A Review of Work-Life Balance Trends in Remote Work

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Abstract

This bibliometric analysis explores the development of work-life balance (WLB) research within remote work, covering publications from 2014 to 2023. The study uses the Scopus database to examine key trends, including annual publication growth, language distribution, country contributions, subject areas, leading authors, and highly cited papers. Results show a sharp increase in research output following the COVID-19 pandemic, driven by the global shift to remote work, significantly impacting WLB. English is the predominant publication language, with the United States, India, and the United Kingdom contributing the highest number of studies. The research spans diverse disciplines such as social sciences, business, medicine, psychology, and environmental sciences, reflecting the interdisciplinary nature of WLB studies. Key themes include employee productivity, mental health, job satisfaction, and organizational strategies for sustaining WLB in remote work settings. The study highlights influential papers and authors, as well as emerging themes and gaps in this study. Limitations include the exclusive reliance on the Scopus database, which may exclude relevant studies from other sources. Overall, this analysis offers valuable insights into the progression of WLB research in remote work environments, providing practical implications for policymakers and organizations aiming to improve employee well-being and work-life integration in the modern, flexible workplace.

Keywords: Bibliometric Analysis, COVID-19 Pandemic, Employee Well-being, Remote Work, VOSviewer, Work-Life Balance.

Introduction

In today's age of remote working, maintaining a proper work-life balance (WLB) is becoming increasingly essential. The forced transition to remote work amid the COVID-19 pandemic has blurred the lines between professional and personal life, creating new challenges for workers' well-being (1). WLB is the capacity of an individual to effectively manage work and personal obligations, reducing conflicts and achieving a harmonious balance (2, 3). A healthy WLB is vital for individual well-being and organizational performance, enhancing job satisfaction, mitigating burnout, and increasing productivity, benefiting both employees and employers (3). Remote working arrangements (teleworking, telecommuting, working from home, and virtual work) offer flexibility in terms of location and working hours, reducing the necessity of commuting and traditional office environments (4–6). However, while remote working brings advantages, such as greater flexibility, it raises other issues. Research suggests that the transition to remote working during the global outbreak has increased job-related exhaustion, diminished work-life boundaries, and heightened stress levels for many employees (7). Consequently, maintaining WLB in remote work environments is essential to sustaining employee engagement, reducing burnout, and fostering a positive work atmosphere (8). When employees have sufficient time for personal life and relaxation, they return to work rejuvenated, enhancing productivity and creativity (9, 10). A well-maintained WLB is crucial for individual satisfaction and impacts organizational sustainability and long-term success (11). From an organizational standpoint, fostering a balanced work-life dynamic enhances employee retention and talent acquisition, particularly in competitive markets (8). Additionally, WLB policies influence broader societal concerns such as gender equality and public health. The shift to remote work due to the pandemic has disproportionately impacted working parents, especially women, who bear

a more significant burden of domestic responsibilities, exacerbating gender disparities in the workforce (2). Improving WLB policies can also alleviate mental health concerns by addressing the indistinct boundaries between professional and personal life that have arisen during the remote working period (1). Despite the importance of WLB, much of the existing research relies heavily on qualitative methods, which, while valuable for capturing individual experiences, are often limited in scope. Qualitative studies may suffer from tiny sample sizes and subjective bias, limiting the ability to draw broader conclusions (3, 12). In contrast, bibliometric analysis offers a more objective, quantitative approach to studying WLB trends by analyzing large-scale publication and citation data. This method comprehensively examines patterns, influential works, and emerging themes in WLB research across different work environments (13). By synthesizing extensive data, bibliometric analysis can identify critical developments and future directions in WLB research, offering a more holistic understanding of the field's evolution (14, 15). This comprehensive approach will benefit scholars in the field and equip decision-makers with the necessary knowledge to tackle the complex challenges of WLB in the modern work environment (16). This study will perform a thorough bibliometric analysis of research trends on WLB in remote work from 2014 to 2023, utilizing secondary data from the Scopus repository. The analysis identifies publication patterns, language distribution, country contributions, and interdisciplinary aspects of WLB research. It also explores interdisciplinary aspects of WLB and remote work research, highlights top authors and most cited papers, and assesses citation metrics. Additionally, the study uncovers recurring significant terms and tracks keyword changes over time. This approach provides a comprehensive understanding of how WLB and remote work research have developed and offers insights for future research and policymaking.

Methodology

Bibliometrics is the discipline that examines publication patterns through statistical analysis. It involves various methods and techniques (17) and is utilized for analyzing articles quantitatively in a particular field (18). WLB is still a hot topic since it relates to the ability to achieve equilibrium between career and private life, especially in the remote work age; it is crucial to examine the existing body of literature in this domain of study (3). Bibliometrics, derived from quantitative literature analysis, has become widely used in academic studies to enable academics to effectively explore the latest advancements and trends in a particular topic (19). By employing a bibliometric approach, this study presents a data-driven, quantitative analysis of research on WLB and remote work, offering a broader and more objective view than previous studies, which have primarily used qualitative methods. This approach synthesizes a large body of research, identifying pivotal studies, emerging themes, and gaps in the literature (19). As a result, it provides a more thorough understanding of the evolution of WLB research while also identifying areas where future research efforts should be concentrated. The dataset utilized in this study was extracted from Scopus on July 31st, 2024. Scopus is a prominent multidisciplinary citation database selectively indexing peer-reviewed literature from journals, books, and conferences; it offers a continually expanding and updated resource for researchers across disciplines (20). Searches for documents' data were centered on the document's type, subject area, country/territory, known authors, language, and keyword. However, the analysis and literature search included only topics with titles, abstracts, and keywords relevant to WLB and remote work from 2014-2023. Scopus was selected for its extensive coverage and rigorous indexing standards, which ensure the inclusion of high-quality, peer-reviewed sources. This approach guarantees that the research trends identified are representative of the most relevant and significant contributions to the field. To mitigate potential biases in the data selection process, particularly given the multidisciplinary nature of WLB research, we adopted a rigorous and structured approach to ensure comprehensive coverage of essential literature across various fields. Our search strategy employed broad keywords ("work-life balance," "remote work," and "work from home") to capture publications from diverse disciplines such as management, psychology, sociology, and other relevant domains. These keywords were applied to the Scopus database, renowned for its multidisciplinary scope and rigorous indexing standards, minimizing the

risk of omitting critical studies from relevant fields. In the initial search, 539 documents were identified based on titles, abstracts, and keywords. To refine the selection, we applied filters to include only peer-reviewed articles and reviews from high-quality journals. We eliminated irrelevant document types, outdated publications, and other unsuitable sources and reduced the dataset to 294. The focus on peer-reviewed journal articles was intentional, as WLB research is predominantly published in these formats and to ensure a high level of academic integrity. Figure 1 illustrates how the metadata was collected to create data visualizations. We employed several tools to conduct a comprehensive bibliometric analysis that facilitated data extraction, visualization, and citation analysis. The bibliometric networks were generated and visualized using VOSviewer version 1.6.20, a software developed by Nees Jan van Eck

and Ludo Waltman at Leiden University (21). This tool, which draws its primary data from the Scopus database, enabled us to map interdisciplinary connections and track key trends in WLB research. The documents selected for analysis were exported in comma-separated values (.csv) format, allowing for detailed data mapping. Additionally, we utilized Microsoft Excel to organize and process the data. At the same time, Publish or Perish (PoP) software was employed for citation metric analysis to evaluate the influence of publications within the field (22, 23). The data, exported in research information systems (.ris) format, were analyzed descriptively, presenting results in frequency, averages, and percentages up to July 31st, 2024. This integrated approach ensured a rigorous quantitative analysis, providing a balanced representation of WLB research across multiple disciplines.
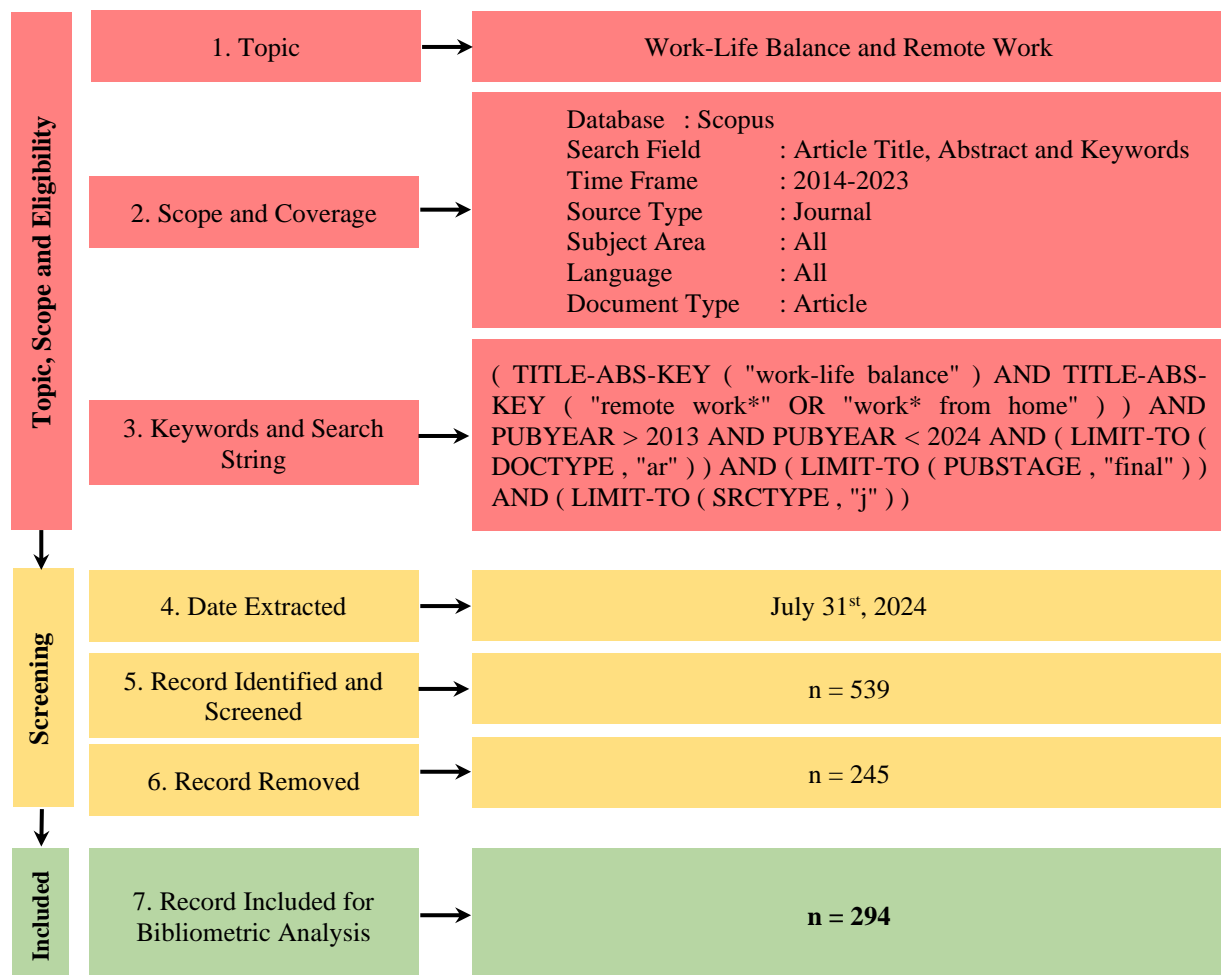

Figure 1: PRISMA Flow Diagram of the Search Process

Results

Publication Trends by Year

Figure 2 illustrates a significant upward trajectory in WLB publications over the past decade. Initial publication output was minimal, with just one article annually in 2014 and 2015. However, there is a marked increase in publications, peaking at 100 articles in 2023. This trend corresponds to the beginning and ongoing duration of the COVID-19 pandemic (2020-2023), which required a transition to remote work and increased interest in WLB concerns. The data indicates that during global crises and rapid change, the academic community emphasizes studying WLB, highlighting its crucial role in balancing professional responsibilities and personal well-being.
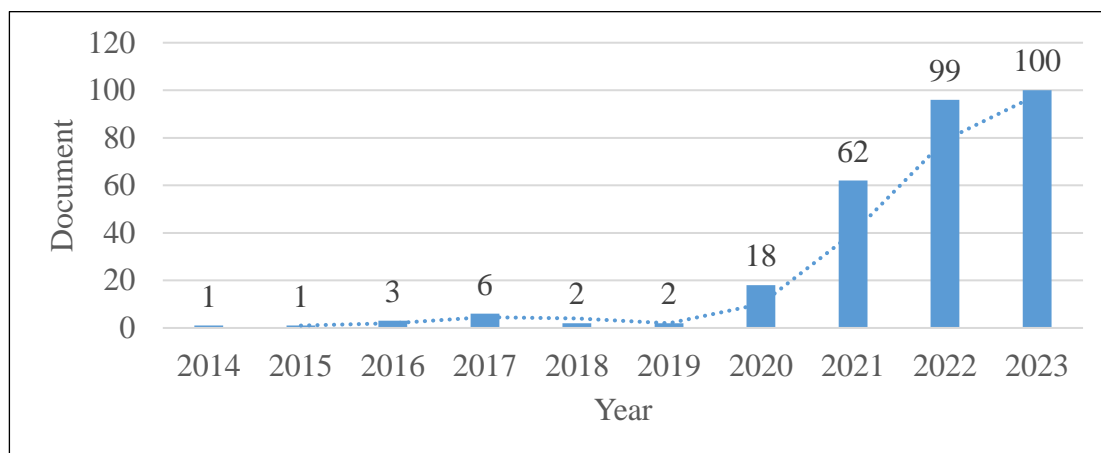

Figure 2: Annual Trends in WLB and Remote Work Publications

Table 1: Language Distribution of WLB and Remote Work Research

Language	Publication	Percentage
English	284	96,6%
German	2	0,7%
Japanese	2	0,7%
Russian	2	0,7%
Spanish	2	0,7%
Croatian	1	0,3%
Italian	1	0,3%
Total	**294**	**100,0%**

Publication Trends by Language

Table 1 classifies 294 publications on WLB and remote work from 2014 to 2023 based on language. The data shows that English is the most used language, accounting for 96.6% of the publications. German, Japanese, Russian, and Spanish each account for 0.7% of the total, while Croatian and Italian each provide 0.3%. The significant prevalence of English highlights its position as the principal language used for scholarly communication in this domain, enabling widespread distribution and cooperation on a global scale. The limited presence of other languages poses a possible obstacle to achieving a more comprehensive range of foreign viewpoints and diversity in research on WLB and remote employment. The discipline can gain broader perspectives and experiences by promoting study and publication in various languages.

Publication Trends by Country

Figure 3 illustrates an essential disparity in the amount of research on WLB conducted in various nations during the last ten years. The United States leads with 52 articles, followed by India [32], the United Kingdom [30], and Italy [27]. Other notable contributors include Australia [15], Germany [15], and the Netherlands [14]. Canada has ten publications, while Poland and South Africa have

the lowest rates, with nine each. The distribution of research priority and funding availability for WLB research varies considerably among different countries. Nations with lower publication rates could benefit from measures promoting research in this field. These activities may include joint research initiatives, knowledge-sharing venues, or specific funding options. By promoting international research collaborations, the discipline can better understand the challenges and opportunities related to WLB within a globalized work environment.
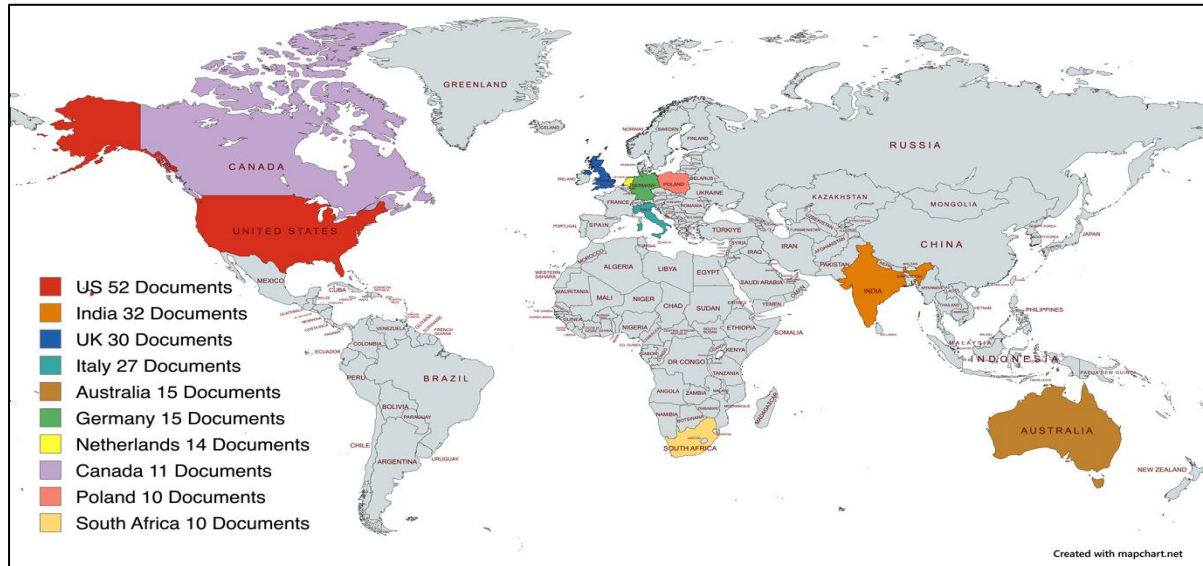

Figure 3: Top 10 Countries in WLB and Remote Work Publications

Publication Trends by Subject Area

Table 2 shows the distribution of publications on WLB and remote work across different subject areas. Social Sciences (123 publications, 24.5%), Business, Management, and Accounting (88 publications, 17.5%), and Medicine (76 publications, 15.1%) are the three subject areas with the most publications. Psychology (40 publications, 8.0%) and Environmental Science (36 publications, 7.2%) also contribute significantly. The wide variety of subject areas, encompassing disciplines such as Economics, Computer Science, and Arts and Humanities, highlights the multidimensional character of WLB research. Various factors in the age of remote work, such as human well-being, organizational policies, and technological improvements, demonstrate the intricate nature of WLB. This distribution also illustrates that WLB is a crucial subject of investigation that crosses various academic fields, indicating its broad applicability and the need for a comprehensive approach to comprehending its dynamics in remote work.

Table 2: WLB and Remote Work Research by Subject Area

Subject Area	Publication	Percentage
Social Sciences	123	24,5%
Business, Management and Accounting	88	17,5%
Medicine	76	15,1%
Psychology	40	8,0%
Environmental Science	36	7,2%
Economics, Econometrics and Finance	26	5,2%
Computer Science	21	4,2%
Arts and Humanities	13	2,6%
Engineering	11	2,2%
Decision Sciences	10	2,0%

Publication Trends by Author

Table 3 provides a comprehensive list of the ten authors who have demonstrated the highest level of productivity in the subject. The table includes their affiliations, countries of origin, and significant bibliometric variables. Imran Anwar from India, Paula Rodríguez-Modroño from Spain, and Willy Gunadi from Indonesia have each made notable contributions through three publications. Additionally, Teresa Galanti (Italy) has the highest citation count of 407, with two publications indicating the significant impact of her research. It is essential to mention that Mina Beigi (UK) has a high h-index, indicating a continuous track record of publishing highly referenced papers. Arnold Bastiaan Bakker from the Netherlands is notable for having an extraordinarily high h-index, which indicates a very productive and influential research career. This table highlights individual scholars' substantial impact and worldwide influence in expanding knowledge on WLB and remote work. In addition, featuring authors from different nations emphasizes the global scope of study in this field. It can motivate upcoming scholars from various backgrounds to engage in ongoing discussions and offer their distinct viewpoints.

Table 3: Top 10 Most Productive Authors in WLB and Remote Work Research

Author Name	Affiliation	Country	Publication	Citation	h-index
Anwar, Imran	Sir Padampat Singhania University	India	3	114	11
Rodríguez-Modroño, Paula	Universidad Pablo de Olavide	Spain	3	61	10
Gunadi, Willy	Bina Nusantara University	Indonesia	3	4	4
Galanti, Teresa	University of G. d'Annunzio Chieti and Pescara	Italy	2	407	8
Jagsi, Reshma	University of Michigan Medical School	United States	2	196	4
Jamal, Mohd Tariq	Aligarh Muslim University	India	2	108	7
Beigi, Mina	University of Southampton	United Kingdom	2	96	14
Bakker, Arnold Bastiaan	Erasmus Universiteit Rotterdam	Netherlands	2	80	137
Abendroth, Anja Kristin	Universität Bielefeld	Germany	2	17	11
Harunavamwe, Martha	University of Pretoria	South Africa	2	11	76

Publication Trends by Articles

Table 4 lists the ten most cited publications on WLB and remote work, offering valuable insights into the field's most influential studies, especially during the COVID-19 pandemic. Felstead and Henseke's (2017) study, cited 442 times, provides a critical historical view of the rise of remote work and its effects on WLB (24). Del Boca *et al.* (2020), with 434 citations, emphasize the increased burden on women during the pandemic, underscoring how remote work has deepened gender disparities (25). Galanti *et al.* (2021), with 414 citations, focus on stress and productivity, pointing to the need for better management of remote work environments (26). Other highly cited works, such as Ipsen *et al.* (2021) and Palumbo (2020), further explore the advantages and disadvantages of remote work (7, 27), with 228 and 205 citations, respectively. These studies collectively provide a well-rounded view of how remote work impacts WLB, addressing key themes such as productivity, mental health, and gender inequality. Their high citation counts (averaging over 100 citations per year for the top papers) reflect their importance in shaping ongoing discussions and research on the long-term effects of remote work on employee well-being.

Table 4: Most Cited Articles in WLB and Remote Work Research

No.	Authors	Title	Year	Cites	Cites/Year
1.	Felstead and Henseke	Assessing the growth of remote working and its consequences for effort, well-being and work-life balance	2017	442	62.86
2.	Del Boca *et al.*	Women's and men's work, housework and childcare, before and during COVID-19	2020	434	106.75
3.	Galanti *et al.*	Work from home during the COVID-19 outbreak: The impact on employees' remote work productivity, engagement, and stress	2021	414	135.67
4.	Ipsen *et al.*	Six key advantages and disadvantages of working from home in europe during covid-19	2021	228	75.33
5.	Vyas and Butakhieo	The impact of working from home during COVID-19 on work and life domains: an exploratory study on Hong Kong	2021	209	69.67
6.	Palumbo	Let me go to the office! An investigation into the side effects of working from home on work-life balance	2020	205	50.50
7.	Krukowski *et al.*	Academic productivity differences by gender and child age in science, technology, engineering, mathematics, and medicine faculty during the COVID-19 pandemic	2021	191	62.33
8.	Eddleston and Mulki	Toward Understanding Remote Workers' Management of Work–Family Boundaries: The Complexity of Workplace Embeddedness	2017	141	20.00
9.	Irawanto *et al.*	Work from home: Measuring satisfaction between work–life balance and work stress during the covid-19 pandemic in indonesia	2021	137	45.00
10.	Yerkes *et al.*	'Intelligent' lockdown, intelligent effects? Results from a survey on gender (in) equality in paid work, the division of childcare and household work, and quality of life among parents in the Netherlands during the Covid-19 lockdown	2020	133	33.00

Citation Metrics

Table 5 displays essential bibliometric indicators for publications on WLB and remote work for ten years. The total number of articles published is 294, with a cumulative citation count of 6,172. This results in an average of 617.20 citations per year and 21.21 per paper. It suggests a harmonious equilibrium between frequent publication and influential research. On average, each author has contributed 114.76 papers, demonstrating significant individual output. The research demonstrates its collaborative nature by having an average of 3.49 authors per manuscript. Researchers can leverage broader knowledge and viewpoints through collaboration, resulting in more rigorous study outcomes. The h-index of 37 and the g-index of 72 indicate significant research impact and productivity. These metrics reflect a robust and collaborative academic community focused on advancing knowledge in WLB and remote work, demonstrating high productivity and significant influence in the field.

Table 5: Citation Metrics for WLB and Remote Work Research

Metric	Data
Publication years	10 (2014-2023)
Citation years	11 (2014-2024)
Papers	294
Citations	6,172
Cites/Year	617.20
Cites/Paper	21.21
Cites/Author	2,468.23
Papers/Author	114.76
Authors/Paper	3.49
h-index	37
g-index	72

Co-occurrence Network Visualization

Figure 4 illustrates the relationships and co-occurrence of terms related to the study of WLB in remote work. In this graph, nodes represent vital terms or concepts, and the edges (lines) between them denote the strength of their co-occurrence within the same documents or studies. The nodes are colored to represent different clusters of related terms. Each cluster indicates a thematic grouping, where terms within the same cluster frequently appear together in the literature. The size of each node represents the frequency of the term's occurrence in the dataset. Larger nodes indicate terms that appear more frequently in the literature, highlighting their centrality and importance in the research area. Edges between nodes denote the co-occurrence of terms, with thicker lines indicating stronger connections. This aspect remains consistent with the network visualization, showing how frequently terms appear together and highlighting the interrelated nature of the research topics.
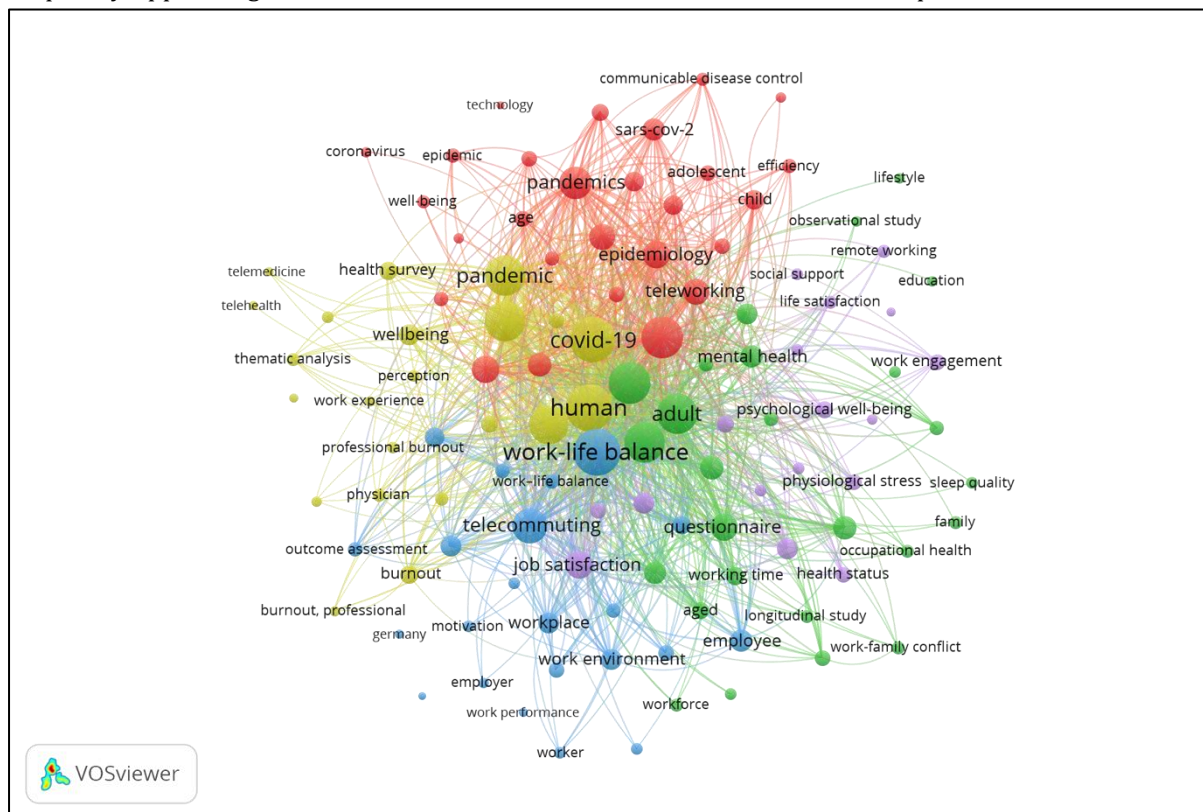

Figure 4: Co-occurrence Network Visualization of Key Terms in WLB Research

Cluster 1 (red) encompasses terms primarily related to demographic factors, public health, and the impact of the COVID-19 pandemic. Key items include age-related terms (adolescent, child, middle-aged, young adult), health and pandemic terms (covid-19 pandemic, communicable disease control, sars-cov-2, epidemiology, epidemic, prevention, and control), and work and telework (teleworking, employment, productivity, efficiency, household). This cluster highlights the intersection of age demographics, public health concerns, and the shift toward telework due to the pandemic. Cluster 2 (green) focuses on occupational health and the dynamics of WLB within the family context. Key items include health and psychology (mental health, quality of life, psychological stress, sleep quality), family and lifestyle (family conflict, family, leisure, working time), and research terms (cross-sectional studies, longitudinal study, observational study). This cluster emphasizes the importance of family dynamics and mental health in the context of occupational health and WLB (Table 6).

Table 6: Key Terms in WLB and Remote Work (2014–2023)

Cluster	Item
Cluster 1 (Red) 27 items	adolescent, age, child, child care, communicable disease control, controlled study, coronavirus, covid-19 pandemic, efficiency, employment, epidemic, epidemiology, household, humans, lockdown, middle aged, pandemics, preschool child, prevention and control, productivity, sars-cov-2, sex difference, technology, teleworking, well-being, work, young adult
Cluster 2 (Green) 24 items	adult, aged, cross-sectional studies, cross-sectional study, e-mail, education, family, family conflict, female, leisure, lifestyle, longitudinal study, major clinical study, male, mental health, mental stress, observational study, occupational health, psychology, quality of life, sleep quality, work-family conflict, workforce, working time
Cluster 3 (Blue) 21 items	employee, employer, gender, human experiment, information processing, job performance, motivation, organization, outcome assessment, remote work, telecommuting, telework, trust, work environment, work performance, work-life balance, worker, working conditions, working from home, workplace, work-life balance
Cluster 4 (Yellow) 22 items	anxiety, burnout, professional, coping behavior, coronavirus disease 2019, covid-19, depression, health survey, human, pandemic, perception, physician, professional burnout, professional well-being, resilience, social distancing, telehealth, telemedicine, thematic analysis, wellbeing, work experience, work from home
Cluster 5 (Purple) 17 items	health status, interpersonal communication, job satisfaction, job stress, leadership, life satisfaction, physiological stress, psychological well-being, public health, remote working, social isolation, social support, stress, technostress, work engagement, work schedule, workload

Cluster 3 (blue) relates to organizational aspects and work performance. Key items include work environment and conditions (working conditions, workplace, remote work, telecommuting, work environment) and performance and assessment (job performance, work performance, outcome assessment, information processing). This cluster points to the organizational challenges and considerations in maintaining work performance and employee satisfaction in a remote work setting. Cluster 4 (yellow) centers on mental health issues and coping strategies during the pandemic. Key items include mental health issues (anxiety, burnout, depression, psychological stress), coping mechanisms (resilience, coping behavior, social distancing, professional well-being), and health services (telehealth, telemedicine, health survey). This cluster underscores the mental health challenges employees face and the coping strategies and health services that can support them. Cluster 5 (purple) focuses on job satisfaction and work engagement. Key items include job-related stress and satisfaction (job satisfaction, job stress, leadership, life satisfaction) and work

dynamics (work engagement, work schedule, workload, remote working). This cluster highlights the determinants impacting job satisfaction and engagement, which are crucial for sustaining a balanced work-life environment.

Co-occurrence Overlay Visualization

Figure 5 is a network of terms related to WLB and remote work. This type of visualization overlays temporal data onto the network, indicating the

evolution of the research field over time. In this overlay visualization, nodes are colored according to the average publication year of the documents they appear. The color gradient, shown in the legend at the bottom right, ranges from blue (earlier average publication year, around 2021) to yellow (later average publication year, around 2022.5), allowing for examining how the research focus has shifted over time.
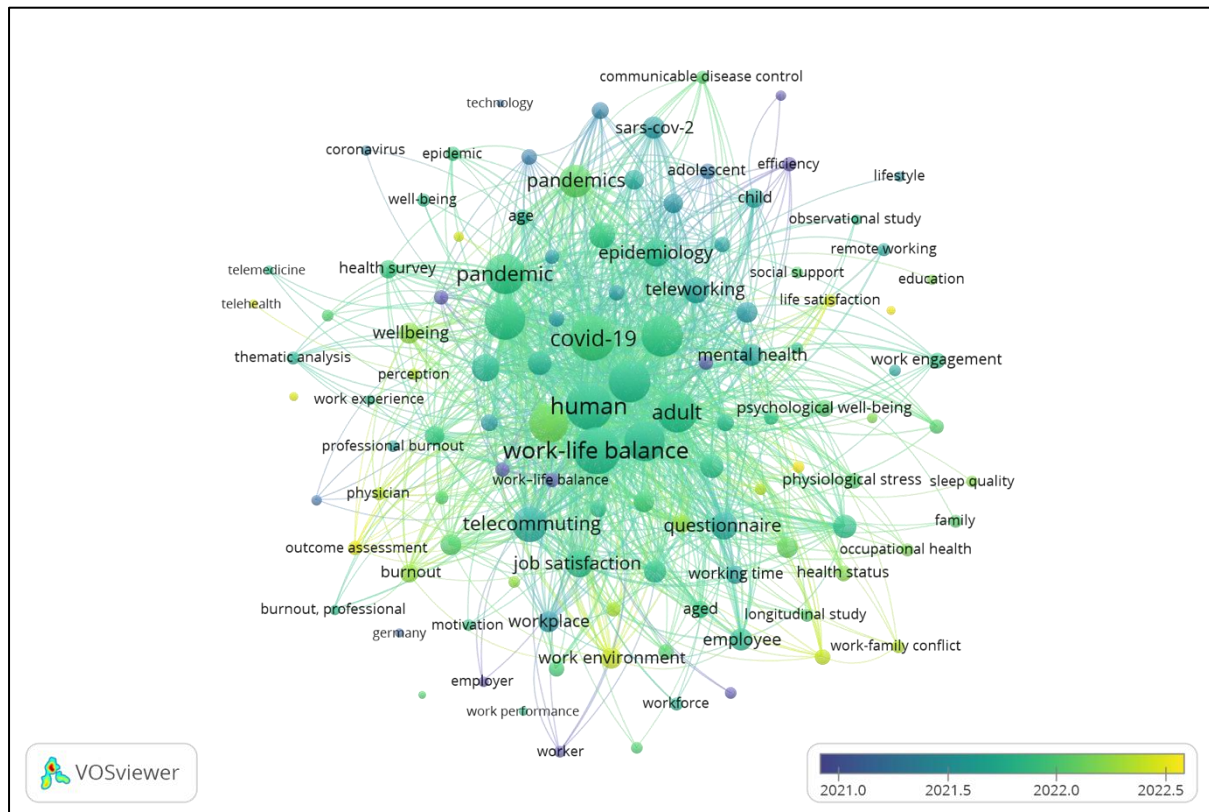

Figure 5: Co-occurrence Overlay Visualization of Key Terms in WLB Research

Early research (blue nodes) focused on immediate responses to the pandemic, such as the impact on mental health and the broad implications of COVID-19. Terms like "mental health," "pandemic "and" COVID-19 humans" were more prominent. As the research progressed (green nodes), the focus shifted to practical aspects of coping with the pandemic, particularly in the context of work. Key terms include "work-life balance," "telecommuting," "productivity," and "satisfaction," reflecting a growing interest in the dynamics of remote work and its effects on professional and personal life. More recent research (yellow nodes) explores broader and more nuanced aspects of the pandemic and remote

work. Terms like "public health," "mental health," and "survey" suggest a continued and evolving interest in understanding the long-term impacts and developing comprehensive responses to the challenges posed by the pandemic.

Co-occurrence Density Visualization

Figure 6 is a density visualization that maps the density of term occurrences related to WLB and remote work. The color gradient spans from blue (indicating low density) to yellow (indicating high density), illustrating the concentration of research terms within the field. High-density areas highlight topics frequently discussed in the literature, while low-density areas indicate less commonly addressed topics.
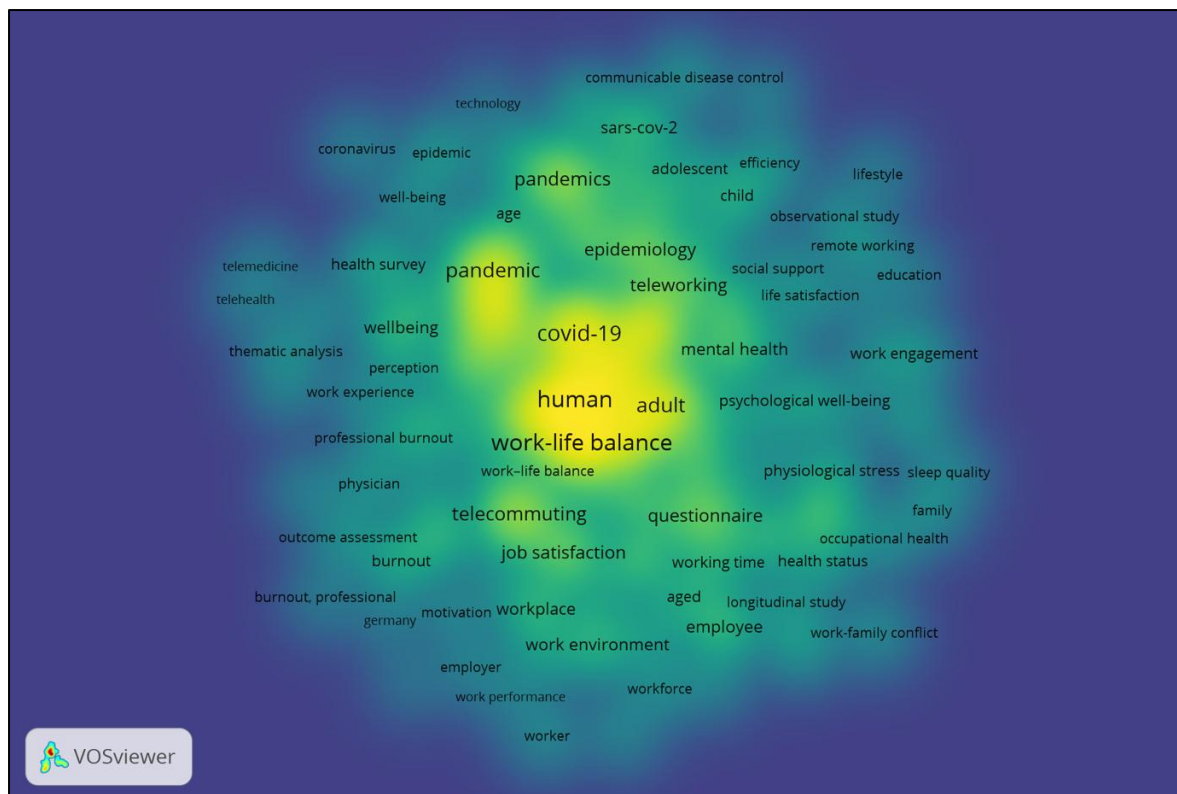
Figure 6: Co-occurrence Density Visualization of Key Terms in WLB Research

The density visualization helps identify the research literature's central themes and critical focus areas. High-density areas (yellow) represent terms that appear most frequently and are central to the research field. Examples include "work-life balance," "COVID-19," "humans," "telecommuting," and "productivity." These are the most frequently discussed terms, indicating their significant importance in the literature of WLB in the context of remote work during the pandemic. Moderate-density areas (green) indicate terms with moderate frequency, reflecting essential but not dominant topics. Examples include "mental health," "teleworking," "job satisfaction," and "pandemic." These terms show a strong interest in understanding the implications of remote work on employees' performance and efficiency. Low-density areas (blue) highlight less frequently occurring terms, which may represent emerging or niche research areas. Examples include "telehealth," "thematic analysis," "child care," and "remote working." These terms indicate the multidisciplinary nature of the research, encompassing public health, psychology, sociology, and management perspectives.

Discussion

One of the most significant findings is the apparent surge in WLB and remote work research following the onset of the COVID-19 pandemic. The sharp increase in publications between 2020 and 2023 underscores the pandemic's role as a significant catalyst for academic inquiry into the impacts of remote work on WLB (28). This trend reflects the need to understand how forced transitions to remote work, necessitated by lockdowns and social distancing measures, have affected employees' ability to balance their personal and professional lives. The data shows that researchers responded quickly to this global shift, highlighting how external events can drive scholarly attention to critical workplace issues. As remote work becomes more entrenched post-pandemic, WLB will remain a central theme in future research, particularly in exploring long-term effects on employee well-being and productivity. The geographical analysis reveals significant disparities in research output, with the United States, India, and the United Kingdom leading the field. This distribution suggests that wealthier nations with advanced research infrastructures are at the forefront of WLB and remote work studies (12). However, the lower output from countries in Africa, parts of Asia, and Eastern Europe raises essential questions about how WLB is experienced in different economic and cultural

settings. For instance, in developing countries where access to reliable internet and home office setups may be limited, remote work may present unique challenges that are not as prevalent in wealthier nations. Future research should explore WLB in underrepresented regions to develop a more global understanding of how remote work impacts employees worldwide. The diverse subject areas represented in the analysis, ranging from Social Sciences and Business Management to Medicine and Psychology, highlight the interdisciplinary nature of WLB research, underscores the complexity of WLB as a topic that touches on organizational behavior, employee health, productivity, and social well-being (7). The growing intersection of WLB with health-related disciplines, particularly mental health, reflects an increasing recognition of the psychological impacts of remote work. The rise of burnout, stress, and well-being as crucial research themes suggests that scholars are paying more attention to the mental and emotional toll that flexible work arrangements can have on employees (26), calls for continued cross-disciplinary collaboration between organizational behavior researchers and health professionals to develop holistic strategies that address productivity and employee well-being in remote work settings. The co-occurrence network analysis reveals that keywords related to mental health, remote work, and flexibility are increasingly prevalent in recent WLB studies, indicating a growing recognition of the psychological impacts of remote work on employees. The prominence of terms such as "burnout," "stress," and "well-being" suggests that scholars are focusing more on the mental and emotional challenges that arise from the blurring of boundaries between personal and professional life (26, 29). This shift reflects a broader concern in academic and organizational circles about the long-term effects of remote work on employee well-being, particularly the risks of chronic stress and exhaustion associated with constant connectivity and the inability to disconnect from work (1). Future research should delve deeper into these psychological dimensions, exploring interventions and organizational policies that can mitigate the negative consequences of remote work on mental health while also investigating how individual coping mechanisms and organizational support systems can foster resilience and well-being in flexible work environments. Additionally, the emergence of terms related to "gender equality" and "work-life conflict" in the co-occurrence networks points to an increasing emphasis on how WLB issues intersect with gender dynamics (2). Remote work has disproportionately affected women, who often bear the brunt of household and caregiving responsibilities, exacerbating work-life conflicts; this highlights the need for future studies to examine the gendered impacts of remote work arrangements more closely and to explore how different groups experience WLB differently based on socio-demographic factors such as gender, age, and caregiving responsibilities (7). Research in this area can offer insights into how organizations can implement more inclusive policies that address the unique challenges women and other vulnerable groups face in achieving WLB. Moreover, the keyword analysis underscores a growing interest in technological solutions supporting WLB in remote work settings. Terms such as "telecommuting," "technology," and "virtual work" appear frequently, signaling the rising importance of digital tools and platforms that facilitate remote work (28), suggests that future research should explore how technology can be leveraged to enhance WLB, including the role of digital communication tools, project management software, and virtual collaboration platforms in helping employees manage their workloads more effectively. However, the dual role of technology as both an enabler and a potential disruptor of WLB should also be considered, as excessive use of technology can lead to role blurring and burnout (30). Studies could investigate the balance between leveraging technological innovations for productivity and setting boundaries to protect employees' time and well-being. The evolving themes captured in the keyword and co-occurrence network analysis indicate that future WLB research must adopt a multidisciplinary approach to address these complex and interconnected issues. As WLB concerns intersect with mental health, gender studies, technology, and organizational behavior, future research should embrace more holistic frameworks that account for these diverse factors (12), may involve integrating insights from psychology, sociology, and human resource

management to develop comprehensive strategies for improving WLB in remote work environments.

Conclusion

This bibliometric evaluation highlights the significant influence of the COVID-19 pandemic on the research field of WLB, explicitly concerning remote work. The notable surge in publications post-2020 reflects the intensified scholarly interest in understanding the complex connections between professional and personal life during unprecedented times. The dominance of English-language publications and the leading contributions from countries like the United States demonstrate this research area's global and multidisciplinary nature. Key themes such as productivity, mental health, job satisfaction, and organizational challenges associated with remote work have emerged as central topics. These findings map the state of WLB research and identify critical areas for future investigation, emphasizing the need for strategies to improve employee well-being in remote work environments. Despite the comprehensive insights provided, several limitations must be acknowledged. The study focused solely on peer-reviewed articles indexed in Scopus to maintain the rigor and academic credibility of the findings. While this ensures high academic integrity, it excludes grey literature and industry reports that could offer practical insights into WLB challenges that businesses and industries face. Future research could incorporate grey literature to provide a broader perspective on WLB in diverse professional settings. Expanding the analysis to include other major databases such as Web of Science, Google Scholar, Microsoft Academic, Dimensions, ProQuest, Science Direct, and JSTOR would offer more diverse publications, further enriching the findings. Another limitation is the study's temporal scope, which focuses on the period from 2014 to 2023. This might overlook earlier influential works that have significantly shaped the foundation of WLB research, potentially leaving gaps in the historical context. The results of this study have significant implications for future research and practice. The identified trends and critical themes can guide future research directions, encouraging deeper exploration into under-researched areas such as the long-term effects of remote work on WLB. Policymakers and organizations can leverage these

insights to develop informed strategies and policies that support WLB in remote work settings, enhancing employee well-being and productivity (9,10). Organizations can utilize the findings to implement practices that foster a healthy WLB, such as flexible working arrangements, mental health support, and precise work boundaries, thereby improving employee satisfaction and performance (31). Furthermore, the multidisciplinary nature of WLB research underscores the need for cross-disciplinary collaboration among social sciences, business, medicine, and environmental sciences to develop comprehensive solutions. In addition to its practical implications, this study offers several critical contributions to the WLB literature. This study focuses on how the COVID-19 pandemic has transformed WLB research, identifying new priorities such as mental health, role blurring, and gender disparities, which were less prominent in earlier studies (7, 26). Additionally, it highlights the interdisciplinary nature of the research, emphasizing the convergence of fields like psychology, business, and health sciences in addressing WLB challenges (28). Moreover, this study goes beyond summarizing existing findings by identifying significant knowledge gaps and proposing directions for future research, particularly in areas like the long-term psychological impacts of remote work and the role of technology in managing WLB (9). Ultimately, this study underscores the evolving nature of WLB research in remote work, setting the stage for future studies and contributing to the well-being and efficiency of the global workforce through informed strategies and cross-disciplinary collaboration.

Abbreviations

PoP: Publish or Perish, VOS: Visualization of Similarities, WLB: Work-Life Balance.

Author Contributions

Ahmad Fauzan Rustan wrote the manuscript and collected, processed, and analyzed the data. Meika Kurnia Puji Rahayu and Arni Surwanti contributed

by reviewing, editing, and supervising the manuscript.

Conflict of Interest

The authors do not have any conflicts of interest to disclose.

Ethics Approval

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