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A Bibliometric Analysis of Mental Health Trends Among Academicians in Tertiary Education

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ABSTRACT

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Mental health issues among academicians are increasingly recognized as a global concern, attracting significant research attention in recent years. Academicians mental health affected due to increasing demands and lack of resources, resulting to the mental health issues such as depression, anxiety and stress. A bibliometric study analyzing publication trends on mental health among tertiary education academicians across various disciplines and national contexts highlights this growing focus. A systematic search of the Scopus database identified relevant articles from 2021-2024. The data shows a rise in publication output since 2020, with notable spikes during the COVID-19 pandemic, reaching 1269 papers which is 320 in 2021, 434 in 2022, 462 in 2023 and 53 in as of February 16, 2024. The analysis identifies the trends in mental health in tertiary education, the most prolific authors, top authors, popular keywords and the document by subject area. Highly cited articles focus on pandemic impacts, burnout, and the challenges of remote teaching. Frequently occurring keywords include mental health, stress, burnout, anxiety, and COVID-19, indicating the heightened attention these issues have received. The social sciences lead with 49% of the papers, followed by medicine (38%) and psychology (26%). Emerging fields like environmental science and computer science are contributing to the discourse. The findings underscore that heavy workloads, student interactions, and work-life imbalance are significant stressors negatively impacting academicians' mental health. This necessitates supportive interventions on stress management, mindfulness, and fostering healthy work cultures. Future research directions emphasize the importance of interdisciplinary collaboration, technology-enabled solutions, targeted interventions for specific academic groups, preventative strategies, and cross-cultural studies. The study reveals that as academician duties intensify, there is a pressing need for a coordinated international strategy to promote mental well-being among tertiary education staff. This global bibliometric review synthesizes key trends and establishes strategic priorities for both research and practice, offering a roadmap to proactively address the crucial yet understudied issue of mental health among academicians worldwide.

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1. INTRODUCTION

Public universities around the world have experienced tremendous transformation in the last few decades, including massification, increased internationalisation, a greater focus on the application of academic work, and an increase in the power of university administration. These changes have altered both the nature of academic work and workplaces (Mudrak et al., 2018). Mental health among academicians is a crucial exploration into the well-being of scholars in the Malaysian academic landscape. According to the World Health Organisation (WHO), mental health is a fundamental human right that enables people to effectively learn and work, manage life's stresses, reach their full potential, and make contributions to both socioeconomic and communal development (Halat et al., 2023). The pressures inherent in academia, including the demands for research productivity, teaching excellence, and administrative duties, often exact a toll on the mental health of academicians (Patel et al., 2018; Sharma & Kumra, 2020; Jayman et al., 2022). This strain is further compounded by the lack of adequate support systems within academic institutions, leaving many scholars feeling overwhelmed and unsupported in navigating their mental health challenges. As a result, issues such as burnout, anxiety, and depression are prevalent among academicians in Malaysia, highlighting the urgent need for intervention and support (Tai et al., 2019; Mohamed et al., 2021; Hussin et al., 2022; Raduan et al., 2022; Zulkefli & Omar, 2023).

According to Poalses and Bezuidenhout (2018), there has been report of tertiary education academicians' high levels of occupational stress for more than 20 years. Furthermore, it appears that the prevalence of stress, anxiety, and depression is rising in most organisations, even despite increased scholarly attention to this topic from a variety of fields. Academics have been found to have suffered higher levels of occupational stress than other groups, particularly in tertiary education institutions (Adewale et al., 2017; Gunawan et al., 2018; Kaewanuchit, 2017). The Education Statistics Support (2019) reported that, 63% of instructors were thinking about quitting their current job and 72% of teachers reported feeling overworked at work (Shen & Slater, 2021).

According to a study by Mukosolu et al. (2015), academicians were more likely than non-educators (19.8%) to report having stress (23.1%). In Asia, public universities face constant competition to retain their esteemed status as research universities. This is achieved by adherence to the key performance indicator and the production of research publications. Because of their demanding work environments, most academicians at tertiary higher education institutions were therefore extremely susceptible to burnout (Panatik et al., 2012). The effects of juggling several obligations can result in work-related stress. Aside from that, stress levels among educators were greatly impacted by the dynamic changes in the higher education system and the competitive nature of the academic field among universities (Khir et al., 2022).

While efforts have been made to understand the experiences and needs of academicians with mental health conditions, gaps persist in terms of awareness, communication, and program effectiveness. This includes implementing comprehensive support programs tailored to the unique needs of academicians, such as counselling services, stress management workshops, and initiatives to promote work-life balance (Makori et al., 2019; Selim & Kee, 2020; Malik & Allam, 2021; Assyakur & Rosa, 2022; Saxena & Jangra, 2023).

While few studies (e.g., Hernandez-Torrano et al., 2020; Okoro et al., 2022) have examined bibliometric analyses of mental health studies focussing on tertiary students, they have primarily used a worldwide viewpoint. The researcher has selected to focus specifically on the academician at tertiary education in Malaysian environment for a number of reasons. Malaysia

is connected to a wide variety of cultures, languages, and ethnic groups. Examining mental health studies within this framework enables a more nuanced comprehension of the ways in which cultural influences impact mental health stigma, attitudes, and coping strategies. Malaysia is an intriguing geographical area to focus on because of its unique socioeconomic issues, which include political instability, poor access to healthcare, and poverty. Therefore, the primary goal of the study is to analyse academicians' mental health in tertiary education institutions and to make a substantial contribution to the body knowledge on the subject. A bibliometric study based on publications indexed in Scopus are used to do this, along with an explanation of many statistical studies and a critical assessment of the trends and scope of this topic from 2021 to 2024.

Moreover, fostering a culture of openness and destigmatization surrounding mental health discussions is essential to encourage scholars to seek help when needed and to create a supportive community within academia. By taking proactive steps to address mental health issues among academicians, Malaysia can cultivate a healthier and more sustainable academic environment that enables scholars to thrive both personally and professionally (Achour et al., 2019; Tai et al., 2019; Mohammadi & Karupiah, 2020; Dilou, 2022).

1.1 Research Questions

Q1: What are the trends? What are the research trends in according to the year of publication?
Q2: Who are the most prolific authors?
Q3: Who are the top 10 authors based on citations by research?
Q4: What are the popular keywords related to the study?
Q5: What are the documents by subject area?.

2. LITERATURE REVIEW

Mental health among academicians in tertiary education institutions has attracted attention from those concerned. Studies suggest that job demands, work-life conflict, and lack of support are the main contributors to academicians' mental and emotional health issues (Sáez-Delgado et al., 2023). A study conducted in 2023 aimed to create a theoretical framework that explained the influence of job demands on academics' mental health (Sakarji et al., 2018). The study found that job demands such as workload, role conflict, and work-life imbalance can lead to burnout, fatigue, and declining health among academicians. Othman et al. (2023) found that work-life conflict and lack of support are the main contributors to academicians' mental and emotional health issues.

Arumugam et al. (2024) reported that academician’s wellbeing and productivity suffer significantly from workplace incivility, negatively impacting physical and mental health, job performance, satisfaction, professional identity, and even the intention to leave the job. Pau et al. (2022) investigated the mental health and well-being of academicians in Malaysia, revealing high levels of burnout and stress among them. Recent studies indicate a troubling trend of declining mental health among tertiary education staff. A UK-wide survey found that over half of respondents (53%) showed signs of probable depression. Additionally, 47% of participants in an online study conducted during the pandemic reported their mental health as "poor" (Jayman et al., 2022). These findings underscore the pressing need for attention and support for mental health within the tertiary education sector. Jerrim et al. (2021) provided evidence on long-term trends in academician mental health in England, suggesting stable levels of mental health over the past two decades. Sáez-Delgado et al. (2023) examined an explanatory model linking emotional intelligence, coping strategies, and mental health among Chilean

academicians, highlighting the importance of addressing stress and promoting effective coping mechanisms. While these studies contribute valuable insights into the understanding of mental health challenges faced by academicians, there remains a need for further research to explore additional factors influencing academicians' well-being, such as organizational support, workload management, and the impact of external stressors, to inform targeted interventions and support mechanisms for academicians' mental health.

Studies by Luthar et al. (2020), Baker et al. (2021), Ressler et al. (2022) and Vela et al. (2023) provide valuable insights into various aspects of mental health among academicians. Vela et al. (2023) explored the influence of positive psychological characteristics on the mental health of academicians, highlighting the significance of hope and psychological grit in subjective happiness and depressive symptoms. Ressler et al. (2022) investigated the role of preservice academicians' mental health in their development, emphasizing the importance of mental healthcare normalization and self-care development. Luthar et al. (2020) addressed the challenges faced by academicians in high-achieving institutions, including elevated rates of adjustment disturbances among students and adversarial relationships with parents, underscoring the need for early detection and appropriate interventions.

While these studies offer valuable insights into the mental health of academicians, further research is needed to explore additional factors influencing academicians' well-being, such as the effectiveness of mental health interventions, the role of organizational support, and the impact of external stressors on academicians' mental health in diverse educational settings. The literature on mental health among academicians reveals several important trends and findings. Houdyshell et al. (2021) conducted a case study to understand the experiences of academicians with mental health conditions, identifying barriers to success, positive experiences in teaching, and a lack of mental health awareness as prominent themes. Monahan et al. (2023) explored associations between mental health, job satisfaction, perceived support, and experiences of ageism among academicians, revealing dual co-existing pathways linking support, discrimination, job satisfaction, and mental health. These studies collectively underscore the importance of addressing mental health concerns among academicians and implementing effective support mechanisms.

Therefore, analysing and categorising the body of literature already written on a subject is essential to understanding the direction that mental health research is taking. Bibliometric mapping techniques have been applied in recent works to analyse large datasets with the goal of revealing research patterns within a given subject. This analysis contributes to the expanding body of knowledge by evaluating individual studies, their significance, and the relationships between articles. It also helps define the state of knowledge currently. The main objective of this study is to provide an overview of the body of knowledge on mental health that has been published in academic journals between 2021 and 2024. A bibliometric study based on publications indexed in Scopus are used to do this, along with an explanation of many statistical studies and a critical assessment of the trends and scope of this topic from 2021 to 2024.

The process of combining, organizing, and analyzing bibliographic data from scientific publications is known as bibliometrics (Verbeek et al., 2002; Alves et al., 2021; Assyakur et al., 2022). It includes intricate methods like document co-citation analysis in addition to general descriptive statistics like publishing journals, publication year, and major author categorization (Wu & Wu, 2017). To create a thorough bibliography and produce reliable results, a successful literature review requires an iterative process that includes selecting relevant keywords, searching the literature, and doing in depth analysis (Fahimnia et al., 2015).

An analytical technique called bibliometric is employed to derive quantifiable outcomes from scholarly publications. It is also regarded as a tool for learning about a particular subject, analysing publications that use statistical techniques, and internally quantifying the scientific method. The data and analysis gathered on scientific output can be used to identify new research areas, the evolution of a given topic, and chances for future study. Additionally, it helps with forecasting and making decisions Argumedo-García et al., 2021). In addition to other sources of information included in the documents, bibliometric analyses often consider institutional affiliation, dates of publication, journals, books, authors, citations, keywords, titles, and abstracts. These components will be utilised to fulfil the goal of this investigation since they are pertinent to obtaining proof of the findings in a research sector.

In the domains of business, technology, and info-metrics, among others, bibliometric analysis is regarded as a verified study method. A bibliometric review was conducted in this study to identify the best publications in the topic of mental health in tertiary education, as well as to examine their development and ongoing research. The well-known database SciVerse Scopus, which has a number of advantages over other well-known databases, was used in the current investigation to extract papers on mental health (Sweileh, 2018). For bibliometric analysis, which is defined as the application of various mathematical and statistical approaches to evaluate the volume, scientific influence, growth, and research trends in each topic (Broadus, 1987). Scopus is frequently used as a reference database (Sweileh, 2017; Sweileh, 2017). Numerous features in Scopus make bibliometric analysis easier. Scopus, for instance, groups publications according to the quantity of citations, the date, the nation, the author, the journal, or the institution. Additionally, Scopus determines the Hirsh-index (h-index), which is a gauge of a document's scientific influence, by counting the citations for each given collection of publications (Hirsch, 2005).

Currently, bibliometric was conduction but focus on the mental health other areas such as on machine learning in social media (Kim et al., 2021); students (Hernández-Torrano et al., 2020; Cao et al., 2021; Okoro et al., 2022), teachers (Aguayo et al., 2017; Gómez-Domínguez et al., 2022; da Silva et al., 2023; Zhang et al., 2024; Gómez-Domínguez et al., 2023), mental health during COVID-19 (Chen et al., 2021; Akintunde et al., 2021; Ellis et al., 2021;), entrepreneur (Pradana et al., 2023). Very scarce bibliometric was conducted and focus on academicians in tertiary education (Yazid et al., 2024; Zhang et al., 2022; Navarro-Espinosa et al., 2021; Tawil et al., 2024).

3. METHODOLOGY

The process of combining, organizing, and analyzing bibliographic data from scientific publications is known as bibliometrics (Verbeek et al., 2002; Alves et al., 2021; Assyakur et al., 2022). It includes intricate methods like document co-citation analysis in addition to general descriptive statistics like publishing journals, publication year, and major author categorization (Wu & Wu, 2017). To create a thorough bibliography and produce reliable results, a successful literature review requires an iterative process that includes selecting relevant keywords, searching the literature, and doing in-depth analysis (Fahimnia et al., 2015). Considering this, the study aimed to concentrate on high-caliber publications since they provide insightful information about the theoretical stance influencing the development of the field of study. The Scopus database was used to collect data to guarantee data reliability (Di Stefano et al., 2010; Khiste & Paithankar, 2017; Al-Khoury et al., 2022). With its customized visualizations and ongoing development, VOSviewer stays at the forefront of bibliometric analysis, providing insightful metrics calculation. VOSviewer’s versatility in handling various bibliometric data sources, including co-authorship and citation networks, makes it an essential tool for

researchers looking to gain a deeper understanding of their fields of study. Large datasets containing Plaintext formatted data on the publication year, title, author name, journal, citation, and keywords were obtained from the Scopus database between 2020 and December 2023. VOSviewer software version 1.6.19 was used to analyze these datasets. This software made it easier to analyze and create maps by applying VOS clustering and mapping algorithms. Furthermore, books and lecture notes were purposefully left out to guarantee the inclusion of high-caliber publications. Only articles published in thoroughly peer-reviewed academic journals were taken into consideration (Gu et al., 2019), especially Elsevier's Scopus, which is renowned for its broad coverage, which facilitates the process of gathering papers from February 2021 to 2024 for further examination.

3.1 Data Search Strategy

The search was conducted on February 16, 2024, using carefully chosen search phrases intended to cover a broad range of issues connected to academician's mental health to guarantee thorough coverage of pertinent publications. For the article to meet the search requirements, these keywords had to appear in the title, keywords, or abstract. Below is a description of the Boolean search string that was used in this instance: "mental health" OR "mental disorder" OR "mental illness" OR "burnout" AND "academicians" OR "lecturers") OR "professor" OR "teachers" AND "education") OR "higher" AND "education" OR "tertiary".

To generate a first list of articles with these three keywords in the title, abstract, and keywords, these terms were entered into the Scopus database. Each keyword's important phrases were determined, as shown in Table 1.

Table 1: The Search String

SCOPUS	TITLE-ABS-KEY (("mental health" OR "mental disorder" OR "mental illness" OR burnout) AND (academicians OR lecturers OR professors OR teachers) AND education OR higher AND education OR tertiary) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (PUBYEAR, 2021) OR LIMIT-TO (PUBYEAR, 2022) OR LIMIT-TO (PUBYEAR, 2023) OR LIMIT-TO (PUBYEAR, 2024)

Source: Authors (2024)

3.2 Inclusion and Exclusion Criteria

The search string used yielded 1269 publications, which were then filtered according to several exclusion criteria. All duplicate papers were found by the first exclusion filter (ten manuscripts). There were 1259 articles in the second filter that had nothing to do with the issue. Articles about mental health other field of study contexts were eliminated. After applying the first filter, all the manuscripts' titles and abstracts were evaluated to identify further articles that had nothing to do with the topic. Only articles in English, in journal type that are published during 2021-2024 were selected. As a result, only 256 publications were published as a result of the number of publications considered in this bibliometric analysis. All the search results were included in the study without exception. Other than English language, includes any book, review and proceedings, and published in 2020 and before is excluded. The inclusion and exclusion criteria are displayed in Table 2.

Table 2: The Selection Criterion Searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Literature type	Journal (Article)	Book, Review, Proceeding
Year	2021-2024	2020-below

Source: Authors (2024)

3.3 Data Analysis

Datasets comprising information on the publication year, title, author name, journal, citation, and keywords in PlainText format were procured from the Scopus database, spanning the period from 2021 to February 2024. These datasets were then analyzed using VOSviewer software version 1.6.19. Through the application of VOS clustering and mapping techniques, this software facilitated the examination and generation of maps.

4. RESULTS AND FINDINGS

4.1 Q1- What are the Trends? What are the Research Trends in Mental Health According to the Year of Publication?

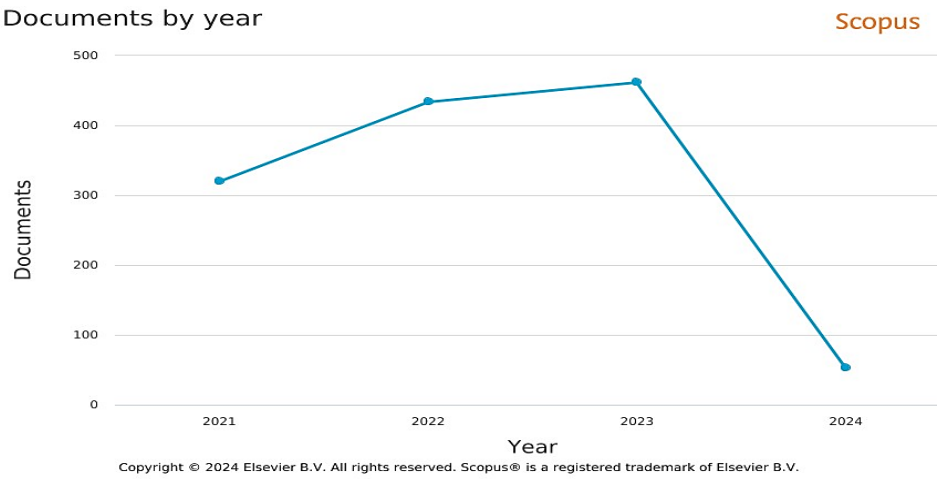

Figure 1: Plotting Document Publication by Years
Source: Authors (2024)

The graph in Figure 1 shows the number of publications retrieved from Scopus between 2001 and 2024, The number of publications has been increasing steadily over time, with a particularly sharp increase in recent years. The number of publications has been increasing steadily over the past four years. There were 320 publications in 2021, 434 publications in 2022, 462 publications in 2023, and 53 publications as of February 16, 2024. This is an increase of 44% from 2021 to 2023. The increase in publications has been relatively consistent, with an average annual increase of around 18%. However, there was a slight acceleration in the growth rate between 2022 and 2023.

There are some possible factors influencing publication rates on this topic including an increase in the number of researchers: The field may be attracting more researchers, which would lead to more publications. This could be due to factors such as increased interest in the field, increased funding for research, or the development of new research methods.

a) Increase in funding for research: There may be more funding available for research in the field, which would allow researchers to conduct more studies and publish more papers. This could be due to government grants, private investment, or philanthropic donations.
b) Shifts in research priorities: There may be a shift in research priorities towards topics that are more likely to be published. For example, there may be more funding available for research on certain topics, or there may be more journals that are willing to publish papers on certain topics.
c) Emerging trends in the field: There may be new and emerging trends in the field that are generating a lot of interest and leading to more publications. For example, there may be new technologies that are being used to conduct research, or there may be new findings that are challenging existing theories.

The increasing number of publications is a positive sign for the field, as it suggests that there is a lot of new research being conducted. This could lead to discoveries and advancements in the field. However, the increasing number of publications could also make it more difficult for researchers to keep up with the latest findings. This could lead to duplication of effort and a decrease in the quality of research. Therefore, it is important for researchers to be selective about which publications they read and cite, and to focus on the most high-quality research.

4.2 Q2- Who are the Most Prolific Authors?

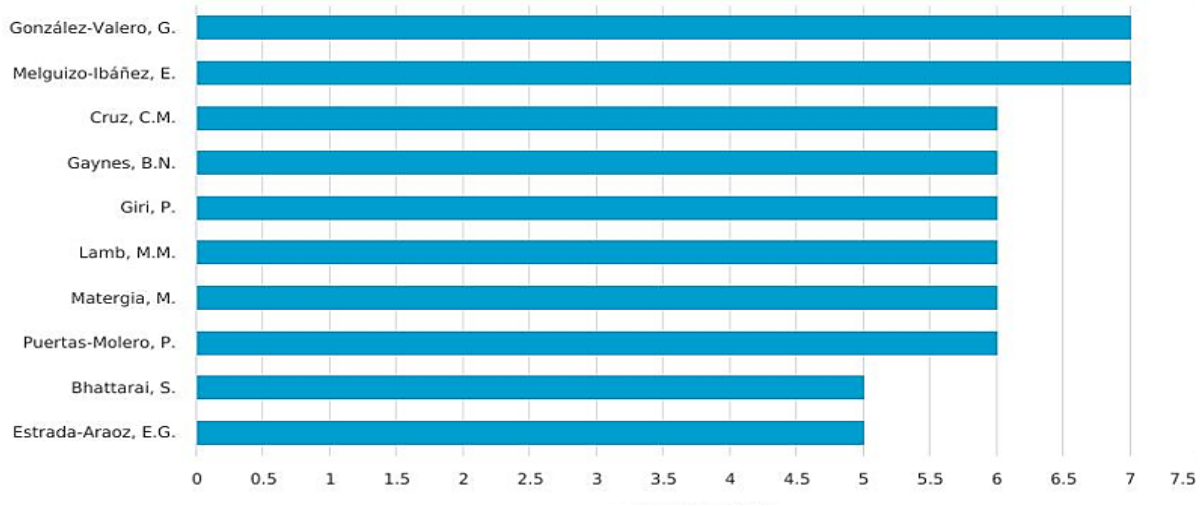

Figure 2: The Most Prolific Authors
Source: Elseviers (2024)

Table 3: List of 10 Most Prolific Authors with the Number of Publications

Author Name	Number of Document	Percentages (%)
González-Valero, G	7	0.55
Melguizo-Ibáñez, E.	7	0.55
Cruz, C.M.	6	0.47
Gaynes, B.N.	6	0.47
Giri, P.	6	0.47
Lamb, M.M.	6	0.47
Matergia, M.	6	0.47
Puertas-Molero, P.	6	0.47
Bhattarai, S.	5	0.39

Estrada-Araoz, E.G.	5	0.39

Source: Authors (2024)

Figure 2 and Table 3 show information on the top 10 most prolific authors in this field, along with the number of documents they have published. It reveals a varied landscape of publication output among authors focusing on mental health among academicians. Two authors, González-Valero, and Melguizo-Ibáñez stand out as the most prolific contributors, each with 7 publications. Following closely is a group of eight authors, including Cruz, Gaynes, Giri, Lamb, Matergia, and Puertas-Molero, each with 6 publications. These findings suggest a core group of researchers who have consistently engaged with the topic and produced a significant body of work. Additionally, two authors, Bhattarai, and Estrada-Araoz, have contributed 5 publications each, indicating a slightly lower but still notable level of engagement with the subject matter. Overall, this distribution underscores the multifaceted efforts and collaborative nature of research in mental health among academicians, with certain authors emerging as particularly influential in shaping the scholarly discourse in this field.

The distribution of publication output among these authors may reflect various factors, including individual research interests, institutional support, collaborative networks, and funding opportunities. Authors with a strong personal or professional interest in mental health among academicians may be more motivated to publish regularly on the topic. Collaboration among authors, particularly within research groups or institutions focusing on mental health, likely contributes to higher publication rates through shared resources and expertise. Additionally, the availability of funding for mental health research projects and the increasing awareness of mental health issues in academia could further drive publication activity in this area. Overall, the data highlights both the individual contributions of specific authors and the broader collaborative efforts shaping research on mental health among academicians.

4.3 Q3-Who are the Top 10 Authors Based on Citations by Research?

Table 4: List of Top 10 Authors

Authors	Title	Year	Source Title	Cited by
Pressley (2021)	Factors contributing to teacher burnout during COVID-19	2021	Educational Researcher	257
Ozamiz-Etxebarria et al. (2021)	The psychological state of teachers during the COVID-19 crisis: The challenge of returning to face-to-face teaching	2021	Frontiers in Psychology	183
Oliveira et al. (2021)	An exploratory study on the emergency remote education experience of higher education students and teachers during the COVID-19 pandemic	2021	British Journal of Educational Technology	161
Thorell et al. (2022)	Parental experiences of homeschooling during the COVID-19 pandemic: differences between seven European countries and between children with and without mental health conditions	2022	European Child and Adolescent Psychiatry	146
Fathi et al. (2021)	Self-efficacy, Reflection, and Burnout among Iranian EFL Teachers: The Mediating Role of Emotion Regulation	2021	Iranian Journal of Language Teaching Research	117
Baker et al. (2021)	The Experience of COVID-19 and Its Impact on Teachers' Mental Health, Coping, and Teaching	2021	School Psychology Review	112
Ma et al. (2021)	Online teaching self-efficacy during COVID-19: Changes, its associated factors and moderators	2021	Education and Information Technologies	97

Baltà-Salvador et al. (2021)	Academic and emotional effects of online learning during the COVID-19 pandemic on engineering students	2021	Education and Information Technologies	95
Saloviita & Pakarinen (2021)	Teacher burnout explained: Teacher-, student-, and organisation-level variables	2021	Teaching and Teacher Education	88
Agnafors et al. (2021)	Mental health and academic performance: a study on selection and causation effects from childhood to early adulthood	2021	Social Psychiatry and Psychiatric Epidemiology	80

Source: Authors (2024)

The analysis of the top 10 authors in Table 4 are based on citations on the topic of mental health among academicians reveals a predominant focus on understanding the psychological impact of the COVID-19 pandemic on academicians. Notably, articles such as "Factors contributing to teacher burnout during COVID-19" by Pressley and "The psychological state of teachers during the COVID-19 Crisis: The challenge of returning to face-to-face teaching" by Ozamiz-Etxebarria et al. (2021) received the highest citation counts, indicating a strong interest in examining the mental health challenges faced by teachers amidst the pandemic. Additionally, research exploring related topics, such as the emergency transition to remote education by Oliveira et al. (2021) and the impact on teaching efficacy by Baker et al. (2021), also garnered notable citation counts, highlighting the multifaceted nature of mental health concerns in the educational context during crises.

Furthermore, the data reflects a global perspective, with studies examining experiences and outcomes across various countries and educational settings. For instance, a study by Thorell et al. (2021) provides insights into the challenges faced by parents and children during homeschooling, further emphasizing the widespread impact of the pandemic on mental well-being. Overall, the trends observed underscore the significance of addressing mental health issues among academicians, particularly in times of crisis, and the importance of interdisciplinary research to inform supportive interventions and policies in educational settings.

4.4 Q4- What are the Popular Keywords Related to the Study?

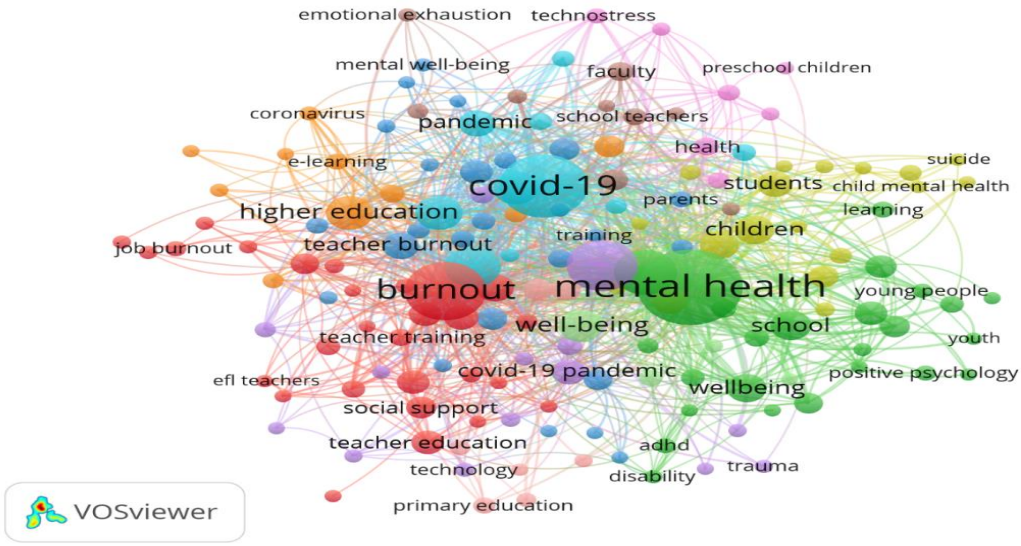

Figure 3: The Most Popular Keyword in Mental Health Study
Source: Vosviewer (2024)

Based on the keyword occurrences and total link strengths provided, here are some key takeaways about this bibliometrics analysis on mental health among Overall, the analysis of keyword occurrences and total link strength provides valuable insights into the prevalent themes and connections within the field of mental health among academicians, facilitating a deeper understanding of the key areas of focus and potential avenues for future research and intervention. The findings of the keyword analysis are shown below:

- Mental health issues like burnout, anxiety, and depression are heavily studied, with high keyword occurrences and total link strengths. This indicates these are major concerns for academicians.
- Factors contributing to mental health issues are also frequently studied, including workload, job demands, teaching, the COVID-19 pandemic, online teaching, and distance learning. This suggests academic workload and work environment changes are key factors.
- Outcomes of mental health issues are also frequently examined, like job satisfaction, quality of life, and well-being. This provides insight into the impacts of mental health issues.
- Interventions are commonly studied as well, like training, prevention, and school-based interventions. This shows interest in evidence-based ways to address mental health concerns.
- Specific groups are also a focus, including teachers, students, medical students, children, and youth. This demonstrates these groups may be at higher risk or need tailored interventions.
- Methodologies like structural equation modelling, cluster analysis, and qualitative research are used, reflecting a mix of quantitative, qualitative, and social network analysis.

In summary, this keywords analysis highlights mental health as a major concern for academicians and provides direction for future research on contributing factors, outcomes, at-risk groups, and interventions. The breadth of keywords demonstrates the complexity of studying mental health in academia.

4.5 Q5- What are the Documents by Subject Area?

Table 5: List of Subject Area, Number of Publications and Percentages

Subject Area	**Number of Publication**	**Percentage (%)**
Social Sciences	622	49.01
Medicine	479	37.75
Psychology	330	26.00
Environmental Science	135	10.64
Computer Science	82	6.46
Health Professions	79	6.23
Arts and Humanities	66	5.20
Nursing	49	3.86
Engineering	42	3.31
Multidisciplinary	41	3.23
Neuroscience	35	2.76
Biochemistry, Genetics and Molecular Biology	34	2.68
Energy	24	1.89
Business, Management and Accounting	22	1.73
Agricultural and Biological Sciences	20	1.58
Mathematics	18	1.42

Pharmacology, Toxicology and Pharmaceutics	10	0.79
Economics, Econometrics and Finance	8	0.63
Decision Sciences	6	0.47
Immunology and Microbiology	4	0.32
Dentistry	3	0.24
Materials Science	3	0.24
Earth and Planetary Sciences	1	0.08

Source: Authors (2024)

Social Sciences (622 publications, 49.01%) and Medicine (479 publications, 37.75%) make up the bulk of research on this topic. This indicates these fields are most active in studying the mental health of academicians. Psychology (330 publications, 26.00%), Environmental Science (135 publications, 10.64%), and Health Professions (79 publications, 6.23%) also contribute noticeably. This shows the multidisciplinary nature of the research. Subject areas like Computer Science, Engineering, Business/Management, and Mathematics have small but existing contributions. This suggests opportunities to expand the research to these fields' perspectives. The dominance of Social Sciences, Medicine and Psychology points to a need to bring in more diverse scientific perspectives from fields like technology, data science, genetics, and so on.

Some emerging areas that received attention among researchers are includes Environmental Science, Computer Science and Health Professions. This rising area suggests link between environmental factors and mental health, potentially exploring issues like air pollution, noise pollution, and climate change impacts, technology-based interventions, mental health apps, and online support systems and the focusing target are includes research involving specific populations within the academia, such as nurses, doctors, or professors due to their unique mental health challenges and support needs.

Gaps in subject areas such as Immunology, Dentistry, and Earth Sciences indicate potential new directions to take this research by incorporating their expertise. Overall, the research could benefit from greater participation across STEM fields, as well as emerging domains such as data science and human-computer interaction, to bring fresh approaches. In summary, while Social Sciences and Medicine have led research so far, expanding collaboration across diverse scientific fields could provide new insights and innovations regarding the mental health of academicians. A multidisciplinary approach can pave the way for impactful future directions.

5. DISCUSSIONS AND CONCLUSION

The graph in Figure 1 illustrates a consistent upward trend in the number of publications retrieved from Scopus between 2001 and 2024, with a notable surge in recent years. Specifically, the publications have increased steadily over the past four years, with 320 in 2021, 434 in 2022, 462 in 2023, and 53 as of February 16, 2024, marking a significant 44% rise from 2021 to 2023. This growth reflects an average annual increase of approximately 18%, with a slight acceleration observed between 2022 and 2023. Potential factors influencing this rise include an increase in the number of researchers attracted to the field, augmented funding opportunities, shifts in research priorities, and emerging trends stimulating heightened interest and publication output. While the escalating number of publications signifies a thriving research landscape with potential for discoveries and advancements, it also underscores the importance of researchers' discernment in navigating the expanding body of literature to maintain quality and avoid redundancy.

The bibliometric analysis presents a diverse landscape of publication output among authors focusing on mental health among academicians. González-Valero, and Melguizo-Ibáñez.

emerge as the most prolific contributors, each with 7 publications, followed closely by a group of eight authors, including Cruz, Gaynes, Giri, Lamb, Matergia, and Puertas-Molero, each with 6 publications. This suggests a core group of researchers consistently engaged with the topic. Bhattarai, and Estrada-Araoz, contributed 5 publications each, indicating a slightly lower but still notable engagement. Factors influencing this distribution may include individual research interests, collaborative networks, and funding opportunities. Collaboration and institutional support likely contribute to higher publication rates, reflecting both individual contributions and broader collaborative efforts shaping research on mental health among academicians.

The bibliometric analysis of the top 10 authors based on citations regarding mental health among academicians reveals a predominant focus on understanding the psychological impact of the COVID-19 pandemic on educators. High-cited articles, such as "Factors contributing to teacher burnout during COVID-19" and "The psychological state of teachers during the COVID-19 crisis," indicate a strong interest in examining the mental health challenges faced by teachers amidst the pandemic. Additionally, research exploring related topics like emergency remote education experiences and teaching efficacy also garnered notable citation counts, highlighting the multifaceted nature of mental health concerns in the educational context during crises. The data reflects a global perspective, with studies examining experiences across various countries and educational settings, emphasizing the widespread impact of the pandemic on mental well-being. Overall, these trends underscore the significance of addressing mental health issues among academicians, particularly in times of crisis, and the importance of interdisciplinary research to inform supportive interventions and policies in educational settings.

The bibliometric analysis of top authors in mental health among academicians highlights a strong focus on understanding the psychological effects of the COVID-19 pandemic on educators. Articles like "Factors contributing to teacher burnout during COVID-19" and "The psychological state of teachers during the COVID-19 crisis" received the highest citations, indicating a keen interest in examining teachers' mental health challenges during the pandemic. Additionally, research on related topics, such as emergency remote education experiences and teaching efficacy amidst COVID-19, garnered notable citations, showcasing the multifaceted nature of mental health concerns in education during crises. Moreover, the global perspective of the data underscores the need to address mental health issues among academicians, particularly during crises, emphasizing the importance of interdisciplinary research for informing supportive interventions and policies in educational settings.

The data depicts keyword occurrences and total link strength in a network visualization map of keywords' co-occurrence about mental health among academicians. "Mental health" emerges as the dominant keyword, with 238 occurrences and a total link strength of 531, indicating its central role in academic discourse. Additionally, keywords like "stress," "burnout," and "anxiety" receive notable attention, underscoring the significance of these mental health issues within scholarly research. The diverse range of keywords reflects various aspects of mental health, education, and well-being, including the impact of the COVID-19 pandemic, resilience, and interventions. This analysis offers valuable insights into prevalent themes and connections within the field, guiding future research and intervention efforts.

The analysis of subject areas, publication numbers, and percentages highlights dominant and emerging areas in mental health among academicians. Social Sciences, Medicine, and Psychology emerge as the dominant areas, focusing on social factors, clinical aspects, and cognitive-behavioral aspects, respectively. Meanwhile, Environmental Science and Computer Science represent emerging areas, exploring environmental influences and technology-based

interventions,respectively. Health Professions indicate research on specific academic populations. Future research directions may include interdisciplinary collaborations, technology integration, population-specific studies, preemptive strategies, and a global perspective to address mental health challenges among academicians comprehensively and effectively.

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AUTHORS' CONTRIBUTION

S**RS** responsible for conceptualisation, methodology, formal analysis, investigation and writing-original draft. AKO and SNMT helps in conceptualise, supervision, methodology, writing- review and editing, and validation.

CONFLICT OF INTEREST

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funders.

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