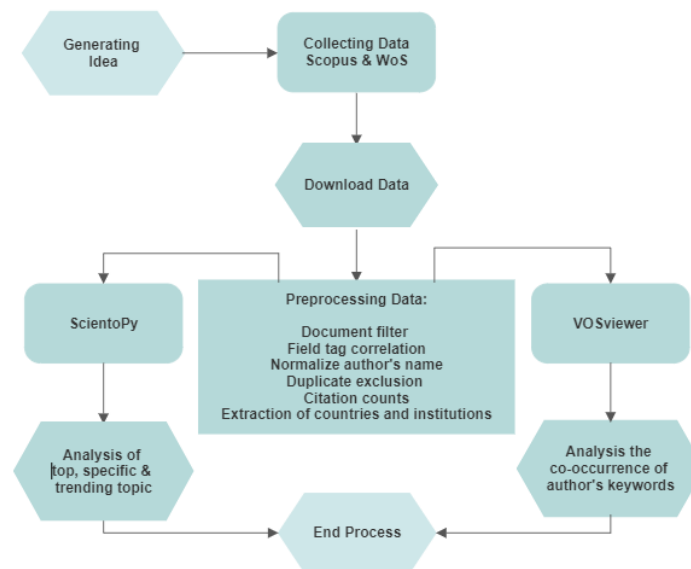
Figure 1: Bibliometric Workflow (Abdullah, 2022)

Given the multifaceted nature of the studied topic, the literature on job promotion is spread across many different fields. As a result, it was necessary to use accessible and numerous bibliographic databases to search for and find pertinent material on this subject. As a result, the two primary databases, Scopus and Web of Science (WoS), were used to collect the data for this study. The Scopus and WoS database is preferred since it is a multidisciplinary database with more articles in social science, education-related journals, management and other documents in various academic disciplines (Sweileh, 2022; Visser et al., 2021). The Scopus and WoS databases also attract most scholars to obtain publications for their review purposes (Abdullah et al., 2023). These databases span multiple fields (Martín-Martín et al., 2021), and searching them would aid researchers in locating the most significant number of citations on job promotion primary sources for bibliometric studies (Pranckutė, 2021). After defining the databases, the search query "job promotion" was chosen. The following fields were scanned for topic-related terms: all. This inquiry was completed on February 24, 2023.

During the second stage, ScientoPy was used to preprocess the data. The secondary dataset is then established for the following analysis stage. ScientoPy uses the following criteria during the pre-processing steps; (i) normalising the author's name: it is replaced with a semicolon for metadata retrieved from the Scopus database, it is stripped of dots, commas, and special characters for metadata retrieved from both databases, and (ii) removing duplicate samples with the same title and authors (Ruiz-Rosero et al., 2019). The pre-processing information is recorded in Table 1. Based on Table 1, the ScientoPy pre-processing script prioritises Scopus documents over WoS documents; after duplicate removal, there are more papers in Scopus databases than in WoS. This study used a raw source dataset of 811 papers from the WoS and Scopus databases. In this study, 69 of the 811 loaded papers were eliminated due to ScientoPy's analysis focusing exclusively on five types of publications: (i) conference papers, (ii) articles, (iii) reviews, (iv) proceeding papers, and (v) articles in press (Ruiz-Rosero et al., 2019). Thus, other publications such as books, letters, and errata were omitted. Following data reconciliation, this study examined 616 papers from both databases, containing 154 papers from WoS and 462 papers from Scopus, removing 125 from Scopus and 1 duplicate papers from WoS.

Table 1: Information on Initial Data Analysis

Information	Number	Percentage (%)
Loaded papers	811	
Omitted papers by document type	69	8.50
Total papers after omitted papers removed	742	
Loaded papers from WoS	155	20.90
Loaded papers from Scopus	587	79.10
Duplicated papers found	126	17.00
Removed duplicated papers from WoS	1	0.60
Removed duplicated papers from Scopus	125	21.30
Duplicated documents with different cited by	79	62.70
Total papers after duplicate removal	616	
Papers from WoS	154	25.00
Papers from Scopus	462	75.00

ScientoPy is a free, open-source scientometric analysis program built on Python that sorts data according to the most well-liked, specific, and trending topics. Scholars around the world use many bibliometric software programmes intending to provide information to readers with various interesting infographics and graphical visualisations. Even if several software programmes are available for conducting bibliometric analysis, choosing a solution that corresponds to the study objectives and questions is essential. This emphasises assessing the research questions before selecting a software application. The success of software in bibliometric analysis ultimately depends on the researcher's capacity to answer the research questions posed in the study.

In this study, two software programmes were utilised: ScientoPy and VOSviewer. ScientoPy is an open-source Python software developed by Ruiz-Rosero et al. (2017) and subsequently tested for usability and effectiveness in a later study by Ruiz-Rosero et al. (2019). Pabon et al. (2020) demonstrated that this software helps detect and eliminate duplicate datasets and clean up non-standard data formats. ScientoPy, as demonstrated by Ruiz-Rosero et al. (2019), can automatically categorise and report on the top themes based on author or index keywords, as well as identify the most prolific authors and countries involved in the research, using bibliographical information. VOSviewer is another piece of software used to map the co-occurrence of authors' keywords. VOSviewer is a software application that assists in constructing and visualising bibliometric networks (Abdullah et al., 2020; Roslan et al., 2023). Finally, the 616-piece data set was analysed, and the necessary statistical reports, graphs, and tables were generated using bibliometric data visualisation tools, ScientoPy and VOSviewer.

Result and Discussion

Publication Growth
The number of peer-reviewed publications is an excellent indicator of a scientific topic's growth. Since 1995, Figure 2 demonstrates a significant increase in articles on job promotion. Compared to WoS, Scopus publications have grown steadily, with a sharp rise after 2017. Based on its recognition in scientific publications for a wide range of research fields, WoS has been identified as a leading data source. Also, Scopus is constantly updated and is favoured by many researchers in various research domains. However, for this study it shows that Scopus is ahead of WoS. This clearly shows that research on job promotion is still understudied. From the data

in Table 2, it shows the latest five years for publications in Wos and Scopus. From 2018 to 2022, it was discovered that Scopus produced more than 20 papers, whereas WoS produced below 16 papers. The year 2022 shows the highest number of papers for Scopus which is 65 papers, while for WoS, the year 2018 has shown the highest achievement which is 16 papers. The increased interest in job promotion research in both databases shows that this topic is crucial in advancing job and promotion issue research. According to Mahayasa et al., (2018), the role of the organization in giving appropriate promotions to employees can influence better work actions. Indirectly, research on job promotion has gained more attention in recent years to discover the best argument for improving a promotion for employees and employee motivation before and after promotion.
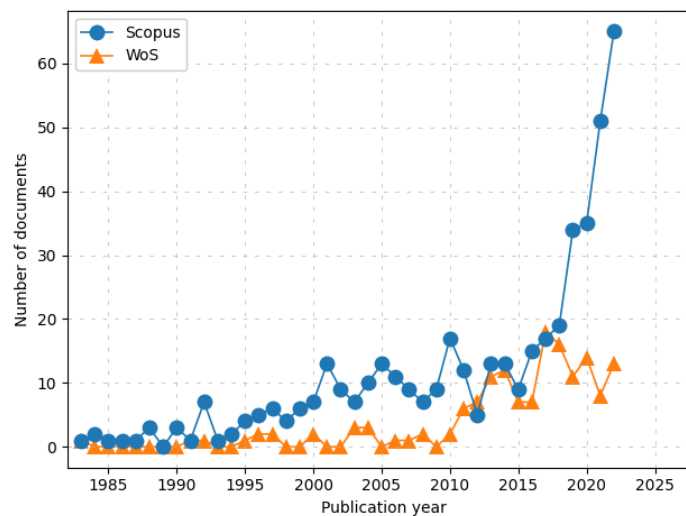
Figure 1: Figure 2: Timeline Graph of Job Promotion Research

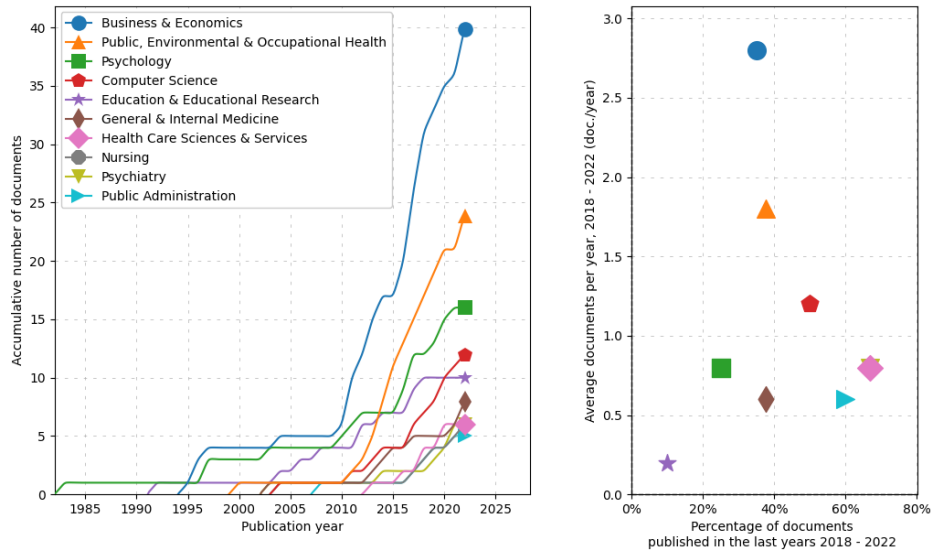**Table 2: Five Years Publication Trends of Job Promotion Researc**

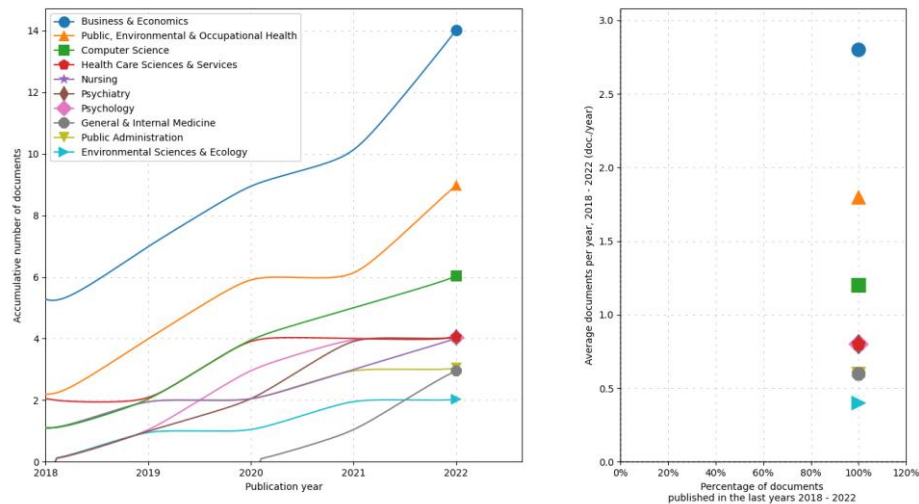| Publication	2018	2019	2020	2021	2022
WoS	16	11	14	8	13
Scopus	19	34	35	51	65

Subject Areas

Likewise, it is critical to conduct a review of relevant research articles. This strategy enables the essential disciplines in which research on job promotion has been undertaken to be identified. Figure 3 depicts an evolution graph of the top ten subject areas that can be used to categorise job promotion research in the Scopus and WoS databases. Business & Economics has been identified as the most extensively investigated field, with over 35 publications. Another fascinating subject is Public, Environmental & Occupational Health as shown in Figure 3(a), and the third-ranked subject area is Psychology. From the data in Table 3, showing the latest five years for publication trends from 2018 to 2022, it was found that Business & Economics produced with an average of 2.8, while for Public, Environmental & Occupational Health not so much with an average of 1.8 papers produced, and for Computer Science just produced an average of 1.2 papers. According to the data in Table 3, the year 2018 shows the highest number of papers for Business & Economics which is 5 papers, while for Public, Environmental & Occupational Health, the year 2022 has shown the highest among other years which is 3 papers, followed by Computer Science show in 2020 the highest with 2 papers.
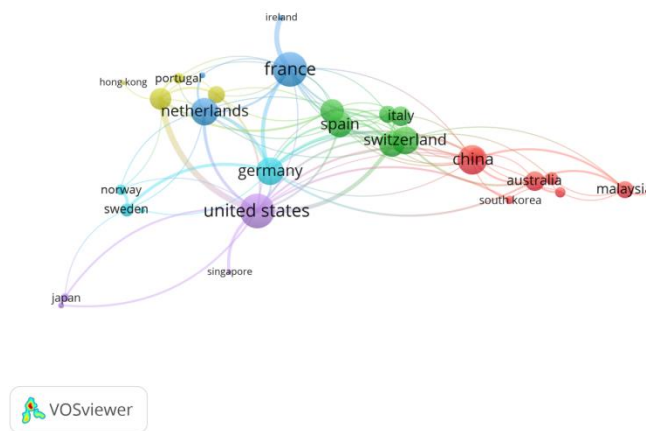
(a)

(b)

Figure 3: Subject Evolution Graph of Job Promotion Research, (a) based on 40 years of publication; (b) based on 5 years publication trends

Table 3: Five Years on Top Three Subject Areas of Job Promotion Research

| Publication	2018	2019	2020	2021	2022	Average
Business & Economics	5	2	2	1	4	2.8
Public, Environmental & Occupational Health	2	2	2	0	3	1.8
Computer Science	1	1	2	1	1	1.2

Publishing Countries

Since 1982, job promotion research has been conducted in 10 various countries. Figure 4 shows the country word cloud of job promotion research. Based on the Figure 5(a), the United States, Germany and China were identified as the top three publishing countries in job promotion research. However, the three lowest-ranked countries are France, Spain and Canada. Meanwhile, based on Figure 5(b), compared to other countries, the United States is the only country that has produced more than 55 pieces of publications and an average of 11.4 publications within the last five years (2018-2022). Spain shows the lowest country with only 12 publications and an average of 2.4 publications over 5 years. There are still not many countries that contribute towards the publication of job promotion research. Thus, the study of job promotion should be explored deeper and further in many countries.
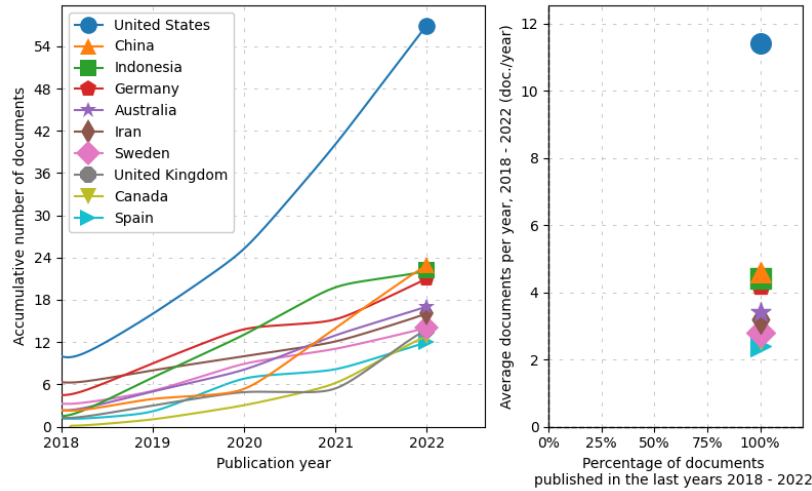

**Figure 4: Word Cloud for Publishing Countries**

(a)
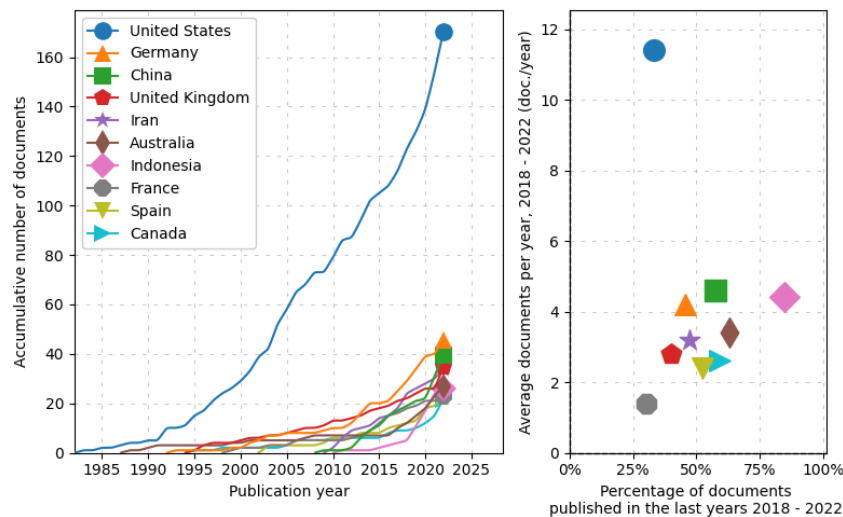
(b)

Figure 5: Country Evolution Graph of Job Promotion Research, (a) based on 40 years of publication; (b) based on 5 years publication trends
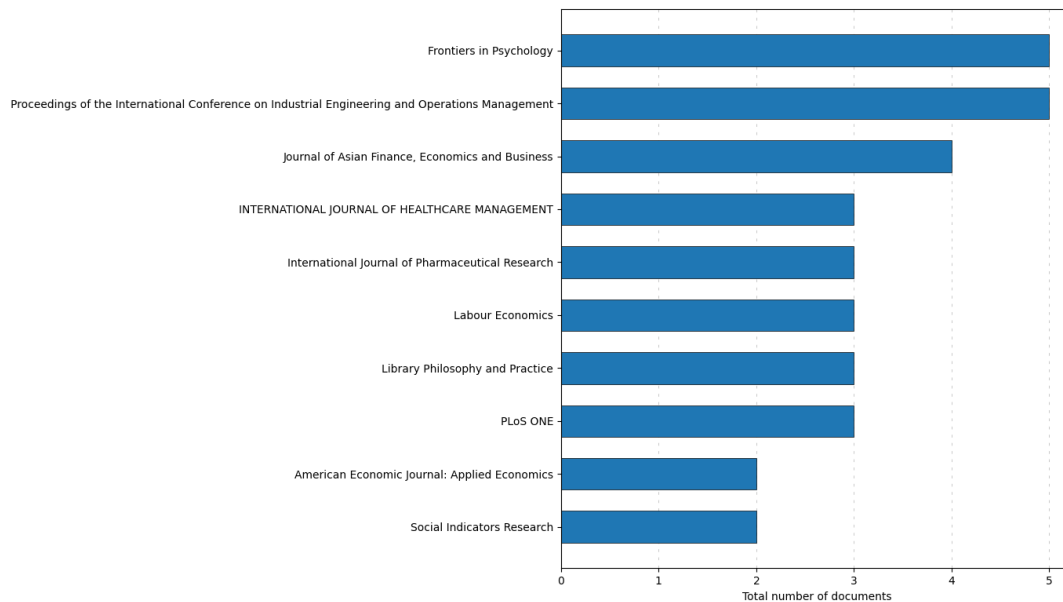
Sources Titles

The information in Figure 6 pertains to the most influential source titles in job promotion research, which are ranked according to the number of publications. A list of ten sources is included, along with the 40 years and the last five years' trending percentages.
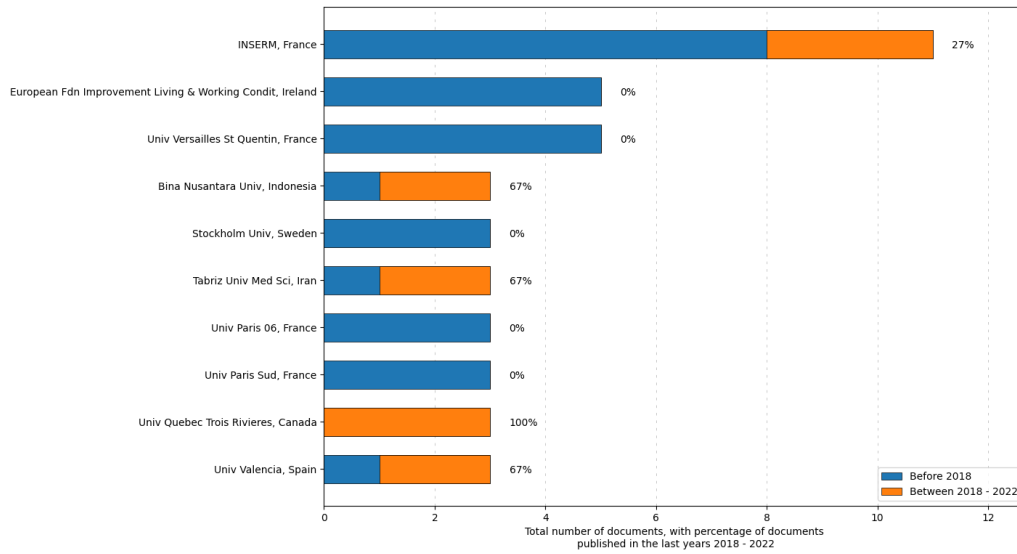
(a)
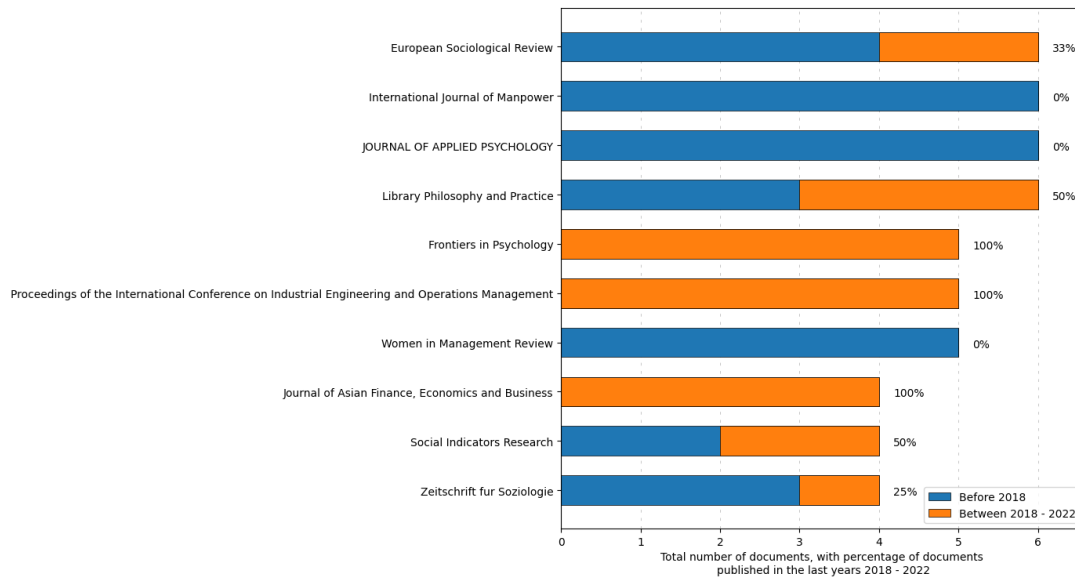
(b)

Figure 6: Source Title Bar Trends of Job Promotion Research, (a) based on 40 years of publication; (b) based on 5 years publication

According to Figure 6(a), European Sociological Review was ranked first in job promotion research publications with 6 publications, followed by International Journal of Manpower with also 6 publications and the Journal of Applied Psychology with also 6 publications. All three source title was the most active journal and remained the most influential in job promotion research, with the possibility plans to maintain further publications for the future. Notably, the Frontiers in Psychology; Proceedings of the International Conference on Industrial Engineering and Operations Management; and Journal of Asian Finance, Economics and Business has been the proactive source title in the last five years, with 100% of publications released from 2018 to 2022. Also, the compelling source title in the previous five years is the Library Philosophy and Practice; and Social Indicators Research, with 50% of publications. This data is the most up-to-date source for readers and future researchers seeking the most up-to-date studies on job promotion.
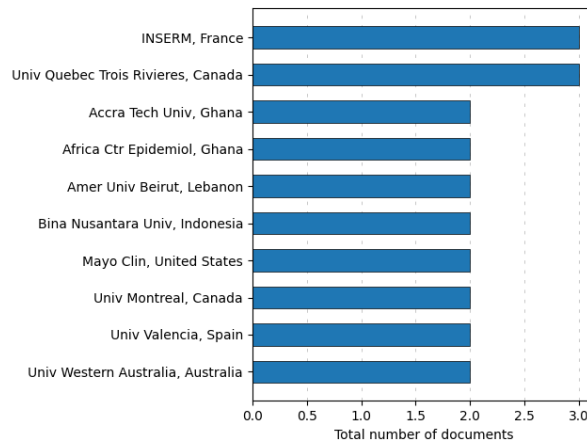
Institutional Analysis

Figure 7 pertains to the top ten institutions that publish academic works on job promotion. The scholars from Inserm in France were credited with the most publications, with more than 10 publications. The second institution is European Foundation for the Improvement of Living and Working Condition in Ireland. The University of Versailles Saint-Quentin in France is ranked third in this study. An intriguing feature of the top ten institutions in the last 5 years is that two institution are from Ghana and Canada. Thus, based on Figure 7(b), there are 8 institutions with the same lowest value for the last 5 years. This shows that publications related to job promotion are still low.
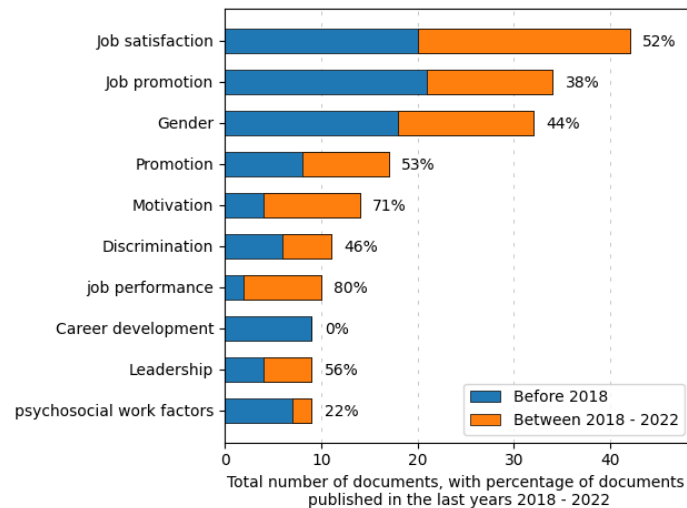
(a)

(b)

Figure 7: Institutional Bar Trends of Job Promotion Research, (a) based on 40 years of publication; (b) based on 5 years publication
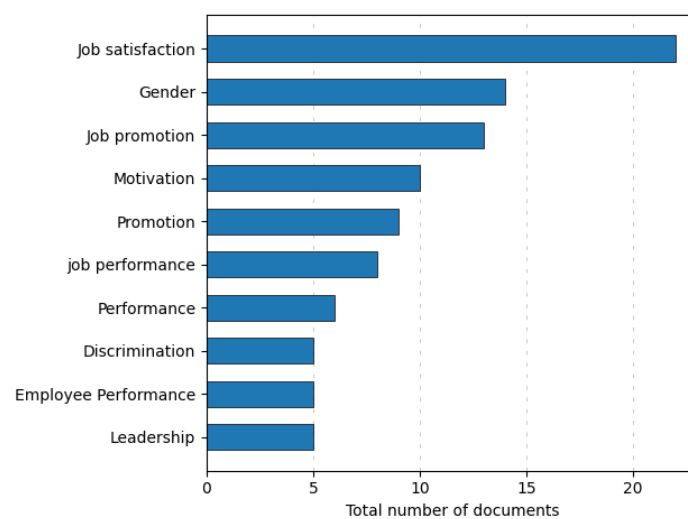
Author Keywords

Analysis Author keywords refer to the terms used by authors to represent the content of their documents accurately. Most authors mention their study topic as a keyword in their document. The authors' keywords aided readers and future researchers in identifying the publications' significant ideas and arguments (Roslan et al., 2023). Numerous electronic search engines, databases, and journal websites use author keywords to identify and deliver relevant articles to prospective readers. Readers need to understand that keywords produce links to other relevant publications (Abdullah et al., 2022). In this case, Scientopy might track the evolution of a study topic or search argument using the authors' keywords. This section analyses the authors' top keywords in previous research on job promotion. In order to complete the procedure, the authors' keywords were used to find research trends. It has been suggested to use an appropriate term, such as "job promotion". These manual tasks assist in organising data and eliminating term duplication, resulting in more robust results.

Figure 8 exhibits 10 previously researched keywords. As illustrated in Figure 8, the top three used term is "Job satisfaction," followed by "Job promotion" and "Gender". Data processing was given importance to this broad phrase directly related to the subject. Important keywords are made available to assist readers and future researchers in determining which ones to employ while conducting document analysis. While Figure 8 illustrates the first 10 keywords, ScientoPy enables us to view an infinite number of keywords (Ruiz-Rosero et al., 2019). Also, Figure 8 displays the percentage of documents published in the preceding five years (2018–2022) to illustrate a relative increase. We can observe from this indicator that "job performance" has the highest proportion (80%). It is self-evident that the issue has increased significantly over the last five years compared to other keywords. Additionally, "Job satisfaction" has been a hot topic, with over 20 (52%) publications published from 2018 to 2022. Thus, this study depicted that job satisfaction, gender and job promotion has sparked scholars' curiosity.

(a)

(b)

Figure 8: Author Keywords Bar Trends of Job Promotion Research, (a) based on 40 years of publication; (b) based on 5 years publication

Furthermore, this study used cluster mapping to ascertain the co-occurrence of the authors' keywords to denote themes or issues relevant to job promotion (see Figure 9). Before using the VOSViewer to generate a network map, the dataset was pre-processed with SientoPy (a combination of Scopus and WoS metadata). Additionally, this study used a thesaurus file to map the co-occurrence of the authors' terms before mapping them. Concatenating related terms, spelling variants, and singular or plural terms requires the use of the thesaurus file.

Based on Figure 9, it can be deduced that the most frequently used keywords were "job promotion", "job satisfaction", "promotion", "gender", and "motivation". These keywords are inextricably linked. The keyword "job promotion" was grouped in the same clusters (blue colours) as "leadership", and "higher education". "job promotion" is also closely linked to "career development". Based on this map, job promotion research is also focused on promotion and career development, which is should be a priority at all levels of organization management. Therefore, organizations should improve their efficiency to ensure employee motivation at a high level and at the same time also enhance the good name of the organization (Anwar & Abdullah, 2021). Additionally, conditions conducive to organization commitment in manage promotion to employee may encourage this approach. Importantly, this study shows that research on job promotion is not limited to the organization culture but has attracted the interest of scholars in the performance management research sector.
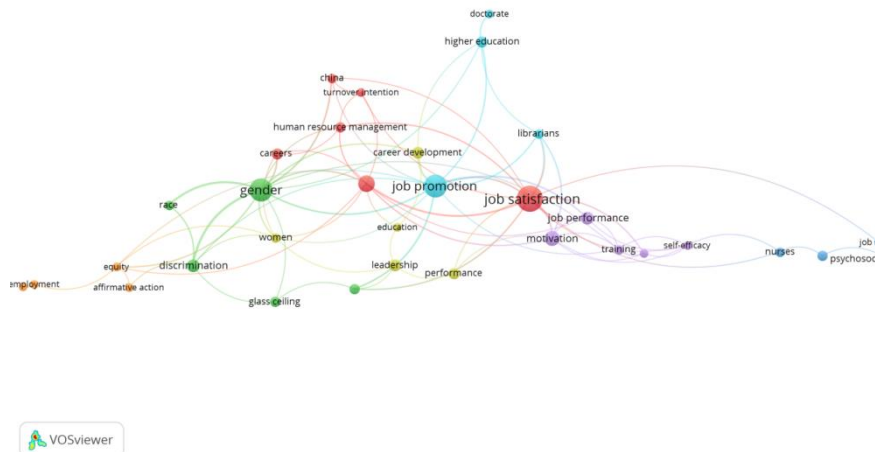
Figure 9: Network Visualisation of The Co-occurrence of Authors' Keywords

Productive Authors

To appreciate the contributions of authors, this study shows a list of the 10 most productive authors over the past 40 years in Table 4. In first place is Niedhammer, I with 11 publications, followed by Chastang, J.F. with 10 publications and the third is Hamidi, Y. with 6 publications in total.

Table 4: Top Ten Productive Authors

Pos.	Author	Total Publication	AGR	ADY	PDLY	h-Index
1	Niedhammer, I.	11	-0.2	0.2	9.1	10
2	Chastang, J.F.	10	-0.2	0.2	10	9
3	Hamidi, Y.	6	0	0.6	50	3

4	Lesffleur, T.	5	-0.2	0.2	20	5
5	Parent-Thirion, A.	5	0	0	0	5
6	Vermeylen, G.	5	0	0	0	5
7	Kramer, M.W.	4	0.4	0.4	50	3
8	Nepal, S.	4	0.4	0.8	100	2
9	Siegrist, J.	4	0.2	0.4	50	3
10	Nyberg, A.	4	0	0.8	0	3

Conclusion

Positive emotional states about job promotion were found to be related to job satisfaction, even though it was found that people might thinking to cope with their outlook and knowing how people make decisions regarding their supported for develop of their trust. Therefore, it is important to know the relationship of this study with the important of promotion found in a career. This research looks at how often specific articles are published and how often they use certain keywords to determine job promotion.

The results indicated that publications on job promotion have increased significantly since 1995. Notably, Scopus publications have expanded consistently compared to WoS, with a sharp increase following 2017. With over 35 publications, Business & Economics has been identified as the most thoroughly explored research area. United States, Germany and China have been designated as the research area's top three publishing countries. European Sociological Review was the most often published source title pertaining to job promotion, followed by International Journal of Manpower and Journal of Applied Psychology. With more than 10 publications, scholars from Inserm in France were credited with the most active institution. The keyword "job satisfaction" is the most frequently used by previous researchers, followed by "job promotion" and "gender". Job promotion was clustered in the same group with "leadership" and "high education". Remarkably, "job promotion" and "job satisfaction" are inextricably intertwined.

Certain limitations to this study may help direct future studies. Publications in the Scopus and WoS databases were analysed and mapped for this research. As a result, the findings of this study were limited to deducing the most critical themes or keywords associated with job promotion studies found in those databases. Therefore, if future research wishes to expand on the foundation or address broad subjects, a systematic literature review or meta-analysis is recommended to provide the most relevant evidence synthesis possible. Nonetheless, scholarly dissemination in the job promotion research field is provided to potential readers and future researchers keen on this topic.

This study provides a novel perspective by demonstrating that research on job promotion is not restricted to job performance but has drawn scholars to explore job promotion within the framework of career development, which transcends research areas. Therefore, the study will aid researchers from various fields in identifying essential publication trend factors for systematically disseminating job promotion research. In addition, this study's findings motivate researchers to collaborate and develop new research paradigms for evaluating job promotion by analysing the most often-used terms through empirical studies.

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