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Mapping the Growth of Workplace Mindfulness Research for Work-Related Stress: A Bibliometric Analysis of Trends, Key Authors, and Leading Institutions (2004-2024)

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Abstract

Objective: *This paper investigates the existing scholarly literature on mindfulness-based programs implemented within organisations to address work-related stress. It seeks to offer a thorough understanding of the research landscape by analysing publication trends, citation patterns, and prominent research institutions. The paper also discusses the top 10 globally cited documents.*

Methods: *Bibliometric analysis was conducted using the Web of Science (WOS) database. A robust search string was developed, incorporating keywords related to mindfulness practices and work-related stress. Inclusion and exclusion criteria were established. Publication data, authorship information, and keywords were extracted from the retrieved articles.*

Results: *1092 documents published between 01st January 2004 to 14th June 2024 were retrieved from the WOS database. The results were imported to Biblioshiny, a tool to analyse and visualise bibliographic data. The result revealed that the annual growth rate of research on the topic is 19.28%. Mindfulness Journal is the most locally cited source, with 2159 local citations. Monash University of Australia tops the list of most relevant affiliations. The United States of America is the country with the highest number of scientific productions, corresponding authors, and documents with the highest citations.*

Conclusion*: The number of publications on mindfulness in workplaces has grown. However, more research articles in Business and Management journals that combine*

mindfulness, stress and organisations are necessary to comprehend the diverse aspects and precursors of mindfulness practice in workplaces.

Keywords: Mindfulness, Job Stress, Organisations, Bibliometric Analysis, Bibliometrics

Introduction

The modern 24-hour economy is characterised by a fast-paced lifestyle, tight schedules, intense competition, job instability, continuous connectivity through advanced telecommunications, a flood of stimuli, and the requirement to juggle multiple roles simultaneously (Stansfeld and Candy, 2006). Feeling tense, restless, urgent, or overwhelmed from daily stress is common in Western society (De Bruin et al., 2017). Most people dedicate the majority of their active hours to work. Consequently, 22% of the workforce in the European Union (EU) experiences Work-Related Stress (WRS) that greatly affects their well-being (EU-OSHA, 2015). Stress in organisations is defined as the mismatch between an individual's skills and abilities and the demands of their job, as well as the disparity between a person's needs and what the job environment provides (French, Rodgers and Cobb, 1974). WRS is explained as an adverse response that individuals experience due to excessive pressures and demands at work (Bhui et al., 2016).

There are personal and economic costs associated with stress (Kersemaekers et al., 2018). In the workplace, stress can lead to decreased productivity, absenteeism, accidents, poor judgment, and increased malicious gossip and errors (Israni, 2022; Kalia, 2002). Employers are increasingly concerned about WRS as they face higher risks of legal liability for damages to stressed employees (Midgley, 1997; Rees, 1997). The International Social Security Association (ISSA) reports that returns on investments in workplace health and safety are more than double the invested amount (ISSA, 2013). These insights encourage modern companies to prioritise employee well-being (Dóra et al., 2019). Both academia and management are showing increased interest in employee well-being within organisations (Zheng et al., 2015). It is vital for the survival and growth of organisations globally, thereby emerging as a key research topic in organisational behaviour and related fields (Spreitzer and Porath, 2012). Furthermore, employee well-being is a key concern for research and practice, with a widespread acknowledgement that psychologically healthy employees are more productive and less likely to leave their jobs (Wright and Huang, 2012). Organisational managers are exploring new approaches like mindfulness to help employees tackle modern occupational challenges (Mack et al., 2015; Reb and Choi, 2014). The increasing awareness of mindfulness benefits has led to a surge in its popularity across various settings, including organisations (Sutcliffe, Vogus and Dane, 2016).

Mindfulness, which originated in the context of Buddhism around the 5th century BCE, gained prominence in the West through Kabat-Zinn (1982), who developed a Mindfulness-Based Stress Reduction (MBSR) programme for chronic pain (Lomas et al., 2019). Mindfulness is a conscious state of being non-judgmentally aware of and attentive to current experiences (Bishop et al., 2004; Brown and Ryan, 2003). The most commonly used definition of mindfulness is, “the awareness that arises from paying attention in a particular way, on purpose, in the present moment, and non-judgmentally” (Kabat-Zinn, 1994, p. 14).

Within the last decade, a growing body of research has demonstrated the beneficial potential of mindfulness in the workplace (Israni, 2021; Pinck and Sonnentag, 2018). Cultivation of mindfulness, the non-judgmental awareness of experiences in the present moment, produces beneficial effects on well-being and ameliorates psychiatric and stress-related symptoms (Hölzel et al., 2011). Furthermore, it has been shown that employee mindfulness is related to positive indicators of employee well-being, such as physical and psychological health (Glomb et al., 2011), positive affect (Giluk, 2009), job satisfaction (Hülsheger, Feinholdt and Nübold, 2015), social relationships, resiliency, and task performance (Glomb, 2015) and task commitment, performance, and memory (Levy et al., 2012). Research indicates that mindfulness training could be beneficial, not only for those engaged in what Career Cast, in a 2019 survey, have termed less stressful professions, such as hairstylists, but also for those in professions deemed stressful, such as specific military roles and firefighters (CareerCast, 2019). Several organisations implement mindfulness-based training programs for their employees, including Google, Target, Aetna, Dow Chemical, Intel, and the United States Marine Corps (Aikens et al., 2014; Jha et al., 2010; Wolever et al., 2012).

Mindfulness as a topic of academic research is now firmly established (Hanley et al., 2016). Lee et al. (2021) noted that there has been a sharp increase in mindfulness research since 2000. Several bibliometric analyses have examined trends and developments in mindfulness research, providing valuable models of the field's evolution and offering frameworks that could guide new research in the area. Bibliometrics is a set of methods to quantitatively analyse scientific and technical literature (Setti, 2013) and scholars use bibliometric analysis for a variety of reasons, such as to uncover emergent trends in article and journal performance, collaboration patterns, and research constituents, and to explore the intellectual structure of a specific domain in the extant literature (Donthu et al., 2021).

In a bibliometric analysis by Baminiwatta and Solangaarachchi (2021), trends and developments in mindfulness research over a span of 55 years were visualised, highlighting pivotal moments, key research areas, and emerging trends. The analysis also revealed that nearly half (47%) of the publications were in the field of psychology, while around one-fifth (20.8%) were in psychiatry. Additionally, Birrer, Scalvedi and Frings (2023) conducted a bibliometric analysis of mindfulness and acceptance research in sports from 1969 to 2021, providing a comprehensive overview of mindfulness literature with an emphasis on its wide-ranging applications and various settings. These analyses track key developments, influential articles and authors over decades, identifying foundational contributions and prominent research hubs within the mindfulness field. Another notable bibliometric study on mindfulness was conducted by Ferreira and Demarzo (2024), highlighting that mindfulness research has grown rapidly over the past two decades, with the U.S. leading in publications. This analysis also revealed that 2019 marked the peak year for mindfulness publications and the journal *Mindfulness* and author E. Garland were notably prolific.

Despite the growth of bibliometric studies, prior research has rarely focused on organisational contexts, making this analysis particularly timely. This bibliometric analysis aims to systematically document the trajectory of mindfulness research within organisational contexts. With mindfulness becoming increasingly central to workplace wellness initiatives, this method enables scholars to observe the

expansion of mindfulness applications that might enhance employee productivity, resilience, and mental health. Through citation analysis, this bibliometric analysis identifies interdisciplinary collaboration patterns across psychology, management, neuroscience, and health sciences, revealing how mindfulness knowledge is distributed globally across fields. Such analysis illuminates the field's intellectual structure, contributing to both academic scholarship and practical applications within organisations. The study also underscores areas needing further exploration, such as mindfulness applications in specific employee groups or unique organisational environments.

This research provides a comprehensive bibliometric overview of workplace mindfulness practices over the past two decades as it spans from 2004 to 2024. The purpose of this article is to examine the world of published research on the topic of mindfulness practice. Guided by ten review questions, the study aims to map the growth rate of publications, highlight the most locally and globally cited documents, and determine the contributions of prominent authors and institutions. Additionally, the research examines the productivity of authors based on Lotka's Law, identifies active universities and countries, and analyses trending research themes. These questions underpin the data extraction and analysis process. They provide a structured framework to investigate how workplace mindfulness has evolved as a research domain and identify its most impactful contributors and topics.

This study builds upon existing bibliometric work by adopting a focused lens on the organisational setting, providing a nuanced look at how mindfulness research has evolved in this domain. In doing so, it offers a specialised perspective on the rapid growth of mindfulness research in recent years, particularly within applied and organisational psychology, management studies, and related fields. By comparing findings with those from previous bibliometric analyses, this research contextualises its contributions within the broader mindfulness literature, ultimately deepening the understanding of mindfulness as it applies to workplace wellness and employee productivity.

Methods

To embark on this bibliometric analysis, the author meticulously crafted a search string by using the Boolean operators of OR & AND. The finalised search string was:

(Mindfulness OR Mindfulness Practice OR Mindfulness Meditation OR Mindfulness-Based Program* OR MBP OR MBPs OR Mindfulness-Based training* OR MBT OR MBTs OR Mindfulness-Based Stress Reduction Program* OR MBSR OR MBSRs OR MBSRP OR Workplace Mindfulness OR Mindfulness Interventions) AND (Stress OR Work Stress OR Distress OR Work-Related Stress OR WRS OR Burnout OR Occupational Stress) AND (Office* OR Organisation* OR Organization OR Workplace OR Company OR Enterprise OR Institution)

The Web of Science (WOS) database was used for this bibliometric analysis. To conduct bibliometric analyses, researchers retrieve publications primarily from the Web of Science (WOS) and Scopus databases; however, studies comparing WOS and Scopus have shown that WOS has some unique strengths (Echchakoui, 2020). Chirici (2012) demonstrates that across numerous disciplines, WOS offers a varied range of information. Zyoud et al. (2017) argued that WOS includes the most reliable, high-impact scientific studies.

After finalising the search string and choosing the database, well-defined inclusion and exclusion criteria were developed. This bibliometric analysis included only articles, review articles and data papers. Other documents, such as proceeding papers, early access documents, book reviews and book chapters, were not included in the analysis. Documents published from 01st January 2004 till 14th June 2024 were included in the analysis. Documents published only in the English language were included. Finally, only fifteen web of science categories which were considered most appropriate for this analysis were included such as Management, Business and Psychology.

When the search string was run on the WOS database in the early morning hours of 15th June without using any inclusion and exclusion criteria, it yielded 5762 results; however, when the date ranges from 01/01/2004 till 14/06/2024 were applied, this number was reduced to 5690 records. When the filter for document type was applied, it came down to 5314. When many of the WOS categories, such as Psychiatry, were excluded, the records dropped to 1119. Finally, when the filter of only the English language was used, it yielded 1092 records. Out of the 1092 records included in the study, only 98 records were from the management category of WOS, and 46 records were from the business category. The maximum number of records, 383, were from the field of multidisciplinary psychology. The records included in this bibliometric analysis is 1092.

Data Extraction and Analysis

1092 full records and cited references were exported as a BibTex file from WOS and were then loaded as a raw file into biblioshiny: the shiny app for bibliometrix (Aria and Cuccurullo, 2017). Bibliometrix is a package for bibliometric analysis written in R. R is an ecosystem software, meaning it operates in an integrated environment which consists of open libraries, the open algorithm and open graphical software (Derviş, 2019). Review questions to guide the data extraction and analysis included-

1. What is the annual growth rate of scientific publications on workplace mindfulness practices from 01/01/2004 till 14/06/2024?
2. Which are the top ten most locally cited sources?
3. As per local citations, who are the first ten most relevant authors?
4. What is the productivity of the authors as per the Lotka's Law?
5. Which universities are most actively contributing to the research area?
6. Which countries contribute the most towards the scientific production of documents?
7. Which countries have the biggest number of corresponding authors and are most cited?
8. In the collection of 1092 documents, which are the most frequently used words, research themes and trending topics?
9. Which are the top ten most globally cited documents?
10. What is the gist, findings and summary of each of the ten most globally cited documents?

Result and Discussion

Table 1 below depicts the main information pertaining to the 1092 records analysed. It shows that the records included in the analysis were published from 2004 to 2024 (on which all of the further analysis has been performed). Out of the total number of 1092 documents, there are 978 articles, 113 review papers and 1 data paper. The annual growth rate percentage is typically calculated as the percentage change in the number of publications from one year to the next. The annual growth rate percentage of research on the topic is 19.28%.

Table 1: Summary of the Main Information

Description	Result
Main Information About Data	
Timespan	2004:2024
Sources (Journals, Books, etc)	277
Documents	1092
Annual Growth Rate %	19.28
Document Average Age	4.22
Average citations per doc	30.19
References	50358
Document Contents	
Keywords Plus (ID)	2463
Author's Keywords (DE)	2580
Authors	
Authors	4556
Authors of single-authored docs	39
Document types	
Article	978
Article; data paper	1
Review	113

Annual scientific production refers to the total output of scientific work generated by researchers, institutions, or countries within a given year. The line graph in Figure 1

below represents the yearly scientific production from 1st January 2004 till 14th June 2024, thereby addressing review question 1.

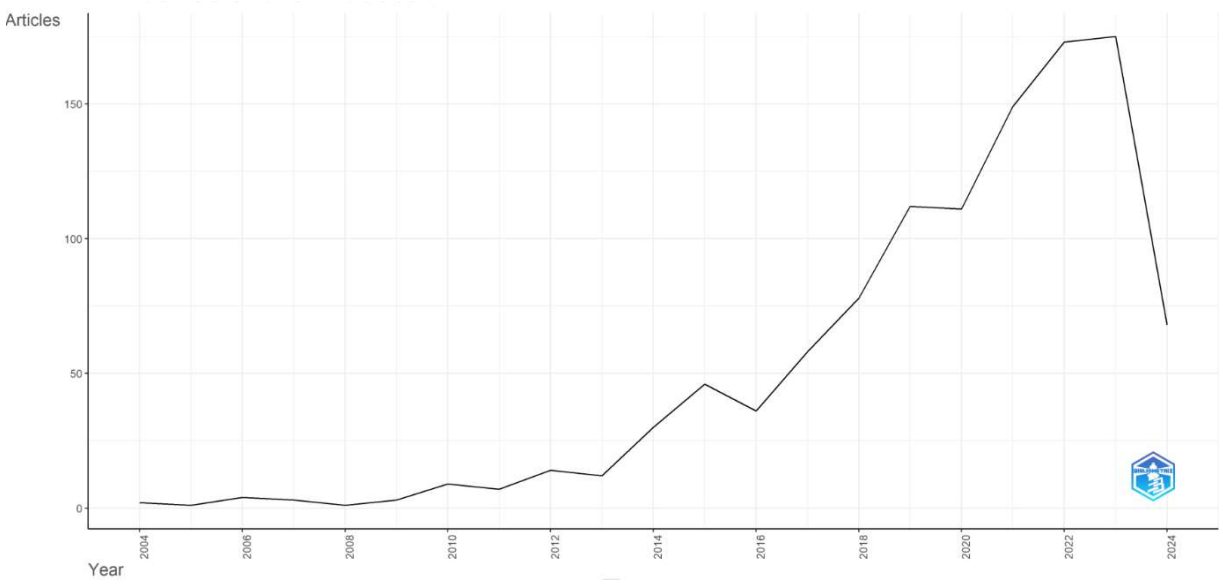

Figure 1: Annual Scientific Production

In the above line graph, the vertical axis of the line graph, also known as the y-axis, represents the "Articles" while the horizontal axis, or x-axis, shows the time period. The graph depicts that since the year 2020, there has been a steady increase in the number of articles till the year 2023, with a maximum number of 175 articles. This could be attributed to the COVID-19 pandemic outbreak in 2019. Research post-2020 established that the mental health and well-being of the employees were adversely affected (Giorgi et al., 2023). In this context, practising mindfulness seemed to be a viable option available to organisations for their employees, and a research study established that mindfulness meditation was able to lessen the psychological impact of COVID-19 (Zhu et al., 2021). Post 2022, there is a steep decline curve, which can be explained by the fact that only articles published till 14th June 2024 were included in the analysis. With almost another six months remaining in the calendar year of 2024, the number of articles is expected to increase from 68 to continue the increasing trend.

A three-field plot is a visualisation technique that focuses on relationships between three variables. Figure 2 below depicts a three-field plot that focuses on the relationship between cited references (CR), authors (AU), and the keywords (DE). The size of the areas representing each variable indicates its overall prominence within the dataset. Lines or connections between the areas show how these elements are linked. The width of the lines connecting entries within and between sections reflect the frequency of their co-occurrence.

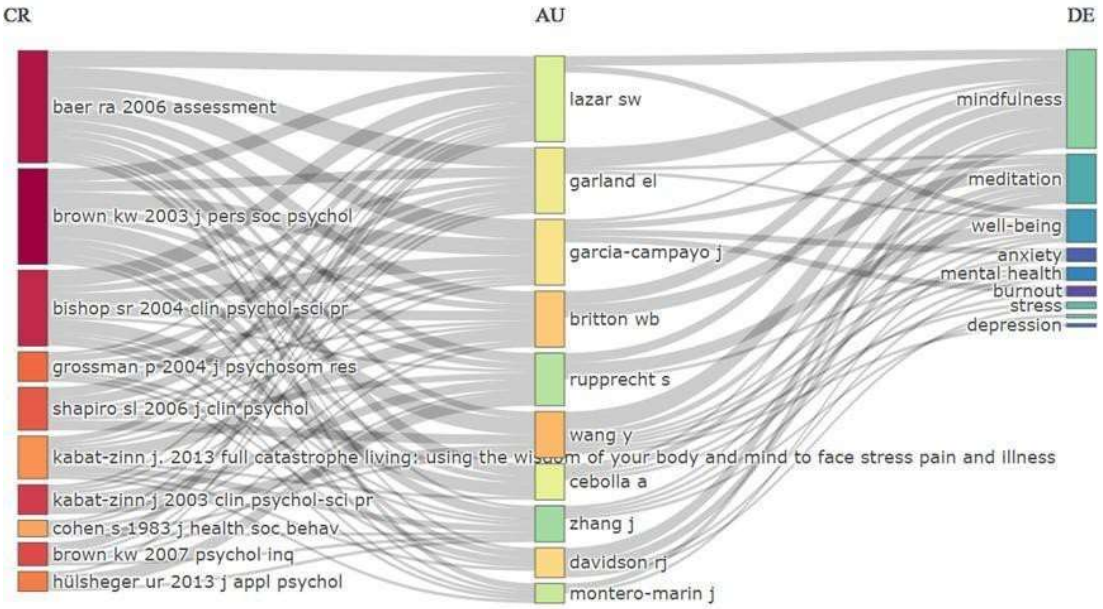

Figure 2: Three Field Plot

In bibliometric analysis, the term "sources" refers to the various outlets or venues where scientific research is published and disseminated, while "local citations " refer to citations within a specific dataset or collection of documents rather than the total citations an article receives across all databases. Local citations help gauge a source's or an author's influence and the relevance of their work within a particular research community or field. Fig 3 below depicts the ten most locally cited sources, thereby answering review question 2. Figure 3 below depicts that Mindfulness Journal is the most locally cited source, with 2159 local citations.

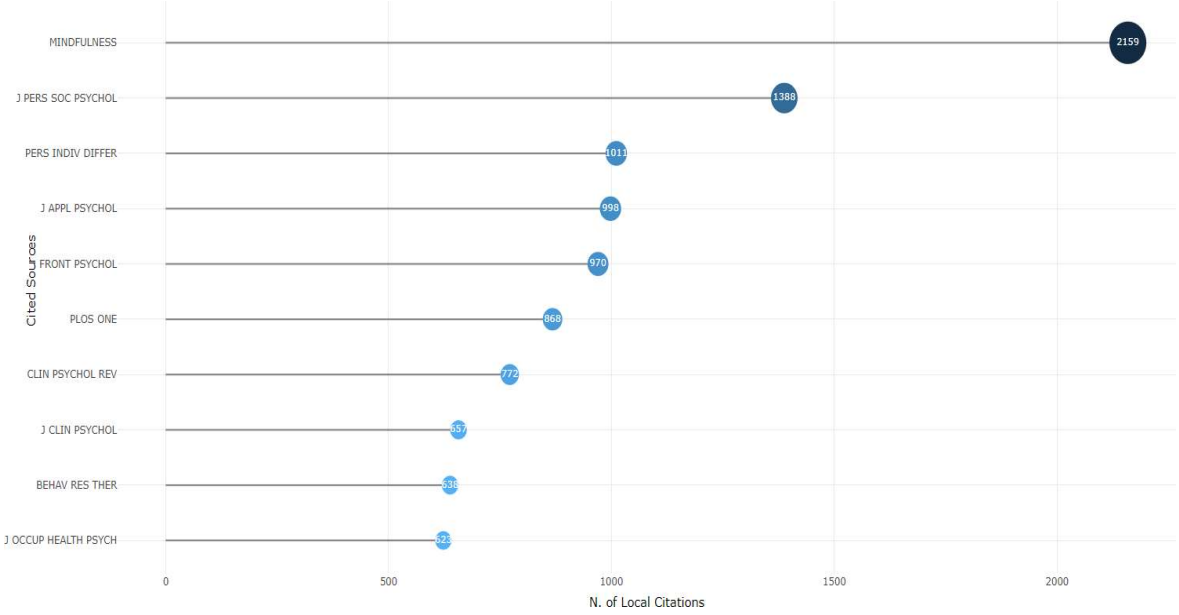

Figure 3: Ten most important sources

While Figure 3 above depicts the ten most important sources as per local citations, table 2 below lists ten authors as per their local citations, thereby answering review question 3. Britton WB tops the list with 81 local citations.

Table 2: Top Ten authors as per their Local Citations

Author	Local Citations
BRITTON WB	81
BRUMMEL BJ	68
DANE E	68
LAZAR SW	68
SARON CD	62
BREFCZYNSKI-LEWIS JA	57
FIELD BA	57
FOX KCR	57
GORCHOV J	57
KERR CE	57

Lotka's Law concentrates on the productivity of authors. The "number (of authors) making n contributions is about 1/n2 of those making one; and the proportion of all contributors that make a single contribution, is about 60 per cent" (Lotka, 1926, p. 323). In other words, many authors only write one paper, and far fewer authors write many papers. Figure 4 illustrates the distribution of author productivity in line with Lotka's Law and attempts to answer review question 4.

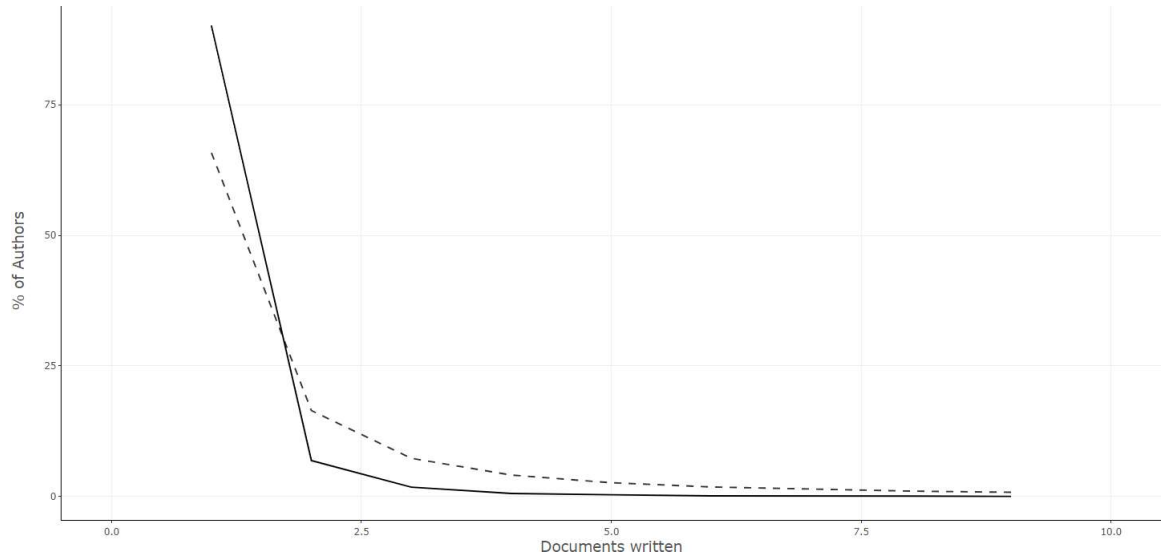

Figure 4: Distribution of Author Productivity (Lotka's Law)

In the above figure 4, the X-axis represents the number of papers written by authors ranging from 1 to 15. The Y-axis shows the percentage of authors who have written a certain number of documents. The curve represents the distribution of authors based on the number of documents they have written. At the leftmost part of the graph, there is a high percentage of authors, indicating that most authors have written only one document. As the number of documents increases, the percentage of authors decreases rapidly. This steep decline illustrates that there are significantly fewer authors who have written multiple documents. The curve flattens out as the number of documents increases, showing that very few authors have written many documents. In summary, this graph demonstrates that a large proportion of authors have contributed a single document, and only a small fraction of authors is prolific, aligning with the inverse square relationship described by Lotka's Law.

Most relevant affiliations include affiliations from universities, hospitals, research centres, or even companies that are most actively contributing to the research area. Table 3 below depicts that the top ten most important affiliations are all universities. Monash University in Australia tops the list with 44 articles. Therefore, this table answers review question 5.

Table 3: Most Important Affiliations

Affiliation	Article
Monash University	44
University of Wisconsin	42
Brown University	38
McGill University	37
Harvard Medical School	35
Karolinska Institute	32
Radboud University Nijmegen	32
University of California San Francisco	31
Vrije University Amsterdam	29
Colorado State University	26

Country scientific production refers to the output of scientific research and publications produced by researchers and institutions within a specific country. This

measure helps evaluate the scientific contributions and impact of different nations in the global research community. In terms of frequency, country scientific production can be understood as the rate at which a country produces scientific outputs, such as research papers, articles, and other scholarly works, over a specific period. Table 4 below depicts that the United States of America leads with a frequency of 1444 documents. Table 4 also helps to answer review question 6.

Table 4: Scientific Production by Countries

Country	Frequency
USA	1444
China	550
Germany	408
Spain	321
Australia	316
UK	255
Netherlands	249
Canada	228
India	183
France	128

Figure 5 below depicts that the USA has the biggest number of corresponding authors and leads in Single Country Publications (SCP), which are scholarly publications authored by researchers from a single country, as well as in Multiple Country Publications (MCP), which refers to scholarly publications authored by researchers from multiple countries. Figure 5 answers the first part of review question 7, which describes the countries with the biggest numbers of corresponding authors.

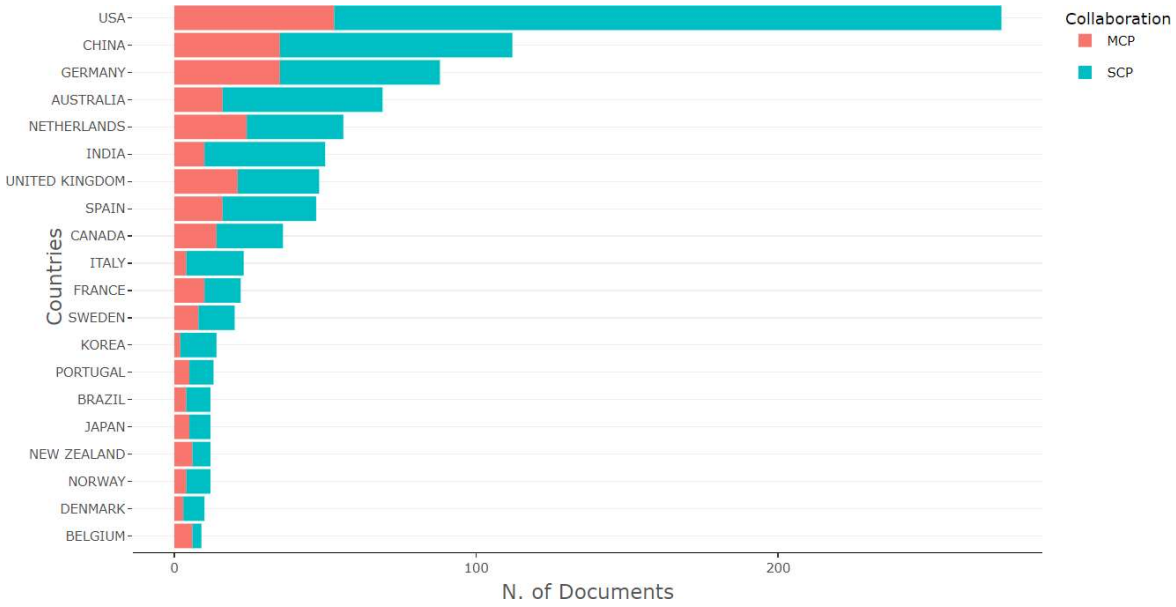

Figure 5: Countries with the biggest number of corresponding authors

Figure 6 below illustrates that the USA ranks as the most cited country, followed by Germany and Australia. This answers the second part of review question 7 regarding which countries are most frequently cited.

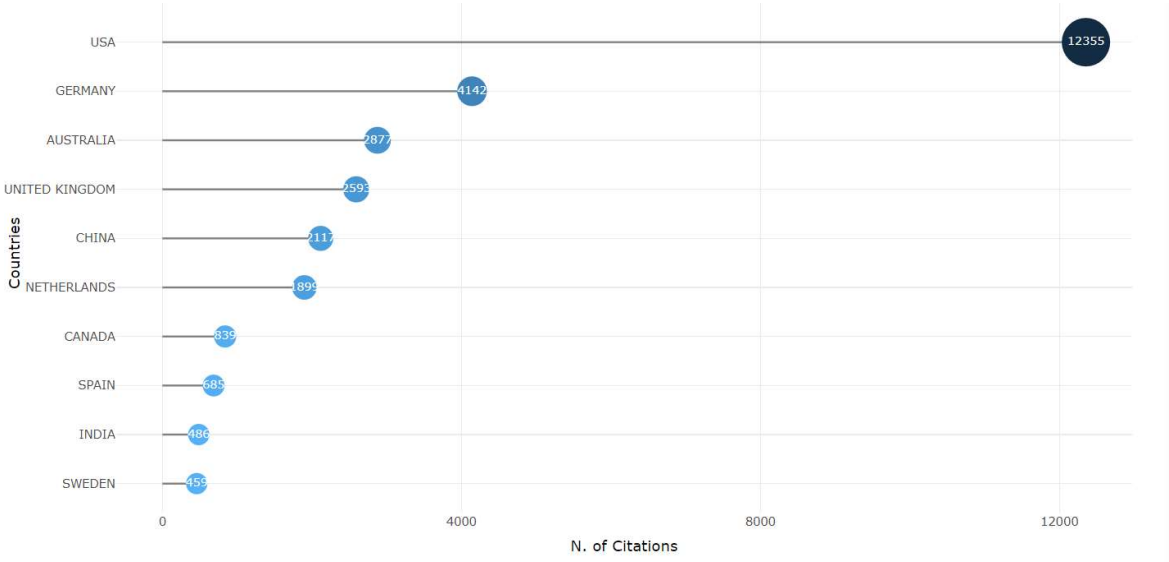

Figure 6: Most cited countries

A word cloud is a visual representation typically used to depict usually single words and their size and prominence is based on their frequency in the text. In the context of a bibliometric analysis, a word cloud can be used to identify the most frequent words or phrases in a collection of documents, which can help to get a sense of the overall focus of the research. Figure 7 below depicts the word cloud with "Stress"

"Mindfulness" "Stress Reduction" and "Meditation" as words used most frequently and answers review question 8.

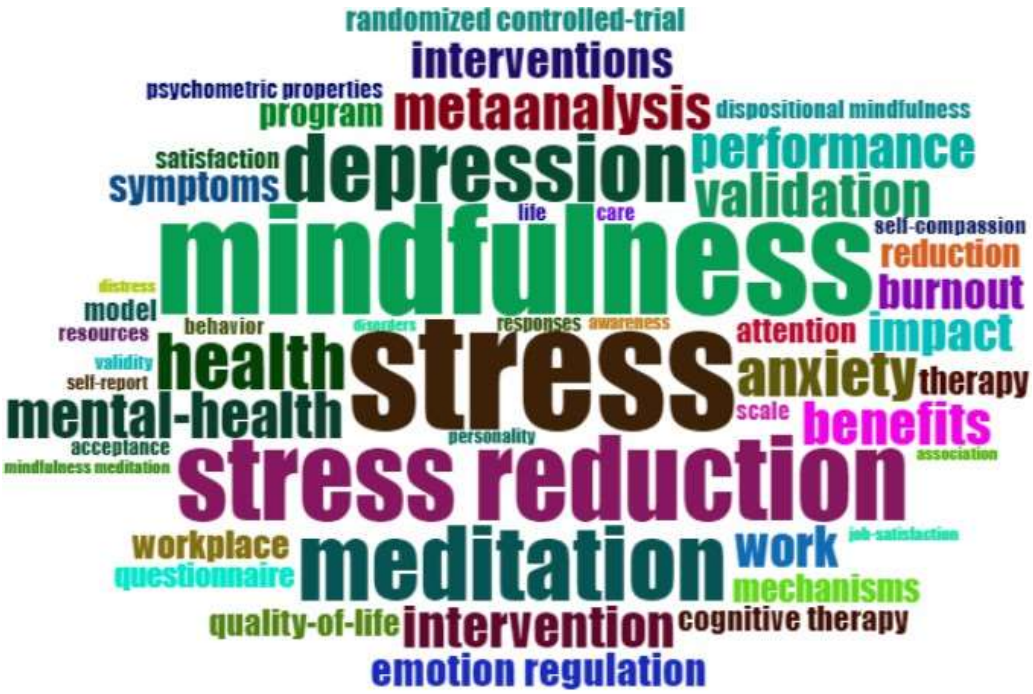

Figure 7: Word Cloud

Figure 8 below shows the thematic mapping of research themes based on author keywords, thereby answering and addressing review question 8.

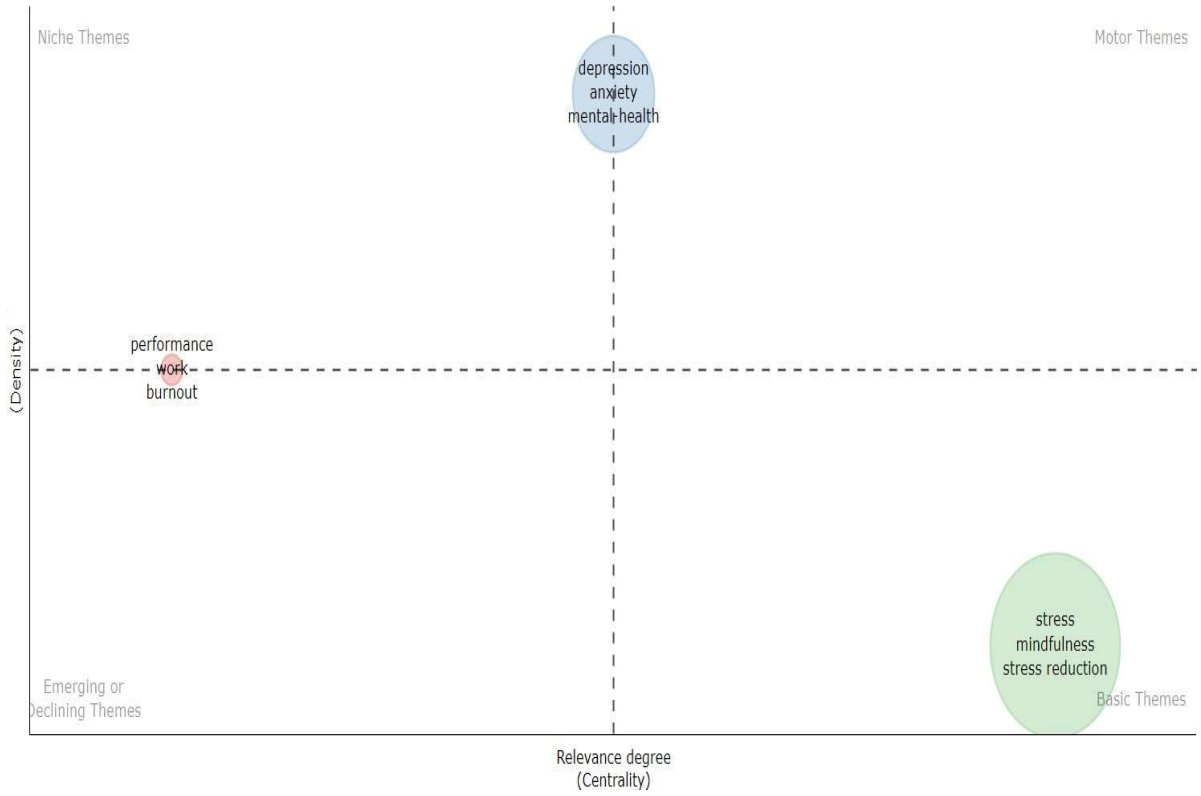

Figure 8: Thematic Mapping

The above thematic map is divided into 4 quadrants with niche themes, motor themes, emerging or declining themes, and basic or transversal themes. The niche themes are “non-central but developed”, emerging or declining themes are “neither central nor developed” at the time of analysis, motor themes are “central and developed” implying the current research themes and basic themes are “central but undeveloped” which gives direction towards the future themes in research. The size of the clusters shows the number of keywords associated with it. The cluster with the highest density value shows the keywords “depression”, “anxiety” and “mental health”.

The cluster in the emerging or declining themes focuses on “work” and “burnout’’ suggesting that these topics have not been studied much, due to which these concepts fall under the emerging theme and these concepts are yet in an exploratory phase in the research. It is important to note that the cluster in basic theme with “stress”, “mindfulness” and “stress reduction” is the only cluster with high relevance and centrality and is yet to be developed more; this cluster is “central” but yet “undeveloped” and has the potential to grow further in the future and move towards the motor themes.

Finally, this section ends with Figure 9 below, depicting the ten most globally cited documents. This answers review question 9.

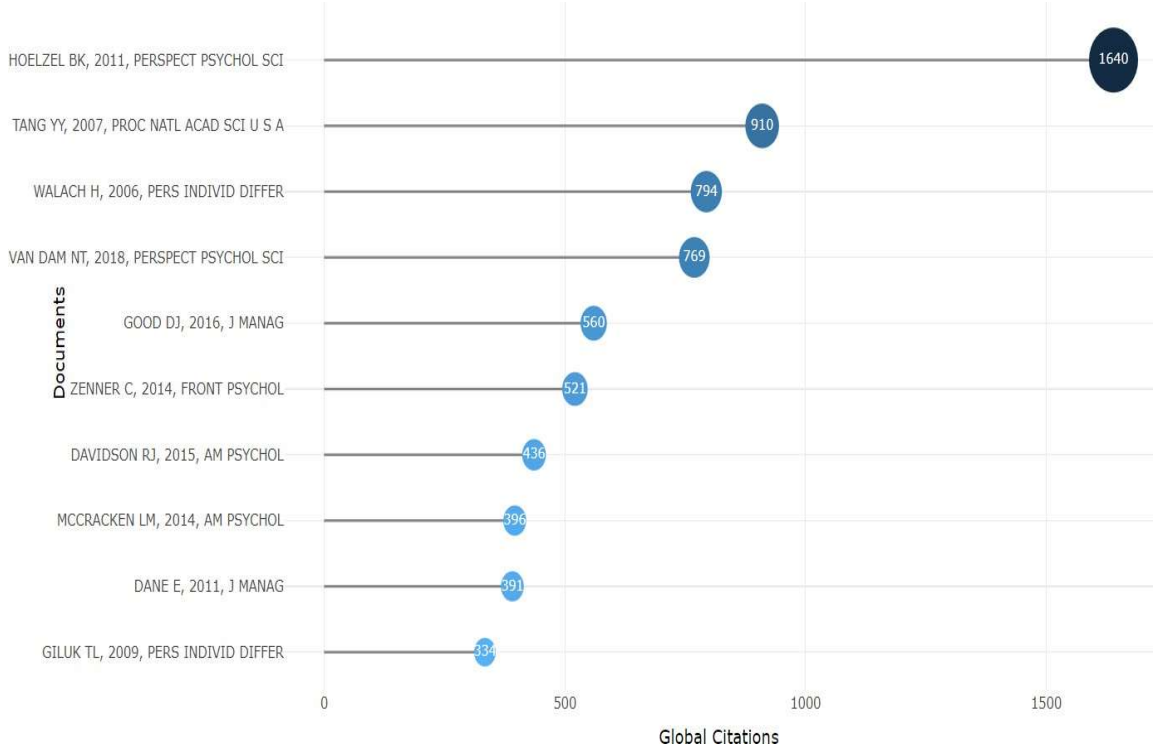

Figure 9: Globally Cited Documents

Findings and Summary of Ten Most Globally Cited Documents

Table 5 below details the ten most globally cited documents among the corpus of 1092 documents identified for this bibliometric analysis. Following this table, a summary of each paper is presented, providing a detailed answer to review question 10.

Table 5: Details of Ten Most Globally Cited Documents

S.No	Name of Paper	Name of Authors	Source	Year of Publication	DOI	Total Citations
1	How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective	Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., and Ott, U.	Perspectives on psychological science	2011	10.1177/1745691611419671	1640
2	Short-term meditation training improves attention and self-regulation	Tang, Y. Y., Ma, Y., Wang, J., Fan, Y., Feng, S., Lu, Q., ... and Posner, M. I.	Proceedings of the National Academy of Sciences	2007	10.1073/pnas.0707678104	910
3	Measuring mindfulness—the Freiburg mindfulness inventory (FMI).	Walach, H., Buchheld, N., Buttenmüller, V., Kleinknecht, N., and Schmidt, S.	Personality and Individual Differences	2006	10.1016/j.paid.2005.11.025	794
4	Mind the hype: A critical evaluation and prescriptive agenda for research on mindfulness	Van Dam, N. T., Van Vugt, M. K., Vago, D. R., Schmalzl, L., Saron, C. D., Olendzki,	Perspectives on Psychological Science	2018	10.1177/1745691617709589	769

	and meditation	A., ... and Meyer, D. E.				
5	Contemplating mindfulness at work: An integrative review	Good, D. J., Lyddy, C. J., Glomb, T. M., Bono, J. E., Brown, K. W., Duffy, M. K., ... and Lazar, S. W.	Journal of Management	2016	10.1177/0149206315617003	560
6	Mindfulness-based interventions in schools—a systematic review and meta-analysis.	Zenner, C., Herrnleben-Kurz, S., and Walach, H.	Frontiers in Psychology	2014	10.3389/fpsyg.2014.00603	521
7	Conceptual and methodological issues in research on mindfulness and meditation	Davidson, R. J., and Kaszniak, A. W.	American Psychologist	2015	10.1037/a0039512	436
8	Acceptance and commitment therapy and mindfulness for chronic pain: model, process, and progress.	McCracken, L. M., and Vowles, K. E.	American Psychologist	2014	10.1037/a0035623	396

9	Paying attention to mindfulness and its effects on task performance in the workplace	Dane, E.	Journal of Management	2011	10.1177/0149206310367948	391
10	Mindfulness, Big Five personality, and affect: A meta-analysis.	Giluk, T. L.	Personality and Individual Differences	2009	10.1016/j.paid.2009.06.026	334

Hölzel et al. (2011) proposed components to describe the mechanisms through which mindfulness works. Their theoretical review integrated the existing literature into a comprehensive theoretical framework paper to propose that mindfulness meditation exerts its effects through (a) attention regulation, (b) body awareness, (c) emotion regulation (including reappraisal and exposure, extinction, and reconsolidation), and (d) change in perspective on the self.

Tang et al. (2007) asserted that short-term meditation training improves attention and self-regulation. Their efficacy study explored the influence of mindfulness meditation training by using experimental and control methods. In their study, they showed that an experimental group of 40 undergraduate Chinese students given 5 days of 20-min integrative training of which mindfulness meditation was a part showed greater improvement in conflict scores on the attention network test, lower anxiety, depression, anger, and fatigue, and higher vigour on the profile of mood states scale, a significant decrease in stress-related cortisol, and an increase in immunoreactivity than the control group.

Walach et al. (2006) aimed at measuring mindfulness and developed the "Freiburg Mindfulness Inventory (FMI)" to assess mindfulness in clinical and non-clinical populations. The FMI was constructed through expert interviews and literature analysis and was validated through two studies. The first study involved 115 mindfulness meditation retreat attendees and resulted in a 30-item scale with high internal consistency (Cronbach alpha = .93), which effectively measured increases in mindfulness post-retreat and differentiated between novice and experienced meditators. The second study expanded the FMI's application to 86 non-meditators, 117 individuals with clinical issues, and 54 retreat participants. This led to the creation of a 14-item short form with strong psychometric properties (alpha = .86). The short form demonstrated significant correlations with related constructs (self-awareness, dissociation, global severity index, meditation experience) and proved sensitive to change, making it suitable for use with both meditators and non-meditators. The Principal Component Analysis (PCA) conducted in the study indicated that Mindfulness is the one common factor underlying the items of the Freiburg Mindfulness Inventory (FMI). This suggested that the various items on the inventory all measured a single, unified construct of mindfulness. This finding supported the conceptual integrity of the FMI as a coherent tool for assessing mindfulness, whether in its full 30-item version or its abbreviated 14-item form.

Van Dam et al. (2018), in their paper, critically examined the state of research on mindfulness and meditation by highlighting several key issues. They noted that significant criticism faced by the mindfulness movement was due to misinformation and poor research methodology, which could mislead the public and potentially cause harm. They proposed a comprehensive agenda for future research, which included paying more attention to the potential negative outcomes of mindfulness practice so that the public receives accurate information.

Good et al. (2016), in their integrative review, aimed to combine the burgeoning body of mindfulness scholarship with organisational science by presenting a framework which can provide insights for organisational leaders as well as guide future management research. Their framework identified how mindfulness influences attention, with downstream effects on functional domains of cognition, emotion,

behaviour and physiology. Good et al. (2016) asserted that these domains ultimately impact key workplace outcomes, including performance, interpersonal relationships, and well-being. Figure 10 below depicts the fundamental ways in which mindfulness appears to influence human functioning to yield workplace outcome areas such as performance, interpersonal relationships, and well-being.

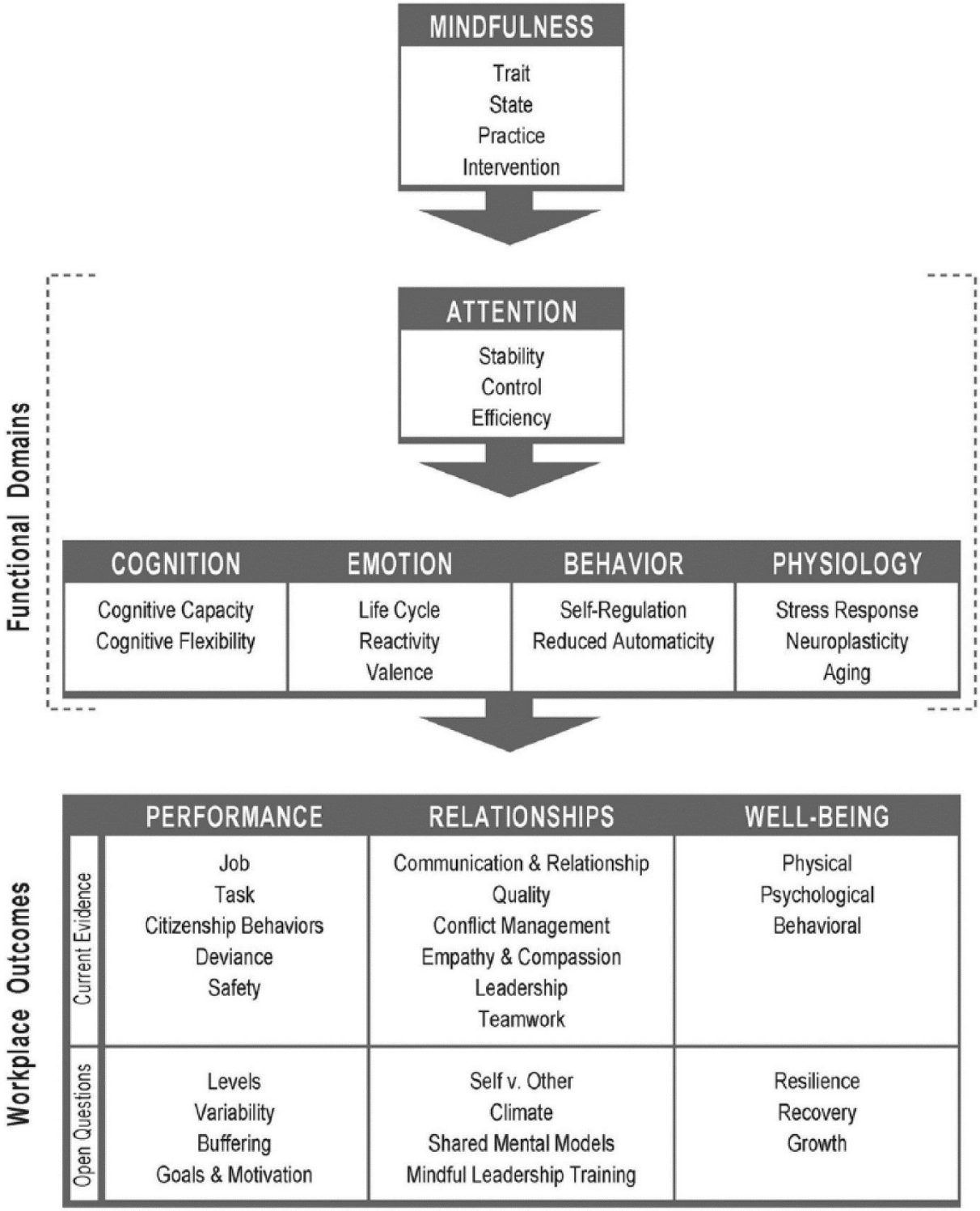

Figure 11: Mindfulness Influences Human Functioning (Good et al., 2016)

Zenner, Herrnleben-Kurz, and Walach (2014) conducted a systematic review and meta-analyses to study mindfulness-based interventions in schools. They reviewed the impact of school-based mindfulness programs on psychological outcomes. Conducting comprehensive searches across 12 databases and additional hand searches, the authors identified 24 studies involving 1348 students receiving mindfulness instruction and 876 controls, from grades 1 to 12. The meta-analysis revealed moderate overall effect sizes (Hedge's g = 0.40 between groups and g = 0.41 within groups), with significant benefits observed in cognitive performance (g = 0.80), stress reduction (g = 0.39), and resilience (g = 0.36). However, effects on emotional problems and third-person ratings were not significant. The study highlighted the potential of mindfulness interventions to enhance cognitive performance and stress resilience among children and youths. Zenner, Herrnleben-Kurz, and Walach (2014) acknowledged that despite promising findings, their review was marked by significant heterogeneity, underpowered studies, and diverse methodologies, necessitating careful analysis and improved research designs to fully understand and optimise mindfulness interventions in educational settings.

Davidson and Kaszniak (2015) examined the key issues in studying mindfulness-based interventions. They stressed the importance of detailed descriptions of the intervention itself and how it is delivered. Accurately measuring mindfulness among beginners and experienced practitioners was also a focus of their paper. They pointed out that the construct of mindfulness cannot be captured in any simple single physiological or biological measure; however, behavioural indicators could be a promising option for measuring mindfulness. They highlighted the need for more rigorous studies to definitively prove the effectiveness of mindfulness-based interventions for treating specific conditions or promoting well-being.

McCracken and Vowles (2014) pointed that the success of traditional Cognitive Behavioural Therapy (CBT) for chronic pain according to the rate at which it has produced new and more effective treatment methods, has been more modest. Furthermore, they noted that CBT, though widely accepted and successful in chronic pain treatment, may have become overly focused on methods and less on the underlying processes that make treatment work. They advocated reversing this so that research and treatment development are firmer on process and loose on method. They presented Acceptance and Commitment Therapy (ACT) specifically and Contextual Cognitive Behavioral Therapy (CCBT) more broadly as potential routes toward progress, which require no major shift in treatment techniques but a shift in the process of development. They suggested a three-step process of development: (a) Let go of variables and processes that have ceased to be useful guides for research and treatment development, (b) choose scientific goals and philosophical assumptions, and (c) begin treatment development guided by process and theory. seeking ways to act successfully in the world.

Dane (2011) developed a theory surrounding the nature of mindfulness and its effects on task performance in workplace settings. After visiting various definitions of mindfulness, he defined mindfulness as a state of consciousness in which attention is focused on present-moment phenomena occurring both externally and internally. He differentiated mindfulness from other states of attention as is shown in table 6 below.

Table 6: Differentiating Mindfulness from other states of Attention.

		Attentional Breadth	
		Relatively Wide	**Relatively Narrow**
Present Moment Orientation	**High**	*Mindfulness*	*Absorption* *Flow*
	Low	*Mind Wandering*	*Counterfactual Thinking* *Prospection* *Fantasizing*

Source: Dane (2011)

Furthermore, Dane (2011) gave four propositions for developing a theory concerning the factors determining when mindfulness is beneficial versus costly from a task performance standpoint. He made these propositions- Proposition 1: Wide external attentional breadth fosters task performance in a dynamic task environment and inhibits task performance in a static task environment. A dynamic task environment is one in which individuals make a series of interdependent decisions in real time (Gonzalez, 2005), while static environments involve relatively stable and predictable relationships (Nadkarni and Barr, 2008). Proposition 2: Wide internal attentional breadth fosters task performance when one has a high level of task expertise, and it inhibits task performance when one is a task novice. Proposition 3: The relationship between mindfulness and task performance is positive when one operates in a dynamic task environment and has a high level of task expertise. Proposition 4: The relationship between mindfulness and task performance is negative when one operates in a static task environment and is a task novice.

Giluk (2009) used the meta-analysis, an analytical tool to synthesize findings from 32 samples in 29 studies in order to provide a more precise empirical estimate of the relationship between mindfulness and the Big Five personality traits as well as trait affect. The five-factor (Big Five) model of personality consists of the trait's neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (Barrick, Mount and Judge, 2001). According to Giluk (2009) positive and negative affect are the two dominant dimensions that consistently emerge in studies of affect. High positive affect is described as a state of full concentration, one in which individuals are alert, energetic, and engaged while trait negative affect reflects the extent to which someone feels a variety of unpleasurable moods, such as distress, nervousness, guilt, or anger, and is highly correlated with the personality trait neuroticism (Watson, Clark and Tellegen, 1988). Results of Giluk's quantitative review indicated that, while all of the traits display appreciable

relationships with mindfulness, the strongest relationships are found with neuroticism, conscientiousness, and negative affect.

Out of the top ten most globally cited documents in the corpus of 1092 documents, only two documents were published in "The Journal of Management " while the rest of the documents were published mainly in Psychology Journals.

Discussion

The review questions were systematically addressed, revealing comprehensive insights into the field of workplace mindfulness practices. Analysis of the annual growth rate of publications from 2004 to 2024 demonstrated a consistent increase, underscoring the rising scholarly interest in mindfulness as a workplace intervention. The study identified the top ten most locally cited sources and authors. Applying Lotka's Law to author productivity further illustrated patterns in scholarly contributions, highlighting the dominance of certain authors in this field.

Additionally, the research identified universities and countries actively contributing to workplace mindfulness research, with specific countries leading in both the volume of corresponding authors and citation impact. A thematic analysis of 1,094 documents revealed frequently used keywords, prominent research themes, and trending topics, showcasing evolving areas of focus within workplace mindfulness research. The ten most globally cited documents were examined, offering insights into seminal works that have shaped the field and provided a foundation for subsequent research.

Only two of the ten most globally cited documents directly addressed workplace settings, underscoring a gap in highly cited workplace-specific mindfulness research. It suggests a broader appeal of mindfulness that transcends specific contexts. This reflects a common trend in foundational research, where early studies tend to explore general mechanisms, applications, and psychological benefits of mindfulness that later evolve into context-specific adaptations. The broader focus allows researchers to establish foundational frameworks, such as mechanisms of mindfulness and methodologies, which are later applied to particular domains like the workplace. This finding allows future studies to explore why general mindfulness literature dominates and how workplace-specific mindfulness studies might gain greater visibility and impact.

The study incorporated various analytical tools—such as the three-field plot, local citation analysis, and top author identification—to map the intellectual landscape of workplace mindfulness research. For instance, the three-field plot connects the relationships between keywords, sources, and authors, helping to uncover emerging themes and key contributors. Similarly, analysing local citations offers insight into influential works within this niche field, which is essential for understanding how specific ideas circulate and shape subsequent research.

Summarising the content of these globally cited papers aimed to provide a foundational understanding of the broader mindfulness research landscape; however, a more focused examination of their implications for workplace applications

would enhance the study's relevance. There were several points of convergence and divergence within the top 10 cited papers in mindfulness.

Works such as Hölzel et al. (2011) and Tang et al. (2007) emphasise the mechanisms of mindfulness, including attentional regulation, emotional regulation and self-awareness. These mechanisms are universally relevant, underpinning why mindfulness is applicable in varied contexts (including but not limited to workplace settings).

A common thread across these highly cited documents is the exploration of mindfulness mechanisms and measurement tools, which are crucial for establishing mindfulness as a scientifically credible intervention. Many of these studies delve into neurological and psychological benefits. Studies by Hölzel et al. (2011), Tang et al. (2007) and Van Dam et al. (2018) focus on the psychological and neurological mechanisms through which mindfulness practices yield benefits. For instance, Hölzel et al. (2011) outline mechanisms such as attention, body awareness and emotional regulation—essential for understanding mindfulness's impact, regardless of specific context.

While foundational papers dominate, two of the cited works focus specifically on workplace applications and contextual adaptations. Dane's study (2011) and Good et al.'s (2016) integrative review explore mindfulness within workplace environments. These studies diverge by examining mindfulness in the context of job performance, productivity and stress reduction specific to organisational settings. The work by Good et al. (2016) synthesises findings that link mindfulness practices with work-related outcomes, establishing a bridge from general mindfulness research to the unique challenges of the workplace.

The limited number of workplace-specific studies among the most cited documents suggests that while mindfulness has been widely researched, there is still a need for studies tailored to organisational settings. Foundational studies on mechanisms and measurements laid the groundwork for workplace mindfulness but were not designed to address work-related stress directly. Although mindfulness has proven benefits, there are numerous inhibitors to its consistent practice in daily workplace environments. Factors such as high workloads, limited time, and a lack of organisational support can make it challenging for employees to engage regularly in mindfulness practices (Israni and Imbusch, 2022; Israni, Basini and Feeney, 2024). This presents an opportunity for future research to explore these barriers in depth and to develop practical strategies for integrating mindfulness into work routines. By focusing on how these mechanisms play out specifically in workplace settings, future studies can better address employee well-being and performance.

Limitations and Future Research

While this study is important, the application of bibliometric analysis to investigate trends in mindfulness practice at workplaces is not without some drawbacks. This bibliometric analysis was limited to publications listed in the Web of Science (WOS). Although WOS is among the largest global databases, relying on 1092 publications solely from the WOS database suggests that this study is less likely to include all

articles on mindfulness at workplaces to alleviate work-related stress. The WOS database remained the most preferred choice for this bibliometric analysis due to its strength over other databases, particularly for social sciences. Another database that can be combined with the WOS databases for running the analysis in Biblioshiny is Scopus. WOS was not combined with Scopus, which may be seen as the limitation of this bibliometric analysis. Furthermore, the data employed for the analysis was extracted from only three types of documents (articles, reviews and data papers) published in the English language. These decisions were taken to keep the analysis simple and focused.

The search strategy employed a combination of keywords and WOS categories to identify relevant publications. However, inherent limitations in keyword searching and the potential for database miscategorisation may have resulted in a small number of irrelevant documents being included. To assess overall relevance, a statistically significant random sample of ten percent of titles was manually screened. The bibliometric analysis uses quantitative methods. Hence, the content or the quality of publications cannot be interpreted (Dunk and Arbon, 2009). As with many bibliometric analyses, this remains the limitation with this bibliometric analysis too.

Based on the above limitations characterising this bibliometric analysis, it is recommended that future research combine a bibliometric analysis with either content analysis or a systematic literature review.

A noted limitation of the study is the apparent decline in publications from 2023 to 2024. This dip is likely an artefact of the study period ending in June 2024, excluding data for the latter half of the year. Future analyses should consider a July-to-June window to provide a more stable measure of publication trends over time. A comprehensive year-on-year analysis would clarify whether the decline reflects a true reduction in research output or is simply due to the period cut-off. Such adjustments are important to offer more accurate insights into the field's growth trajectory.

This bibliometric analysis highlights critical developments in this field while also revealing areas for future investigation. The study underscores a substantial gap in bibliometric analyses focusing on mindfulness applications across specific employee groups and diverse organisational contexts. As workplace stress management becomes increasingly relevant, a deeper understanding of how mindfulness is employed in various industries—such as healthcare, education, commercial organisations and technology—could offer insights into more tailored interventions.

Conclusion

Over the past two decades, mindfulness meditation has transitioned from a fringe topic to a mainstream practice, used in psychotherapy, corporate well-being, education, and military training; however, owing to its longstanding reputation as a topic best suited for Psychology, mindfulness has remained outside the purview of many disciplines, including management. Although the concept of mindfulness has now begun to attract scholarly attention across other disciplines, research on mindfulness in the field of management and business remains limited. The recent evidence showing that mindfulness may benefit work outcomes (Hunter and McCormick, 2008) and that mindfulness-based programmes are effective in reducing

stress in working adults (Lomas, 2017; Bazarko et al., 2013), scholars are encouraged to continue to understand the various facets and antecedents of mindfulness practice in workplaces (Kaur and Israni, 2019).

In conclusion, this study successfully addressed all review questions, offering a comprehensive bibliometric overview of workplace mindfulness research from 2004 to 2024. Findings illustrate the field's growth trajectory, key contributors, and influential institutions while highlighting significant global contributions and thematic trends. The study identifies critical areas for future research and practical applications, emphasising the potential of mindfulness practices to enhance workplace well-being and productivity.

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