

A Bibliometric Analysis of the Employee Well-Being from a Sustainable Perspective

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Abstract. *This paper aims to explore the trends and hotspots in the field of employee well-being through a bibliometric analysis of academic publications from 2016 to 2023, with a focus set on sustainable development goals (SDG): SDG 3-5 and SDG 8. The study locates the most important papers, authors, and journals in this field and charts the development of research using Dimensions for data extraction and VOSViewer for visualization. To better investigate the semantic and relational structure of academic studies, the paper uses citation, co-citation, and keyword co-occurrence approaches. The main aspects of the research paper can be found through its most relevant keywords, such as job satisfaction, workplace flexibility and employee well-being, which represent the main impact upon the psychological side of the literature studied. The study's findings also show how research outputs are distributed from an institutional point of view and which authors are the main contributors to the topic. Researchers aiming to analyze employee well-being topic will be the ones that will benefit the most from this study's summary of the body of knowledge.*

Keywords: employee well-being, job, work-life balance, sustainable development, bibliometrics.

Introduction

The job market is continuously changing due to a variety of factors such as the evolution of technology, inflation, work-life balance and contextual problems, such as pandemics or conflicts. The pandemic introduced remote work and the way companies perceive and support their employees. In recent years, one of the most significant topics of discussion has been the one of employee well-being, a critical factor that organizations now prioritize to attract and retain talent while promoting sustainable practices.

Bibliometrics is the quantitative analysis of the scientific process as a communication system. In recent years, it has become an important tool for measuring and evaluating research performance and it is considered the primary focus of any literature research (Mingers et al., 2015). By examining cited publications, it can reveal significant insights into the current situation and the development of the employee well-being topic. The frequency of citations enhances the significance of a paper. Scientists are currently employing citation analysis with the purpose of finding the most significant papers, authors, or institutions within a discipline (Rao, 2018, Momete, 2024). To that purpose, this study examines the word map, as well as citation and co-citation data in the field of well-being. By doing so, the study improves awareness of the complexities of the field of employee well-being, identifies current research objectives, and prepares the way for future research pathways.

The remainder of the paper is divided into four sections: literature review, methodology, which contains the steps required to collect and analyze bibliometric data; results and discussion, which describes the mapping and time evolution of the field of study; and conclusion, which reveals the findings, limitations, and future directions of research.

Literature review

Human resources are the most valuable resources of an organization, being able to improve professionally by long-life learning and experience, but also by personal development. Their acquired skills and knowledge are an authentic capital for companies employing them, therefore the employee well-being is essential for increased productivity, commitment to the company's objectives and innovation. (Chomać-Pierzecka et al. 2024). The notion of employee well-being is complex and can be perceived from different standpoints, ranging from a macro perspective, as poverty and life expectancy, to individual perspective, related to physical, psychological and social aspects (Juchnowicz et al., 2021). The latter one was considered by this paper and employee well-being was considered to encompass physical, mental and emotional health as well as the balance between work life and the personal one, while also providing a sense of purpose doing the job. Research suggests that organizations that prioritize employee well-being experience higher productivity, lower turnover rates, and stronger organizational performance (Grawitch et al., 2006). Moreover, fostering well-being in the workplace contributes to building resilience and sustainability, both for the individual employees and the organization as a whole (Page, 2020). To achieve a good level of well-being, the focus should be placed upon the well-being initiatives and the level of job satisfaction.

A study from M.J. Grawitch highlights that the employees who perceive their organizations as supportive and are concerned about their well-being report higher engagement and are less likely to experience burnout or stress (Grawitch et. al., 2006). Considered detrimental to organizational success, employee engagement and job happiness are directly related to leadership and remuneration systems, therefore underlining the need for fairer workplace policies and better rewarding systems for the internal employees. With the purpose of tackling issues like the *Great Resignation*, these solutions would be incredibly important to the companies.

The workplace atmosphere directly impacts on the performance of the employees has been already covered in a study realized at the University of the Witwatersrand (Zigomo et. al., 2024) that looks at how professional connections support relational authenticity, which is essential for social fit and performance. It emphasizes how real relationships with coworkers' support well-being could help to reduce issues like alienation, which might affect workplace performance negatively.

As a further example, the research conducted by E. Deci emphasizes the importance of ticking off a few boxes in the psychological department of needs of an employee such as autonomy, competence and relatedness in order to enhance the employee's job satisfaction (Deci, 2004). Furthermore, organizations are increasingly recognizing that sustainable employee well-being initiatives are not merely a trend, but a necessity. Initiatives such as flexible working arrangements, mental health programs and professional development opportunities can significantly impact employees' sense of belonging and long-term career satisfaction (Rath et. al., 2010). These practices, while enhancing individual outcomes, also help companies to address broader sustainability goals by creating healthier, more productive workplaces and contributing to the sustainable development goals (SDG) of the United Nations: SDG 3 – “good health and well-

being” and SDG 8 – “decent work and economic growth” (De Neve et. al., 2012, United Nations, 2015).

This study was motivated by the need to understand the challenges and hotspots in the employee well-being area, to assess the areas where the average person is impacted by the job switching trend and all the factors that are implied in the current job market. To achieve this, the paper makes use of a bibliometric analysis to further understand the basic characteristics and trends of literature in the field. The paper aims to map the research from 2016 to 2023 on the field of job well-being thus answering the following research questions (RQ):

RQ1: How has the employee well-being field of research progressed in the past years?

RQ2: Which are the most relevant terms in the employee well-being area within the studied period?

RQ3: Which are the most relevant literature streams in employee well-being area, based on citation and co-citation analyses?

Methodology

To be able to solve the three research questions, a complex query has been performed on the Dimensions database (Digital Science, 2018) in November 2024 to retrieve a list of the most relevant academic publications in the field of employee well-being area. The use of the Dimensions database is warranted due to its extensive coverage of contemporary literature and its accessibility to all researchers. Moreover, Dimensions database offers a complete and harmonized database of cited references, a friendly interface and an already integrated platform with VOSviewer, unlike Web of Science or Scopus. This makes it easier for the interested researcher to preview the actual results of each query and makes it easier to refine the initial query.

To encompass the most publications in the domain of employee well-being, an initial screening of various keywords and combinations was conducted. The next step was to define the employee well-being, and we considered that this is best rendered by scientific production in the topics covering employee motivation, job satisfaction, work-life balance, psychological well-being, burnout prevention and employee engagement. The next step implied the final selection of the logical scheme and removed all other possible altering papers, resulting in the final logical sequence of terms:

((“employee motivation” OR “job satisfaction” OR “work-life balance”) AND (“psychological well-being” OR “burnout prevention” OR “employee engagement”) AND NOT (“student satisfaction” OR “customer satisfaction” OR “adolescent studies”)).

The investigation was performed on comprehensive data restricted to English publications (title, abstract, keywords, text), over the time interval 2016-2023. By excluding keywords such as customer satisfaction, student satisfaction and adolescent studies the query ensures concentrated focus on commercial contexts, hence rendering the conclusions directly applicable to employee-related ones. Thus, the obtained academic papers are designed to deliver precise, high-quality insights that are applicable for organizations aiming to enhance well-being, engagement, and sustained success in the workplace.

The Dimensions database yielded 13,574 initial items, from which 9,839 publications were selected, restricted only to the most relevant contributions: articles, chapters, books and conference papers. Also, to further limit the results and obtain the best ones, four main research categories were selected that would fit into the SDGs: SDG 3 - “Good health and well-being”, SDG 4 - “Quality education”, SDG 5 - “Gender equality” and SDG 8 - “Decent work and economic growth”.

In order to help answer the three research questions and better analyze the data extracted from the Dimensions database, we have conducted a bibliometric study by using the VOSviewer software (van Eck et. al., 2023) which perfectly fits our needs, and it was utilized for visualizing keywords, citation and co-citation analyses. VOSviewer is a software tool for constructing and visualizing bibliometric networks. These networks may include journals, researchers, or individual publications, and they can be constructed based on citation, bibliographic coupling, co-citation, or co-authorship relations (van Eck et. al., 2023). Since VOSviewer is able to analyze all types of scientific writing, we have used the Dimensions database in order to pick out the most relevant findings from the four types of papers chosen to study (articles, chapters, books and conference papers).

Results and discussions

General analysis

This research, as defined by the query, is essential for enhancing scholarly understanding of employee well-being, as it systematically focuses on factors critical to organizational performance and individual psychological health. With the purpose of ensuring a comprehensive strategy, the studies need to integrate the most important areas such as employee motivation, job satisfaction, and work-life balance.

From the Dimensions database there are 9,839 academic publications have been extracted that encompass only articles, chapters, books and conference papers and the evolution of the number of publications per year is presented in figure 1. The main observation is that there has been a constant increase from the year 2016 up to 2023, starting up from 484 publications up to 2,272 publications in the 2023. The biggest increase in the number of publications is in the 2020-2022 period, the number being almost double in 2022. Therefore, we can take into account that the pandemic had a positive effect when it comes to the academic research of the employee well-being area and since there has been a big increase in concerns associated with it compelling the academic scholars to further study the phenomenon and take into account its positive and negative sides.

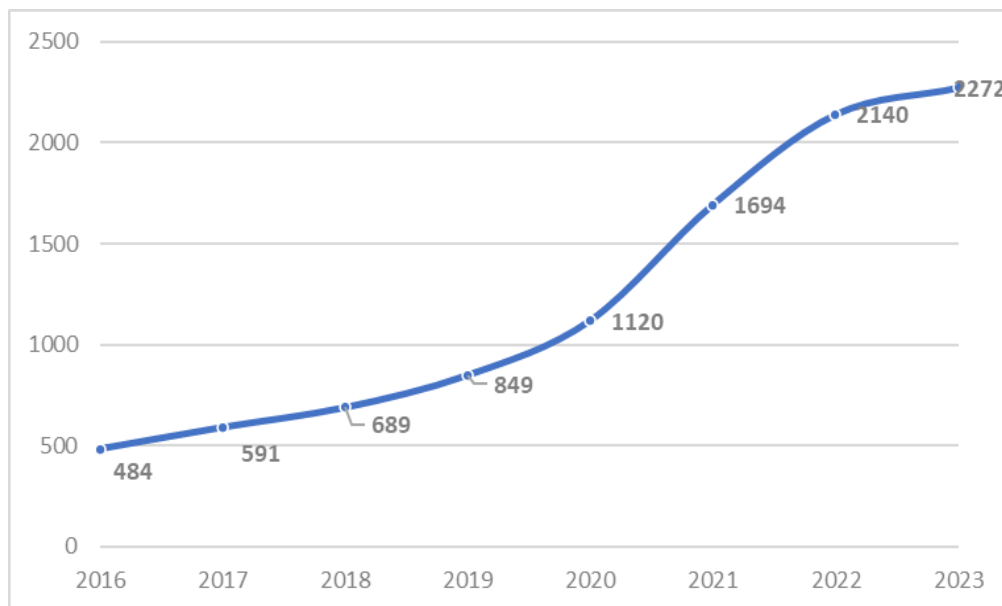


Figure 1. The evolution of number of publications within the period 2016-2023 in the field of employee well-being.

Source: processed from the query performed on Dimensions database.

Semantic map

Based on scholarly literature, the co-occurrence map analysis was performed with VOSviewer to investigate key terms within the framework of occupational dynamics and employee well-being. Using term co-occurrence to build a network, where node size reflects the frequency of a term in publications and the distance between nodes indicates the strength of linkages between keywords, the analysis made use of text data from titles and abstracts. Stronger connections are shown by nodes closer together and similar terms are arranged into clusters separated by different colors (van Eck et. al., 2023).

Using a minimum term occurrence of 20 and a relevance score requirement of 70% by taking advantage of a normalizing technique: association strength, the study found 93 terms organized into five clusters, linked by 4,502 connections using a full counting method. Workplace dynamics and employee well-being, leadership and organizational behavior, mental health and psychological well-being, policy and economic perspectives are among the several theme areas these clusters reflect, as the first one, marked by color red in figure 2, is focused solely on the workplace dynamics and employee well-being themes. The focus group in the cluster marked by color blue is related to human resources management and economic perspectives as for the one marked by color green, the approached themes are education and the learning systems (see figure 2 and table 1).

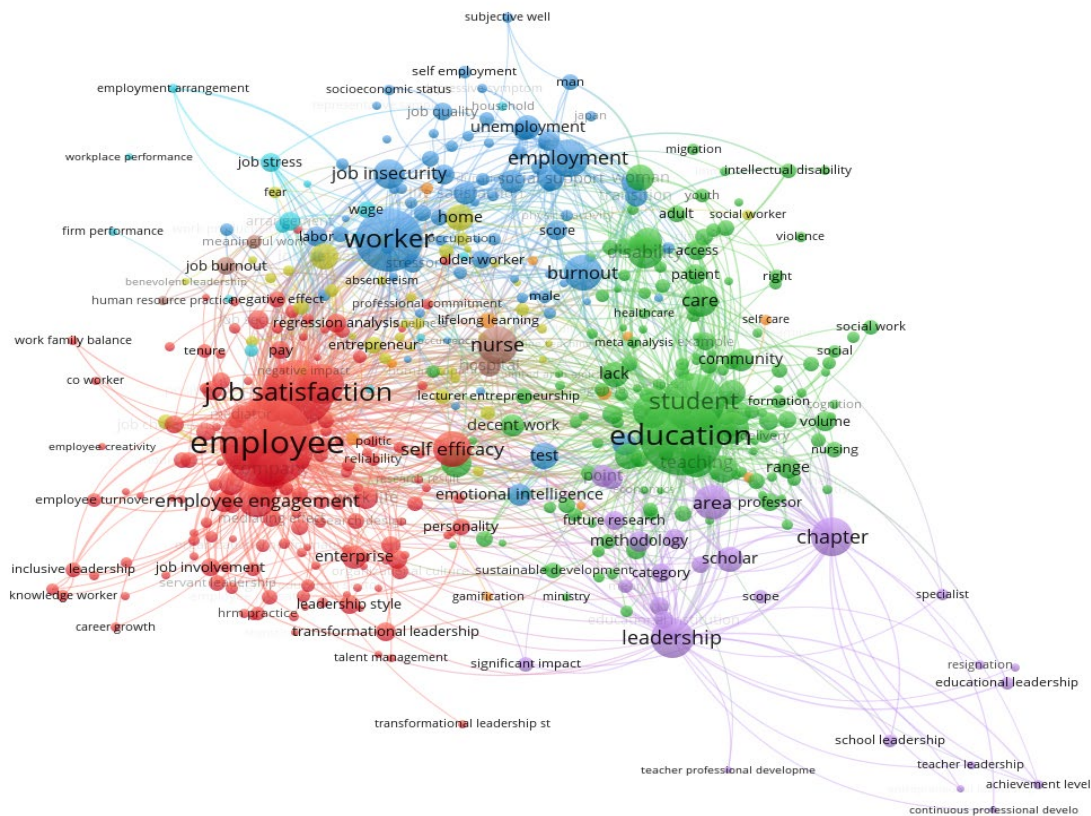


Figure 2. Keywords co-occurrence map in the field of employee well-being.

Source: data retrieved from VOSviewer.

Table 1. Most cited keywords in the field of employee well-being.

Keyword	Occurrences	Total Link Strength	Cluster	Average Citations	Normalized Citations
Employee	2033	29166	1	169.843	10.868
Education	1601	20632	2	12.827	0.9524
Job satisfaction	1167	16869	1	15.084	10.538
Worker	1044	13263	3	131.954	0.8427
Student	890	11936	2	150.831	1.188

Source: authors' own research on VOSviewer results.

Emerging as central nodes in the network are the most often occurring terms: workplace flexibility, stress management, employee engagement, job satisfaction, and work-life balance. Their importance demonstrates how closely these ideas interact to promote employee well-being, organizational effectiveness, and leadership quality. Often linked with remote work and hybrid models, workplace flexibility stresses its relevance as a post-pandemic organizational tool since it exhibits strong relationships to job satisfaction and work-life balance. Likewise, stress management emphasizes the growing need to tackle mental health issues in dynamic workplaces, a topic that is directly linked to burnout prevention and emotional control.

Citation and co-citation analysis

Research patterns in employee well-being were investigated using co-citation and citation map analysis. Bibliometric data from titles and abstracts were analyzed, where node size indicated citation frequency and closeness reflected the strength of relationships between authors (van Eck et. al., 2023). Among the clusters are ones on management techniques, employee engagement, meaningful work, stress management, and economic policy (see figure 3 and table 2).

Notable authors surfaced all over the clusters and areas of study, such as Duffy Ryan D. who has proven to have a major influence on job happiness with a remarkable number of 1,082 citations. With 122 citations, Mäkikangas Anne makes major contributions to organizational behavior while De Witte Hans and Wang Hai-Jiang have 41 and 82 citations respectively in the field of mental health and stress management. With 270 citations and obvious impact on labor satisfaction models, Aboramadan Mohammed adds to economic viewpoints in the domain of economic and policy perspectives.

Strong intra-cluster cohesiveness found by the study reflected concentrated research on leadership, engagement, and well-being. Inter-cluster ties underline multidisciplinary relationships, such the junction of professional happiness and stress management or the part played by leadership in increasing participation. Reflecting changes in organizational strategy following the pandemic, emerging initiatives include hybrid work arrangements and mental health interventions.

The results underline generally the essential role of prominent researchers in improving holistic approaches to workplace well-being and the need of integrated solutions to solve employee well-being, adaptability, and productivity in modern work contexts.

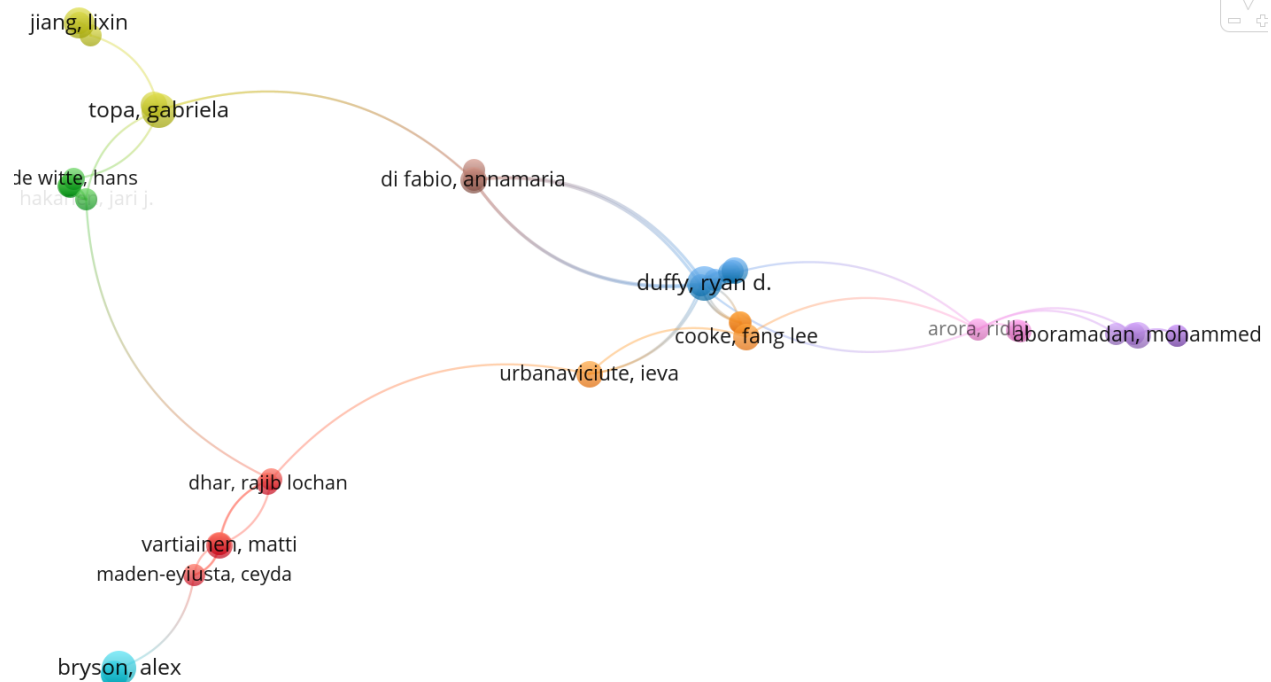


Figure 3. Most influential authors map – 5 main clusters.

Source: data retrieved from VOSviewer.

Table 2. The most influential authors in the field of employee well-being by the number of citations.

Author	Cluster	Citations	Domains
Duffy Ryan	3	1,082	Meaningful Work and Career Development
Autin Kelsey	3	707	Meaningful Work and Career Development
Allan Blake	3	324	Meaningful Work and Career Development
Aboramadan Mohammed	5	270	Economic and Policy Perspectives
Anne Makkikangas	1	122	Leadership and Organizational Behavior
Albrecht Simon	2	117	Employee Engagement and Well-being
Gabriela Topa	4	102	Burnout and Stress Management
Hai-Jiang Wang	4	82	Burnout and Stress Management
Jari Hakanen	2	44	Employee Engagement and Well-being
Hans De Witte	2	41	Employee Engagement and Well-being
Matti Vartiainen	1	18	Leadership and Organizational Behavior
Kirsi Polvinen	1	10	Leadership and Organizational Behavior

Source: authors' own research on VOSviewer results.

The most influential universities

Key insights into the most prominent institutions supporting research on occupational and organizational studies can be found through several clusters in the network, each reflecting groups of institutions with similar themes or research cooperation practices (see figure 4 and table 3). The most notable clusters are cluster 1 and 8, which comprise universities like Johns Hopkins University and University of Singapore that have good citation performance thereby showing significant research contributions. Johns Hopkins University's research focus has been mainly on

burnout and stress management, a topic that has been growing a lot in interest in the past years, as it has affected more people. University of Singapore focus has been on the employee well-being in the Asia-Pacific region. The high-performance universities area includes also Macquarie University, distinguished by a high average number of citations. At the apex of the pandemic period, Johns Hopkins University leads with 17 papers and 637 references, most of the publications coming up around the year 2020.

The second cluster seems to be the most consistent one, with a general focus on leadership, the two universities have almost similar numbers and point towards a good collaboration on the topic between the universities from the United States. Networks of cooperation highlight even more the power of inter-institutional relationships. With 16–20 ties and a total link strength over 50, notable partnerships between Johns Hopkins University and The Ohio State University highlight their central importance in driving influence across scientific domains, demonstrating once again the scientific impact that the universities from the United States have had in the studied period over the general employee well-being topic of research.

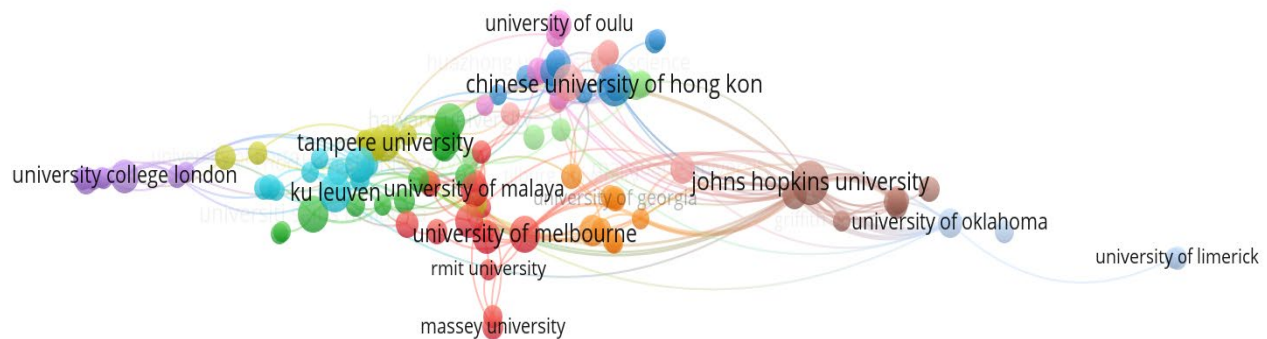


Figure 4. Most influential institutions map.

Source: data retrieved from VOSviewer.

Table 3. Most influential universities, listed by the number of citations.

Institution	Cluster	Focus	Documents	Citations
Johns Hopkins University	8	Burnout and Stress Management	17	637
Macquarie University	10	Policy and Organizational Research	9	471
Tampere University	4	Psychological Research on Workplace Dynamics	13	429
University College London	5	Policy and Economic Perspectives	11	340
University of Minnesota	2	Collaborative Leadership	7	240
Harvard University	2	Leadership and Organizational Behavior	12	234
Tsinghua University	3	Technological Innovation in Workplaces	5	209
University of Melbourne	1	Employee Engagement and Career Development	13	206
University of Singapore	1	Employee Well-being in Asia-Pacific	11	195
National University of Malaysia	6	Cultural Perspectives on Work Motivation	7	43

Source: authors' own research on VOSviewer results.

Co-citation analysis of the most relevant authors

The co-citation analysis emphasizes the primary trends in the collaboration and influence of authors within the relevant research fields (see figure 5 and table 4). Upon analyzing the data through VOSViewer, the list of high-impact writers includes names like Edward L. Deci and Barbara L. Fredrickson, the first one being renowned for his work on self-determination theory and has shown it with a good result of 529 references and a total link strength of 21,602, while Barbara Fredrickson has been acclaimed for her contributions to positive psychology. Though, the authors that have had the highest index of collaboration have been Wilmar B. Schaufeli and Arnold B. Bakker, which lead the charts with Bakker having a link strength of more than 86,000 and Schaufeli coming up next with more than 56,000. This indicates that they have been the most prominent, important and collaborative researchers of the 2016-2023 period, while also being the most cited ones.

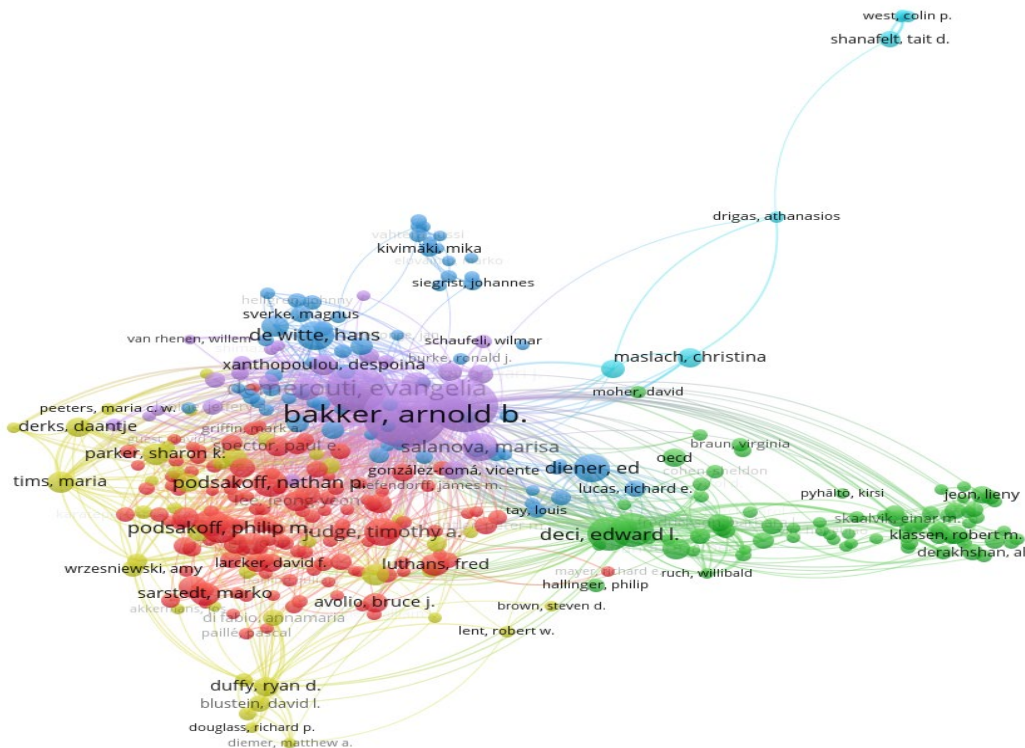


Figure 5. Co-citations map between the most relevant authors

Source: data retrieved from VOSviewer.

Trends of collaboration expose central hubs of impact and authors like Edward Deci, Russell Cropanzano, and Barbara Fredrickson act as linkages between disciplines, therefore enabling cross-disciplinary influence and serving vital functions. High link values for authors like Robert Eisenberger suggest significant, cohesive research themes indicated by cluster-specific collaborations. Authors positioned near cluster boundaries also show the flow of ideas between disciplines, hence supporting cross-cluster dynamics.

The study emphasizes cluster 1's coverage of organizational studies and leadership and cluster 2's thematic dominance on psychology and behavior. These clusters show in terms of citations and general influence the interdependence of authors and research topics. Larger, denser clusters point to well-established study areas; smaller, more scattered nodes point to new subjects

or solitary studies. This co-citation map emphasizes the continuous integration of several study domains and the increasing relevance of writers who link several domains.

Table 4. Co-citation table relevant to well-being field, listed by the number of citations.

Researcher	Cluster	Number of Links	Link Strength	Citations
Arnold Bakker	5	354	86847	1914
Wilmar Schaufeli	5	354	56715	1285
Edward Deci	2	353	21602	529
Russell Cropanzano	1	340	6804	183
Robert Eisenberger	1	311	5543	175
Barbara Fredrickson	2	319	8292	142
Allan Blake	4	275	5505	93
Dawn Carlson	3	260	2266	67

Source: authors' own research on VOSviewer results.

The main contributions of the paper are twofold, mapping the literature, and highlighting the most relevant studies which can be used as guiding lines or future research projects for researchers, but also business. In such a way, the current research contributes by identifying:

- the general analysis of the progression of publications in the domain of employee well-being.
- the main terms and their relationship between the most relevant papers written in the field of employee well-being.
- the most important researchers and institutions through the citation and co-citation analysis.
- the scientific literature in the field of employee well-being, relevant for future research plans or policies, with effects on both theoretical and practical aspects for researchers and businesses.

Thus, the research questions have been answered, the first one being tackled through the analysis of the scientific papers that have been written and their evolution in the 2016-2023 period. In this period, we have identified that the pandemic period has been the most important one from a scientific point of view. The second question was answered through the most relevant keywords and terms used to study the researched field. Finally, the third one revealed the most influential authors and institutions that have contributed to the field of employee well-being in the studied period, such as Arnold B. Bakker and Wilmar B. Schaufeli coming up as the most important ones, while the Johns Hopkins University turned up as the most relevant institution.

Conclusions

Employee well-being is a complex and interdisciplinary field of research, very important for both employees and their employers. The psychological, social and spiritual life of an employee should harmoniously relate to her/his professional life. At the same time, the employers should seek ways to enhance performance in the workplace but without a clear understanding of what is needed success of any benefit may be limited. Implementing well-being through the company is not an easy endeavor, as funding and stigma for those seeking help are of particular concern.

The current research contributes to increasing the knowledge in the field of employee well-being by answering the three research questions. The study systematizes scientific literature in the field of employee well-being, with effect on both theoretical and practical aspects for businesses and researchers. By highlighting the most relevant studies that would form the basis for suggesting new study paths, the findings of this work could help academics to better grasp the investigated topic and to better manage their work. Furthermore, the results of this research can help businesses understand that by neglecting employee well-being, which is having a bigger impact on other aspects not just on the financial one, they might suffer more from an economic point of view as productivity decreases.

Ensuring an employee's well-being is the key to combating emerging trends such as job-hopping. Thus, by retaining their talent, the companies would go in a better financial direction by saving up on the recruitment investments that they would need to do in order to replace their lost employees. Retaining a high-performing employee also strengthens the position of the company on the job market when it comes to attracting emerging talents, therefore, being ahead of the competition. The private and state companies need complete restructuring in the ways of perceiving their employees as more than just resources and valuing them correctly, as these can be achieved through an emphasis on the employee's well-being and focusing on the financial side when it comes to rewarding them fairly. By understanding their employees' needs, the companies would contribute to a sustainable society by their active impact on the pillars of the United Nations SDGs, with a focus on SDG 3-5 and SDG 8.

When it comes to the limitations of this paper, the most important one would be the inability to examine all the papers, as not all of them were open access, even though we have taken advantage of the Dimensions database that offers open-source papers, it came with its own limitations. Another limitation may be linked with the selection of keywords, which is based on personal views and several trials. To limit the research to the most relevant studies for employee well-being, we have also excluded some keywords to make sure our research yields only the most relevant results. However, the selection of the keywords might be perfectible, but we consider that they answered the research questions in an adequate manner.

This paper is the first step of a larger research project aimed at improving organizational efficiency by identifying the factors which affect the employees' performance. The first factor considered was the employee well-being, defined by employee motivation, job satisfaction, work-life balance, psychological well-being, burnout prevention and employee engagement. These topics will be further explored by a comprehensive literature review of the papers identified here.

The next step in research is analyzing the employee well-being score through different work areas, such as IT, automotive, law and so on. This one will make us understand which fields of work are the most stressful ones and which ones are putting more work into ensuring a healthy working environment.

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