The interrelation between happiness and workplace safety: A bibliometric review

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Abstract Ensuring a safe and secure work environment promotes employee well-being and satisfaction. This bibliometric study aims to examine the correlation between happiness and workplace safety. This study uses a bibliometric approach to reveal notable research patterns and areas of inadequacy in the current literature on happiness and workplace safety. We acquired the Web of Science (WoS) and Scopus datasets and analysed them using VOSviewer and ScientoPy. Since the 1990s, there has been a steady increase in the volume of literature related to happiness and workplace safety. In 2021, a notable number of publications across both databases, amounting to 61, were documented. This result indicated an upsurge in interest in this topic. The subject of “Psychology” has achieved the highest ranking, with 248 publications. The top five author keywords associated with this subject are “well-being”, “mental health”, “quality of life”, “psychological well-being”, and “depression”. The term “well-being” has garnered significant attention recently, particularly in 2022 and 2023. Bibliometric studies have revealed that happiness research has consistently and steadily gained academic attention. This article scrutinises a range of research that has investigated various facets of this interconnectedness, including the comprehension of accidents, analysis of accidents, modelling accidents, and management of workplace safety and health risks. Furthermore, this study recognises the need for future research to investigate different frameworks that elucidate the relationship between happiness and workplace safety. It also emphasises the intricacies associated with this subject matter.

Keywords: bibliometric, happiness, psychology, workplace safety

1. Introduction

Creating a safe and secure workplace is crucial for fostering the welfare and contentment of workers. Enhancing workplace safety not only enhances physical well-being but also elevates mental and emotional wellness (Schill, 2017). The correlation between happiness and workplace safety pertains to the influence of workplace safety on employee happiness or well-being (Aman-Ullah et al., 2022). Research has shown that an unsteady work environment might result in heightened stress, anxiety, and discontent among workers. Moreover, industrial accidents and injuries might result in enduring physical (Abdullah et al., 2023) and psychological repercussions, which can also impact the well-being of workers (Karanikas & Hasan, 2022).

Research on happiness is crucial for ensuring workplace safety due to its proven beneficial influence on all facets of employee well-being and performance. Research has shown that organisational atmosphere, academic satisfaction, and practical organisational commitment are suggested factors for evaluating happiness inside organisations (Ravina-Ripoll et al., 2023). Furthermore, research has shown that workers’ sense of upbeat music in the workplace is directly linked to their ability to think creatively. The notion of psychological safety influences this connection (Zhu et al., 2022). Workplace happiness is contingent upon several aspects, including job satisfaction, job engagement, workplace safety, stress management, and self-assurance (Rahmi, 2018). At the same time, research has shown that stress adversely affects workplace happiness during the COVID-19 pandemic. However, psychological capital and coping strategies might act as mediators and buffers to mitigate these detrimental effects (Pradhan et al., 2021). Workplace pleasure also serves as a mediator in increasing employee engagement, employing the factors that promote employee engagement (Shelke & Shaikh, 2023).

Happiness in the workplace directly correlates with workplace safety (Imagha et al., 2023; Ni et al., 2020). When workers experience contentment and fulfillment in their jobs, they are more prone to being actively involved, concentrated, and diligent in their duties. Enhanced concentration and vigilance may decrease the probability of accidents and errors (De Barnier & Causse, 2022; Joshi, 2019). Moreover, contented personnel are inclined to adhere to safety standards and requirements due to their heightened feeling of accountability and dedication to their work (Kalender-Smajović et al., 2022). Pleasure in the workplace cultivates a favourable work atmosphere and encourages transparent communication and
cooperation among staff members (Septyarini et al., 2023). Facilitating open communication and cooperation may enhance the ability to detect and rectify safety risks and dangers efficiently, fostering a safer work environment for all individuals (Hernita et al., 2021; Ni et al., 2020; Tian, 2023).

Bibliometric analysis is essential for understanding the correlation between happiness and workplace safety (Rando-Cueto et al., 2023). It enables a systematic and comprehensive literature analysis, identifying research trends, main focus areas, and influential contributors in the field (Abdullah, 2022; Mao et al., 2023). Bibliometric analysis provides significant insights into organisations’ and individuals’ academic excellence and scientific capabilities by assessing criteria such as the number of publications, research methodology, and dissemination (Muñoz & Riaño Casallas, 2021). It facilitates the identification of core areas, substantial contributors, and primary references that distribute knowledge on happiness and workplace safety, therefore fostering collaboration and investigating new research paths. Moreover, bibliometric research reveals the progress and trends in the literature, highlighting the impact of factors such as COVID-19 on the dissemination and citation of papers. Bibliometric analysis is a valuable technique for assessing and understanding the advancement of research on happiness and workplace safety. It aids in guiding future research and improving organisations’ quality of life and well-being.

This research aims to use bibliometric techniques to investigate and assess the interconnectedness of published literature on happiness and occupational safety. The study’s primary objective is to ascertain the prominent topics, authors, and publications on the subject while also evaluating the effect and influence of research in this domain. Moreover, the analysis will reveal any deficiencies or areas necessitating additional investigation in regard to workplace safety. Table 1 presents the research questions that were obtained from the current study:

<table>
<thead>
<tr>
<th>No.</th>
<th>Research question</th>
<th>Motivation</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>RQ1</td>
<td>What are the patterns and trends in the rise of happiness publications over the last decade?</td>
</tr>
<tr>
<td>2.</td>
<td>RQ2</td>
<td>Which scientific publications and research fields have made significant contributions to the study of happiness?</td>
</tr>
<tr>
<td>3.</td>
<td>RQ3</td>
<td>Which publications are considered the most prominent in the topic of happiness?</td>
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<tr>
<td>4.</td>
<td>RQ4</td>
<td>What are the most productive institutions that published research on happiness?</td>
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<tr>
<td>5.</td>
<td>RQ5</td>
<td>What are the primary motifs and areas of study that need more exploration in the field of happiness?</td>
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</table>

2. Materials and Methods

2.1. Bibliometric analysis

Bibliometric analysis is a method of study that involves quantitatively examining and measuring the bibliographic features of a diverse range of books. This methodology often evaluates the impact of scientific research and selects the most noteworthy authors, journals, or publications within a certain field (Abdullah & Sofyan, 2023; Agarwal et al., 2016; Zupic and Čater, 2015). Bibliometric analysis involves collecting data on the number of publications, citations, and cocitations in a certain field. The data are then subjected to statistical approaches for analysis and interpretation (Donthu et al., 2021; Silveira and Zilber, 2017).

2.2. Dataset retrieval and analysis

Retrieving the dataset for this research entails collecting pertinent information from two bibliographic databases, namely, Scopus and Web of Science (WoS). These databases are often used in bibliometric studies, providing access to extensive academic literature across several fields (Pranckutė, 2021; Thompson and Walker, 2015). The search query contained various keywords pertaining to happiness, such as “safety happiness”, “safety contentment”, “secure happiness”, “positive well-being”, “safety fulfilment”, “fulfilled safety”, “safety satisfaction”, “satisfaction in safety”, “satisfied protection”, and “operational safety”. The researchers searched for certain keywords in the title field of publications on January 6, 2024. Retrieving datasets based on their titles is essential for emphasising certain study subjects’ content-related and structural advancement (Tullu, 2019). Once the Scopus and WoS datasets have been obtained, the subsequent stage in the bibliometric research involves analysing the data using the ScientoPy and VOSviewer tools.

2.3. Combining and cleaning duplicates
An inherent challenge in bibliometric investigations is the existence of duplicate entries within the dataset. Duplicates may occur due to several factors, including the repetition of indexing the same article, author name changes, and publication information discrepancies. Detecting and eliminating duplicates is crucial to guarantee that the analysis is conducted using a pristine and dependable dataset. In this bibliometric investigation, the researchers used ScientoPy to merge and eliminate duplicate entries from the collected datasets.

3. Results

3.1. General overview of the preprocessed bibliographic datasets

The ScientoPy module improves the effectiveness of the first analysis of happiness research in the Scopus and WoS databases by merging datasets and eliminating duplicate entries. The datasets obtained from both databases consisted of 1,663 articles. The first article, authored by Toseland & Rasch in 1978, was catalogued by Scopus. The inclusion criteria were especially focused on document types such as articles, reviews, proceedings, book chapters, and conference papers. A total of 1,663 papers were examined, with 902 discovered in Scopus and 741 in WoS. After removing duplicate entries, a total of 1,587 datasets remained, including 846 datasets from Scopus and 741 datasets from WoS. Regarding this issue, a total of 681 superfluous articles were eliminated from the research. The current research follows the sequential techniques proposed by Page et al. (2021) for organising database and registry searches. Figure 1 illustrates this structure.

3.2. Publication growth trends

Figure 2 depicts the results of publishing development, divided into five specific time periods: 1992-1997, 1998-2003, 2004-2009, 2010-2015, and 2016-2023. According to Figure 2, there was a scarcity of publications in both the WoS and Scopus databases from 1992 to 2013, with no publications in the WoS before 1992. Starting in the 2004s, there was a significant increase in published works, reaching its highest point in 2023.
3.3. Prominent scientific publications and fields of research

Figure 3 illustrates the top ten scientific publications that have published studies on workplace safety. Ranked first on the list is “Psychology”, with a total of 248 articles, followed by “Public, Environmental & Occupational Health”, with 80 publications. Both publications specifically emphasise research related to workplace safety and are well respected within the discipline. Figure 3 displays the top-ranked research field, “Psychology”, which has a total of 248 publications. This statement suggests a profound inclination towards the study of psychology, as well as happiness. Figure 4 provides data on the proportion of documents published throughout the last two years (2022 to 2023) for each topic. Business and economics has the largest proportion of papers published in the previous two years, accounting for 32% of the total.

3.4. Publications that have received more than 400 citations

Table 2 presents a selection of works that have garnered more than 400 citations. The citation count measures the degree of impact or influence that a publication has on the scientific community (Lee et al., 2021). The effect and citation frequency of a publication are closely correlated with its citation count (Sofian et al., 2023). The publication with the greatest number of citations on the list is “A meta-analytic review of benefit finding and growth” by Helgeson et al. (2006), which has been cited 1,309 times. The following article is titled “Patient safety, satisfaction, and quality of hospital care: Cross-sectional surveys of nurses and patients in 12 countries in Europe and the United States” by Aiken et al. (2012). It has been cited 1214 times. We also own the article titled “Positive psychological well-being and mortality: A quantitative review of prospective observational studies” authored by Chida & Steptoe in 2008. This article has a total of 994 citations.

![Figure 2](https://www.malque.pub/ojs/index.php/mr)

**Figure 2** Publication growth trends in Scopus and WoS databases.

![Figure 3](https://www.malque.pub/ojs/index.php/mr)

**Figure 3** The top ten scientific journals.
Table 2 List of publications with more than 400 citations.

<table>
<thead>
<tr>
<th>No.</th>
<th>Source</th>
<th>Title</th>
<th>Citation count</th>
<th>Document type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>(Helgeson et al., 2006)</td>
<td>A meta-analytic review of benefit finding and growth</td>
<td>1309</td>
<td>Review</td>
</tr>
<tr>
<td>2.</td>
<td>(Aiken et al., 2012)</td>
<td>Patient safety, satisfaction, and quality of hospital care: Cross sectional surveys of nurses and patients in 12 countries in Europe and the United States</td>
<td>1214</td>
<td>Article</td>
</tr>
<tr>
<td>5.</td>
<td>(Shifren et al., 2001)</td>
<td>Transdermal testosterone treatment in women with impaired sexual function after oophorectomy</td>
<td>796</td>
<td>Article</td>
</tr>
<tr>
<td>6.</td>
<td>(Diener &amp; Diener, 1996)</td>
<td>Most people are happy</td>
<td>793</td>
<td>Article</td>
</tr>
<tr>
<td>8.</td>
<td>(O’Connor et al., 2020)</td>
<td>Mental health and well-being during the COVID-19 pandemic: Longitudinal analyses of adults in the UK COVID-19 Mental Health &amp; Well-being study</td>
<td>625</td>
<td>Article</td>
</tr>
<tr>
<td>9.</td>
<td>(Lau &amp; Murnighan, 2005)</td>
<td>Interactions within groups and subgroups: The effects of demographic faultlines</td>
<td>554</td>
<td>Article</td>
</tr>
<tr>
<td>10.</td>
<td>(Steptoe et al., 2005)</td>
<td>Positive affect and health-related neuroendocrine, cardiovascular, and inflammatory processes</td>
<td>546</td>
<td>Article</td>
</tr>
</tbody>
</table>

3.5. Productive institution

Institutional research papers are scholarly publications produced by academic or research institutions that demonstrate exceptional productivity in terms of both the quantity and quality of the research conducted. Figure 5 depicts the ten most productive publications focused on happiness research. The Department Psychology in the United States and UCL in the United Kingdom have the highest ranking, with 14 publications, while the University of Melbourne and the La Trobe University in Australia follow closely, with 11 and 10 publications, respectively. Monash University in Australia was among the top five, with 9 publications each.
3.6. Major themes and research gaps

The prominent topics in this study were extracted from the keywords provided by 10 authors in prior research. Figure 6 displays the author keywords and their respective totals, as well as the proportion of papers produced in the previous two years (2022-2023) for each term. The five most often used author keywords are “well-being”, “mental health”, “quality of life”, “depression”, and “psychological well-being”. The keywords indicate that research in the domain of happiness is focused on workplace safety and enhancing the well-being and safety of employees. Additional noteworthy writers’ keywords include “subjective well-being”, “exercise”, “positive well-being”, “stress”, and “anxiety”. The substantial proportion of publications published in the last two years (PDLY) regarding “mental health” underscores the notable influence of the epidemic on research related to happiness. Significantly, the term “mental health” has garnered substantial interest during the last two years, appearing in 44% of published works during this period.

Figure 7 is a network visualisation map that displays author keywords that appear at least five times. The map has a total of 30 keywords. The node size is directly proportional to the keyword frequency. The keywords are sorted in a decreasing manner according to their frequency. The keyword that appears most often is “well-being”, with 142 occurrences and a link strength of 135, suggesting that it is strongly linked to other keywords in the dataset. The co-occurrence of terms pertains to their association or simultaneous appearance within the dataset. The co-occurrence map in this study offers valuable insights into the most common and crucial happiness-related terms in the bibliographic dataset. These keywords can potentially shape future research and discovery on the subject.
4. Discussion

Extensive research has been undertaken on happiness, as evidenced by the steady increase in publications from 1992 to 2001, followed by a variable upwards trend from 2002 to 2016. There was a substantial and rapid increase from 2016 to 2022. The number of publications on workplace safety and happiness has substantially increased in the last decade, particularly since 2021 (Rando-Cueto et al., 2023). The study indicates that corporate social responsibility initiatives progressively include happiness and well-being in their organisational strategy, with departments such as human resources assuming a more significant role in fostering a favourable work environment (Mielly et al., 2023). The field of happiness management in organisations has rapidly expanded since 2017, with papers serving as the primary medium for sharing research findings (Jambrino-Maldonado et al., 2023). The significance of the business category as the predominant field of study for scientific production has been emphasised (Martínez-Falcó et al., 2023). There is an increasing desire to comprehend and enhance happiness in the workplace, specifically in regard to the overall well-being of the organisation and the performance of its employees (Joo et al., 2017).

Regrettably, from 2014 to 2017, there was little decline in publications concerning workplace safety and happiness. This decrease may have been due to a shift in attention towards other issues and areas of study, with a primary emphasis on the health element. Researchers may have previously explored crucial research inquiries, resulting in stagnation in the field of study. There has been a rapid increase in scientific research on the management of happiness in enterprises since 2017 (Rando-Cueto et al., 2023). Furthermore, there has been a substantial increase in the number of papers focused on managing happiness and well-being in organisations throughout the last decade, particularly since 2021 (Jambrino-Maldonado et al., 2023). The examination of employee well-being has also garnered significance, emphasising employees’ physical, mental, and emotional health and its influence on the firm’s performance (Johar et al., 2023). Consequently, while there may have been a brief decrease in publications, workplace happiness and well-being have expanded and remain a significant domain of study.

The study’s results highlight the notable scientific articles and research areas related to workplace safety and happiness. The Journal of Psychology is renowned for its extensive articles on workplace safety and happiness, making it a leading authority in these disciplines (Merigó et al., 2019). Education & Educational Research has published the greatest proportion of papers in the last two years, accounting for 29% of the total. It is closely followed by business and economic, which represents 32%. These topics may be undergoing rapid development or advance (Ruiz-Rosero et al. 2019).

Table 2 shows a compilation of extensively referenced articles, each having garnered more than 400 citations, which have substantially contributed to the progression of knowledge and methodologies across many disciplines. The substantial citation counts provide evidence of the significant effect and influence these articles have had on their respective disciplines (Lee et al., 2021; Sofian et al., 2023). The papers included a wide range of subjects about mental and physical well-being after exposure to stress. The paper with the highest number of citations on the list is authored by Helgeson et al. (2006): “A meta-analytic review of benefit finding and growth”, which has received 1309 citations. This publication has contributed substantially to comprehending the correlation between discovering advantages or experiencing progress and psychological and physical well-being after a stressful incident.

The institutions are ranked based on their publications pertaining to establishing a safe and inclusive environment for all persons, focusing on prioritising diversity and the welfare of underrepresented communities. The Department of Psychology in the United States and the UCL in the United Kingdom are renowned for studying workplace safety and
happiness (Misra & Srivastava, 2022). The articles have contributed substantially to advancing knowledge and practices in several areas of psychology (Dunsmuir & Kratochwill, 2013).

The findings emphasise the primary areas of study and primarily concentrate on the correlation between workplace safety and happiness. The significance of keywords such as “well-being”, “mental health”, and “quality of life” highlights the crucial role of promoting happiness in workplace safety. The prominence of the term “mental health” as a significant keyword with a high PDLY highlights the influence of psychology on the connection between happiness and workplace safety research. This emphasises the necessity for studies to investigate the difficulties and approaches to promoting happiness in the workplace safety environment. The state of one’s mental health greatly influences the promotion of happiness in ensuring workplace safety. Scientific research indicates that developing mental habits such as happiness, resilience, compassion, and emotional balance might enhance overall well-being (Davidson, 2022).

This analysis emphasises the need for more research in the field of workplace safety on aspects related to happiness, such as “depression,” “anxiety,” and “stress.” Additional investigations are required to examine the correlation between occupational safety and mental health consequences, such as depression, anxiety, and stress (Yassin et al., 2022; Zhu et al., 2022). Studies have investigated the influence of many factors on mental well-being at work, such as worries related to COVID-19, negative experiences, inadequate sleep quality, job-related stress, and the culture of support and safety in the workplace (Özer et al., 2022; Ravina-Ripoll et al., 2021; Ubhale & Raje, 2022). These characteristics have been identified as being linked to a greater likelihood of experiencing depression, anxiety, and elevated levels of stress. Furthermore, the significance of psychological safety in fostering employee creativity and well-being in the workplace has been underscored. In summary, it is essential to research the correlation between workplace safety, mental health, and happiness to formulate effective treatments and suggestions that might enhance the overall welfare of workers across all sectors.

The network visualisation map of author keywords offers more insights into the predominant and crucial phrases associated with workplace safety and happiness. The map illustrates the interconnectedness of various keywords and their respective significance within the field. For example, the term “well-being” is strongly correlated with other terms, suggesting its importance in discussions on pleasure. The map assists researchers in determining the most relevant and essential terms for their studies and directing further investigations. The study’s results have important significance for enhancing the understanding and methods of promoting happiness in workplace safety. This study emphasises the need for continuous research to address new concerns, such as mental health, and proposes topics for future research to fill gaps in the existing understanding.

5. Final Considerations

A bibliometric study revealed that workplace safety research has consistently and increasingly focused on happiness. The publication growth patterns suggest a recent upswing in research interest in this topic. This study identified vital scientific journals, research domains, widely referenced publications, and institutions that have substantially contributed to advancing knowledge and practices in workplace safety. Nevertheless, the mere publishing rates cannot reliably represent the calibre or influence of research within a particular domain. Hence, it is essential to further assess and scrutinise the substance and influence of research papers in every discipline.

The continuous bibliometric study of workplace safety and its influence on happiness has significantly enhanced this field’s current understanding and methodologies. This study used bibliometric approaches to identify the main themes, authors, and publications related to happiness. Furthermore, it evaluated the impact and influence of research in this area. The findings of this study indicate a growing interest among scholars in examining the correlation between safety conditions in the workplace and individuals’ well-being. This field is projected to grow in the future.

This study has further identified significant scientific publications and research domains in the field of happiness. Acquiring this information is essential for academics and practitioners to remain current with the most recent research trends and pinpoint areas needing more investigation. In addition, the study compiled a list of extensively referenced publications that have substantially contributed to advancing knowledge and practices on workplace safety and happiness in numerous sectors.

Moreover, the study’s assessment of the research output of psychology institutes is crucial for recognising institutions that have made noteworthy contributions to the subject. This information is valuable for policymakers, funders, and academics in identifying the most effective allocation of resources and financing for the most significant possible impact.

The present bibliometric study on workplace safety and happiness has yielded valuable information on research trends, influential scientific journals, research areas of significance, highly cited publications, and the research output of institutions. These results may provide valuable guidance for future research endeavors, policy-making processes, and practical initiatives aimed at enhancing happiness and safeguarding the health and well-being of workers.

An inherent constraint of the study is its reliance on a limited number of databases, namely, Scopus and WoS, which may not include all of the psychological articles. Future research could investigate the convergence of workplace safety, mental well-being, and happiness and assess the efficacy of treatments to enhance the psychological dimension of workplace
safety. The scope of the analysis may be broadened to include more databases and other bibliometric tools, such as SciMAT, BibExcel, and CiteSpace, to better understand the research landscape.

Ethical considerations

Not applicable.

Conflict of interest

The authors declare no conflicts of interest.

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References


