

A Study on Job-Related Stress through the usage of Bibliometric Analysis and Network Visualization: A Scholarly Investigation

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Abstract

The present paper aims to study a comprehensive investigation into the landscape of job-related stress through the innovative application of bibliometric analysis and network visualization. The Study is been done using Scopus data base covering articles in connection with job stress from the year 2012 to 2023 and the analysis is been done through VOS viewer software. The Study offered a detailed analysis on trends of publication, authors contributing towards job stress, journals publishing the work in connection to Job Stress and a key word network coverage in connection with same. The study contributes significantly to the existing body of knowledge on job-related stress, providing a roadmap for researchers, practitioners, and policymakers. The Study further offers direction for future research.

Key words: Job Stress, Bibliometric, Network Visualization, Gender, Work Stress.

Introduction

The first ever use of the word stress has been subject of different sort of debate ever since its first use in physiological and biomedical research by Selye (1950). The origin of the term stress can be linked to the Latin term "stringere," as found in the literary writings of the 17th century. The term, signifying narrowing, has also been recognized as synonymous with challenge, hardship, affliction or distress. (Sidhu, Singh, Virdi, & Kumar, 2019). The term Stress was earliest quoted by Selye (1950) as "a mental and physical state resulting from the unexpected differences between demand and ability of an individual to meet those demands". Stress is often considered as the physical and emotional toll an individual experiences while adapting to a dynamic environment. (Arevalo & Balodi, 2019). Stress is an inherent aspect of an individual's existence due to the rising complexities and competitiveness in human life. Occasionally, an employee's interactions within their organization can lead to elevated levels of stress. (Miglani & Brar, 2017). Employment plays a pivotal role in our way of life, often generating significant stress because of the uncertainty and competition it entails. (Jaswal & Chand, 2018). Every individual is willing to offer their best of output while being at work while at the same time, they tend to ignore the component of stress and the influence of same is been seen on their success and lifestyle. (Li, Ai et al., 2017). There has been a drastic change in lifestyle of people where in people are looking for best in everything in the least possible time (Ray, Kenigsberg, & Pana-Cryan, 2017). According to a study by Go key (GOQii) India Fit (2022) 24% of Indians are struggling with a high level of stress. The pandemic was stated as one of the major reasons followed by loss of work (Leung et al. 2003), (Roy et al., 2020) relationship issue (Dar et al. 2011), Owino et al. (2013) along with poor workload management (Osipow, 1998), (Landsbergis, 2003) as few of the major reasons towards stress among people. Job stress has a great impact on health (Sidhu, Singh, Virdi, & Kumar, 2020). There is a high-speed growth in the way employees are getting influenced by stress. (Fong, 2019). A recent study by Economic times on Stress management revealed almost 91 % of employees working either at lower, middle or top level are suffering from stress as compared to the global figure of 80 % which is quite shocking and an alarming situation. It is not just the Male community that is prone to stress even the Females are being equally prone open to a high level of stress. (Scott, 2010). Organizations are adversely affected by work-related stress, leading to potential financial losses due to factors such as employee dissatisfaction, negativity, elevated turnover rates, and increased absenteeism. (Webster, 2010) A high level of stress further leads to absenteeism at work (Fisher, et.al., 2004), reduced productivity, poor work life balance (Drahten & Hermann, 2007) and even series of mistakes at work place (Csikosova & Szombathyova 2000), (Senova & Antosova, 2014).

Workplace stress has been extensively explored in numerous academic disciplines, including management, psychology, sociology, and economics, resulting in a substantial body of literature. (Cassar et al., 2020). It takes a serious toll on the

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wellbeing of employees, thereby raising a serious question on their commitment towards work, further affecting the overall performance of the organisation. Work-induced stress arises when individuals recognize that the demands imposed on them in their work surpass the available resources and test their capacity to manage them. (Kinman and Jones, 2005)

A bibliometric analysis involves using statistical methods to examine articles, research papers, books, and other publications across different countries and academic disciplines. Given the growing volume of research on job-related stress over the last decade, there is a demand for a thorough and structured examination of the current state of job stress research. To address this need, our current research endeavours to investigate the body of literature related to job stress through the application of bibliometric analysis. In this study, we utilize the Scopus database to provide a comprehensive overview of publications related to the topic of job stress.

Research Questions

The basic objective while working on this research paper was to prepare a Bibliometric analysis of the papers available in Scopus Database. To achieve the said objective a few research questions have been drafted. The drafted research questions along with their importance has been drafted in the table presented below.

Table 1: Research question along with their importance

Research question	Importance
What is the trend observed towards publication of papers in connection to job stress?	It will prove helpful in analysing the annual volume of publications on job stress which would further prove beneficial, as it can assist in forecasting future trends in this area.
Which Journals and Authors have the major contribution towards research papers in connection to job stress?	It will prove helpful towards locating set of studies, methodologies, and resources to conduct high-quality research on job stress.
Which Subject area has published work in connection to Job Stress?	It will prove beneficial to know the efforts taken to study job stress across different areas
Which countries are leading in connection with research work related to job stress?	It would be beneficial for researchers and practitioners to ascertain which country is showing a greater focus on addressing job stress. This knowledge could offer them an opportunity to contribute their research efforts in that country for future publications
What are the keywords used across papers in connection to job stress?	It will assist the future researchers to easily find papers across stress management.

Source: Understanding of the Researchers

Data extraction

An effective data extraction requires an appropriate and a relevant search engine. Scopus Data base was used as a reference. The basic reasons behind using Scopus data base as a reference was: (a) It is one of the most prominent databases. (b) It publishes only high-quality research work (c) They have 4 major parameters to measure quality of research article received i.e., h-index, cite score, SCI Imago Journal Rank (SJR), and Source Normalized Impact per Paper (SNIP) (d) A total of 1240 documents related to “Job Stress”, “Work Stress” were found across the Scopus data base. The present study was done keeping in mind the time duration between 2012 and 2023 as the extraction was done on 15th November, 2023. The documents were further filtered restricting the type of documents to Articles, Language of publication to English, subject area to Medicine, Psychology, Social Sciences, Business Management, Accounting, Engineering and Computer Science. A total of 965 papers were found after applying the filters which were used for further analysis.

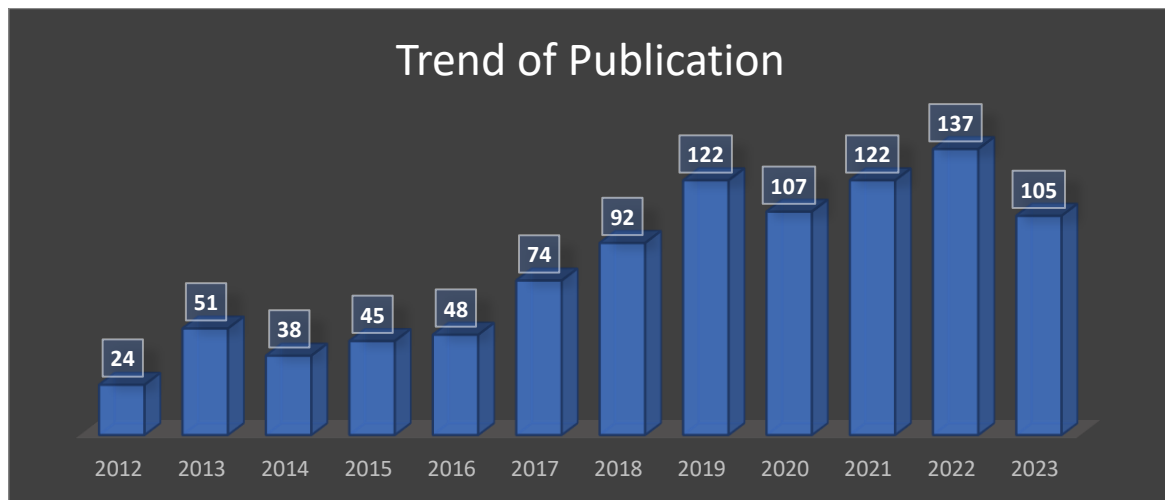
Results and Analysis

Across this section the author presents Bibliometric analysis of the papers found across the Scopus Database. The analysis is been executed with the intention of answering the framed research questions.

Annual Trend of Publication

Bibliometric tools were employed to examine Job Stress. The findings indicate a widespread prevalence of job stress in contemporary work environments. A total of 965 articles were published in between 2012 and 2023. It can be clearly seen from the Figure 1, during the tenure of 2014 to 2019 there has been a regular increase in number of publications the figure came down by a small margin in the year 2020 while it again picked up in the year 2021 and 2022 while it again came down in 2023 as the year is yet to be complete.

Figure1: Annual Trend of Publication

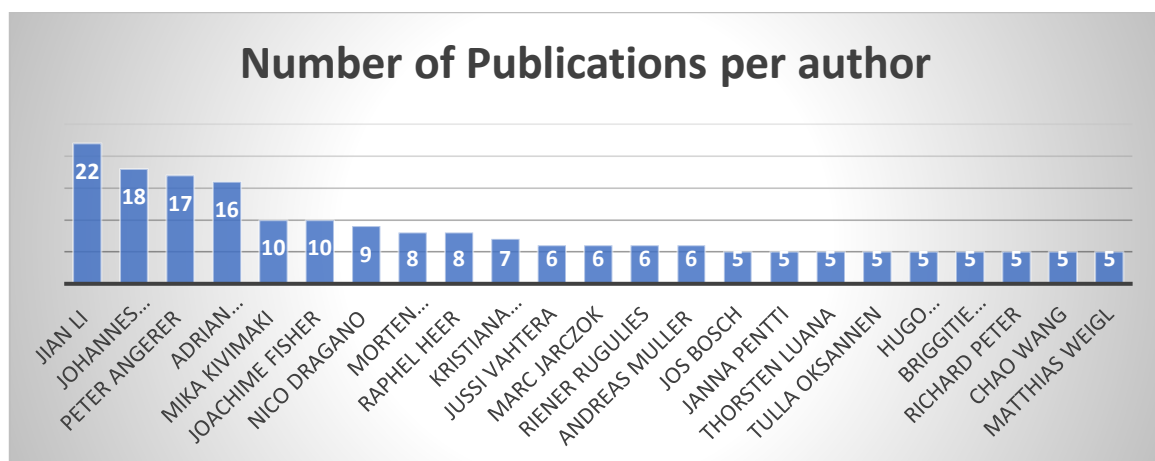


Source: Calculation by Author from the Scopus Database

Author Spread

Out of the articles selected for analysis there were 23 authors who had a minimum of 5 articles in their name. At the top position it was Jian Li with 22 publications under his belt followed by Johannes Siegrist with 18 publications, Peter Angerer with 17 publications, Adrian Loerbrocks with 16 publications, Mika Kivimaki and Joachime Fisher with 10 publications each, Nico Dragano with 9 publications, Morten Wahrendrof and Raphel Heer with 8 publications, Kristiana Holmgren with 7 publications, Jussi Vahtera, Marc Jarczok, Riener Rugulies, Andreas Muller with 6 publications while the rest of the authors had 5 publications each. The detailed graphical analysis is presented in Figure 2.

Figure 2: Spread of Authors

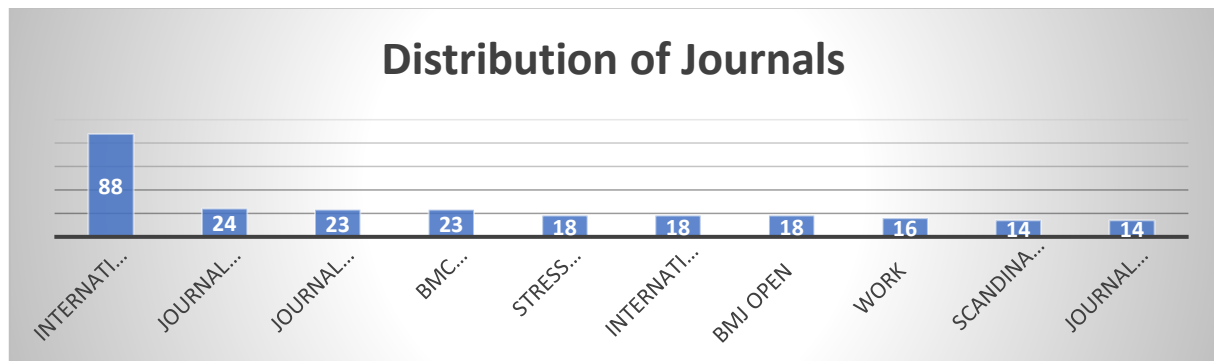


Source: Calculation by Author from the Scopus Database

Journal Distribution

It was found a total of 88 journals published articles in connection to Job Stress. In the present Study we report top 10 journals having 14 or more articles. As it can be seen in the Figure 3 the major number of publications were in the International Journal of Environmental Research and Public Health (88), Journal of Occupational And Environmental Medicine (24), Journal of Occupational Health Psychology (23), BMC Public Health (23), Stress and Health (18), International Archives of Occupational and Environmental Health (18), BMJ Open (18), Work (16), Scandinavian Journal of Work Environment and Health (14), Journal of Affective Disorder (14).

Figure 3: Journal Distribution

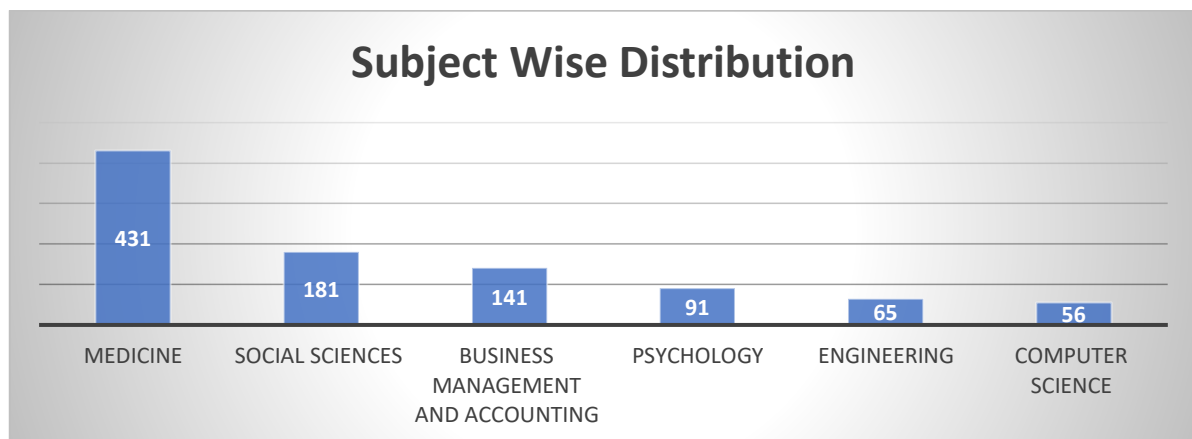


Source: Calculation by Author from the Scopus Database

Subject area Distribution

It can be observed from the figure 4, the maximum number of articles were from the subject area of Medicine (431), Social Sciences (181), Business Management and Accounting (141), Psychology (91), Engineering (65) and Computer Science (56).

Figure 4: Subject area Distribution

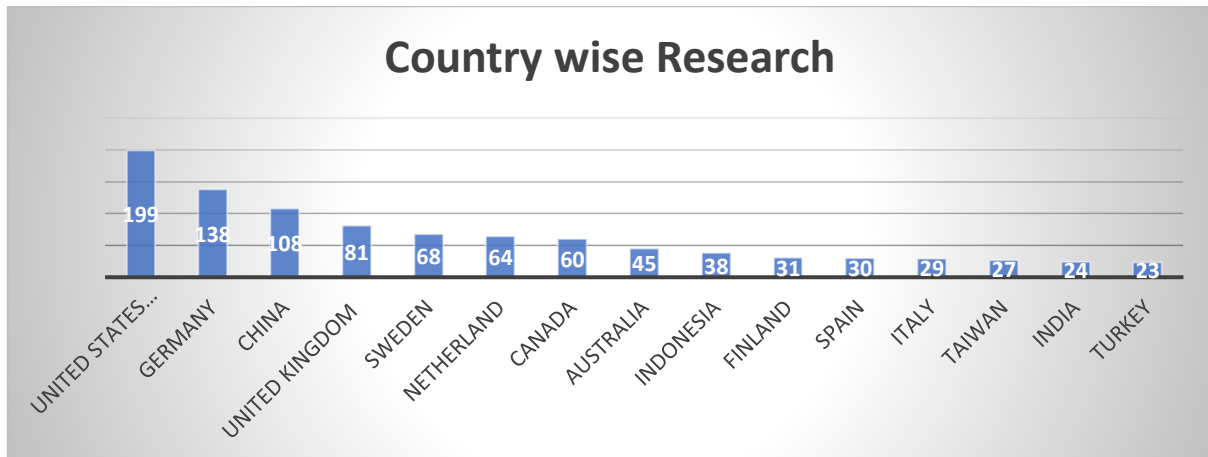


Source: Calculation by Author from the Scopus Database

Distribution of Research across Countries

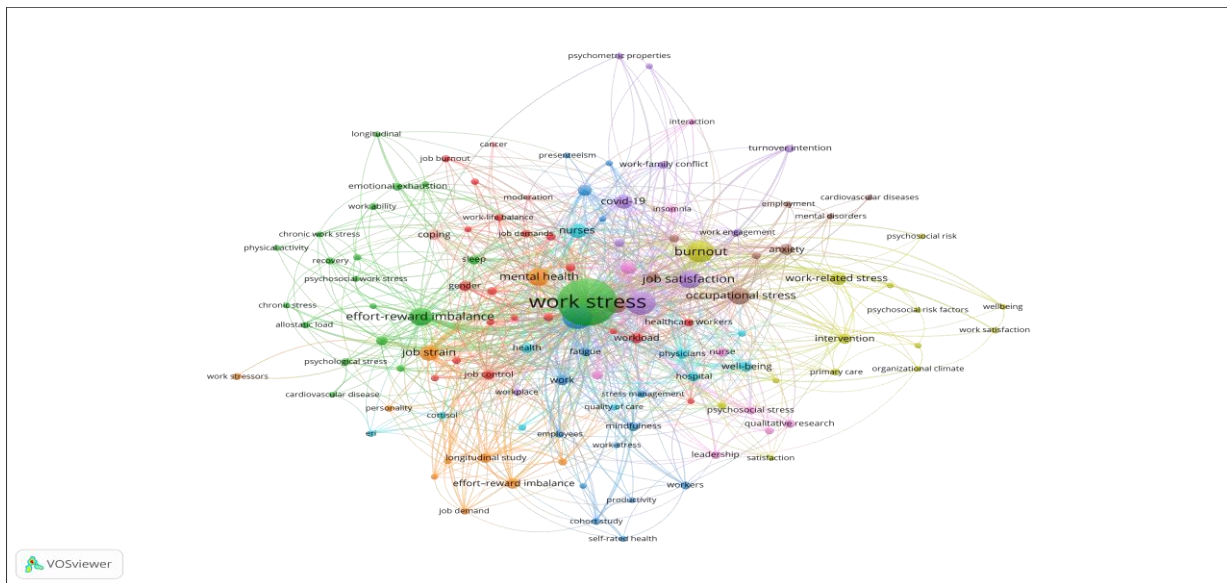
The figure 5 presents the status of publications in Job stress across different countries of the world. United States of America (199), Germany (138), China (108), United Kingdom (81), Sweden (68), Netherland (64), Canada (60), Australia (45), Indonesia (38) Finland (31), Spain (30), Italy (29), Taiwan (27), India (24), Turkey (23).

Country wise Research



Key Words analysis

Figure 6: Key word Network



Future Directions

The Study on Job Stress can be conducted across a specific Industry or even a comparative study can be presented. The Study was done using Scopus data base the future studies can be conducted across other rich data base like Web of Sciences or even PubMed.

Conclusion

The study has offered valuable insights into the complex and pervasive phenomenon of job-related stress through the innovative application of bibliometric analysis and network visualization. By analysing a vast array of scholarly works, we have mapped the intellectual landscape surrounding this critical issue, identifying key themes, influential authors, and the evolution of research trends over time. Through bibliometric analysis, we have discerned the most prolific authors and influential publications in the field. This not only highlights the key contributors shaping the discourse but also provides novice researchers with a roadmap to navigate the expansive literature on job-related stress.

In the present research, a bibliometric analysis of job stress is presented. 965 articles were retrieved from the Scopus database ranging between 2012 to 2023. It was evident through the Study the interest of researchers across the topic was at its peak in the year 2022 while across other year the number of publications were almost similar in number. The major subject areas studying the topic was across Medicines followed by Social Sciences and Business Management. United State of America published the maximum number of papers while Turkey had the least number of publications.

The knowledge generated from this study not only contributes to academic research but also holds practical implications for individuals, organizations, and policymakers seeking to mitigate the influence of stress in the workplace. As we navigate the complex terrain of contemporary work environments, the insights gleaned from this research will serve as a valuable compass, guiding efforts to foster healthier and more sustainable workplaces in the years to come.

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