Review article

Exploring the global landscape of work-life balance research: A bibliometric and thematic analysis

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ABSTRACT

The research on work-life balance (WLB) published in journals with a Scopus index between 2011 and 2022 is carefully examined in this work. Our research attempts to clarify the evolution and trends in WLB research and the importance of publications that Scopus indexes. After analyzing 2717 research articles, we found that WLB publications have a significant annual growth rate of 14.71 %, which suggests that the trend continues to grow. Significant changes are seen, with 1888 papers produced between 2017 and 2022 highlighting a notable increase in interest in the field. With 1608 papers, social sciences account for the majority of WLB research. With 54 publications, Griffith University (Australia) is the most affiliated institution. With 30 papers, the "Economic and Social Research Council of the United Kingdom" became the primary source of financing. The most prolific author, with nine publications, is Lingard H. At the same time, co-citation analysis reveals 168 co-cited authors. The United States (USA), the United Kingdom (U.K.), and Australia (A.U.) are the top three producing nations. A thematic analysis reveals ten major WLB themes, from work stress to difficulties with human resource management. This study provides crucial insights for policymakers and leaders to address work-life balance issues effectively. Using tools like Gephi or CiteSpace, we could deepen our understanding through advanced analysis methods such as page rank and network visualization.

1. Introduction

The "work-life balance" (WLB), defined as the balance between work obligations and personal life, is becoming more significant in contemporary society. This is especially true for working-class families and households, highlighting a growing recognition of societal obligations and individual welfare [1]. In response, management science has focused more on studying WLB, exploring its conceptual nuances, attainment tactics, and outcomes, and creating organizational policies that support them [1]. According to empirical

research, an excellent work-life balance fits current trends and improves individual and organizational outcomes [2,3]. This acknowledgment highlights how WLB can improve overall performance and inform strategic policies within an organization. Furthermore, WLB affects men, women, homes, and enterprises; thus, it is critical to thoroughly examine the concept's effects, new problems, and potential avenues for future research [2,3]. Despite its importance, there is still scholarly controversy about the terminology used, and there has been discussion over what constitutes "balance," which has led to misunderstanding in the field [4]. Considering these factors, this study conducts a comprehensive visual, bibliometric, and thematic examination of essential publications to elucidate the WLB concept and its various facets.

"Employee assistance programs" (EAPs) developed in the 1940s, and wellness programs started as early as 1933 and served as the model for the concept of work-life professionals. A 44-h workweek was established by the "Fair Labor Standards Act" in 1938 [5]. During the 1980s and 1990s, organizations started offering work-life programs primarily to support women with children, coinciding with the "Women's Liberation Movement" of the 1980s, which brought WLB to the forefront [5]. The term "WLB" was officially coined in 1986 [6], and it subsequently became a prominent topic in government, employer, and union discussions, the media, and everyday language [7]. Nevertheless, despite these initiatives, employees in some nations or areas persisted in having excessive work hours, which harmed their health [7,8].

The exploration of WLB involves studying its antecedents and consequences. Antecedents encompass organizational-level factors like company policies [9], interpersonal factors such as the employee's relationships with colleagues and direct supervisors [10], and job-specific aspects like the degree of autonomy [11]. However, the consequences have mostly been how work-family conflict affects job satisfaction, intentions to leave the enterprise [12], and overall health [13]. While the initial focus of the research was on the effects of work on families, additional effects of labour on various life segments were overlooked.

Over the past ten years, the literature on work-life balance has strongly emphasized various positions' perceived autonomy, involvement, support, and significance [14–19]. Following the WLB policies developed by organizations and the effects of technology, the precursors of WLB, such as working hours and organizational support, keep growing [20–22]. Based on the boundary theory, people must manage their personal and professional lives by integrating and segmenting each role [23]. Better WLB is more accessible when an individual receives outstanding organizational support [20]. Two manifestations of organizational support are assistance and encouragement provided to employees. Employees working longer hours could spend less time with their families, leading to poorer WLB [21].

Due to the growing demands of daily existence, employees are likelier to have low WLB. For example, low WLB may reduce health since workers often have lower sleep quality and higher stress levels [20,21]. Decreased sleep duration and elevated stress levels can impair immunity and intensify symptoms of illnesses [21]. Meanwhile, considering that the WLB-related review by Sirgy and Lee [24] prioritized work-family balance over WLB and regarded enrichment and conflict as WLB, the research on WLB needs to be updated and synthesized. Due to the importance of work-family issues to stakeholders (e.g., organizations, employees, and their families), the hospitality industry has just begun to pay attention to these concerns, yet the literature currently published is inconsistent. To help workers manage their personal and professional lives, it is also necessary to look for strategies to provide work-family support [25]. Constraints on work-life balance are seldom looked at in most flexicurity studies, and as a result, their implications on other types of flexibility and security are frequently disregarded [26]. The results of Haeger & and Lingham's investigation into how specific technological trends affect the link between the work and life spheres indicate that the two are merging [27].

The study conducted by L. Wu et al. [28] on the correlation between WLB and job satisfaction has influenced our decision to explore comparable associations in our study while also considering potential mediating influences. Heath's examination of discourse on WLB and conflicts between different generations directly impacts our qualitative thematic analysis method. It helps us investigate recurring themes and identify emerging patterns [29]. The extensive assessment conducted by Chung and Lippe [30] examines the impact of flexible work arrangements on gender dynamics and work-life balance in WLB. Their research contributes to understanding how gender and WLB intersect and informs our analysis of gender-related issues. In addition, Major's examination of the increased significance of a balanced WLB during crises affects our assessment of the broader social environment and its impact on work-life balance dynamics within organizations [31]. Furthermore, the study conducted by Zhang et al. [32] on the frequency of telework and its correlation with different life stages provides valuable insights for our research on how various life stages can influence perceptions of work-life balance and perspectives on work-life conflict. By integrating these significant discoveries and their immediate influence on our research methodology, our study expands on current knowledge and enhances a holistic comprehension of the progress and contributions of work-life balance in the academic domain.

Badri's [33] investigation into the relationship between job design and academic WLB in higher education directly influences our focus on organizational factors impacting WLB within academic settings. Given the widespread significance of WLB for employees globally, as highlighted by Badri, our study acknowledges the universal relevance of WLB. It emphasizes the importance of regularly examining factors that influence it, particularly in regions like developing nations where research on this topic is limited [34]. French et al. [35] comprehensive analysis of the connection between social support and conflicts between job and family informs our understanding of the role of support systems in facilitating WLB and guides our examination of social support mechanisms within organizational contexts [35]. Additionally, Basak's [36] exploration of WLB, retention tactics, and personnel management in the hospitality sector directs our attention to industry-specific challenges and strategies for enhancing WLB, informing our analysis of sector-specific dynamics within our study. By integrating the insights from these studies, our research design is enriched with a nuanced understanding of the factors influencing WLB across different contexts, contributing to a more comprehensive examination of this critical topic.

During the epidemic lockdown, Vuga Bernak et al.'s [37] assessment of how military families managed various responsibilities at home sheds light on the challenges and coping strategies associated with remote work and household duties, guiding our exploration of

WLB dynamics during crises. Haar et al.'s cross-cultural study on the effects of WLB on life happiness, mental health, and job satisfaction tells us a lot about how WLB affects people from different cultures, which helps us understand how culture affects how people think about and experience WLB [38]. Furthermore, Wong et al.'s [23] research on the relationship between WLB, stress reduction, and mental health underscores the importance of promoting WLB within organizations to mitigate stress and burnout, shaping our understanding of the potential benefits of WLB interventions. By incorporating the findings from these studies, our research design gains a broader perspective on the multifaceted impacts of WLB. It highlights the imperative for organizations to prioritize WLB promotion and implement effective strategies to support employees in achieving a sustainable work-life balance.

Even though WLB's importance is becoming more well-recognized, more studies combining visual bibliometrics and thematic analysis are still required to pinpoint significant trends and knowledge gaps in the field. Though each study has limits, a few have sought to close this gap. Nasuha et al. solely employed bibliometrics in examining WLB, perhaps overlooking valuable insights that could have been obtained through thematic analysis [39]. In addition, they neglected necessary bibliometric evaluations about the financing sponsorship and bibliographic coupling of sources, countries, and documents in WLB research. Rashmi & Kataria, conducted a comprehensive review and bibliometric analysis using Scopus to offer insights on WLB [40]. However, because their research only used Scopus and omitted any consideration of thematic evolution or the bibliographic coupling of nations, it was subject to certain limitations. The cluster analysis yielded four themes, underscoring the potential for a more all-encompassing approach. Nwachukwu et al. examined patterns in research on WLB, explicitly concentrating on journal publications that had impact factors [41]. However, this technique may have failed to consider significant contributions that fall beyond the definition of impact factor. Significantly, their study did not include an analysis of topic evolution and cluster analysis, which resulted in undiscovered aspects in comprehending research trends in work-life balance. Majumder & Biswas focused solely on bibliometric analysis, overlooking essential elements such as examining the publication affiliation of funding sources, studying publications based on funding sponsors, analyzing bibliometric coupling, and including theme analysis [42].

In a similar vein, Franco et al. conducted a bibliometric analysis that specifically examined engineering professionals' WLB [43]. Nevertheless, their research lacked crucial elements such as co-citation analysis, bibliometric coupling, and theme analysis, which restricted the overall comprehensiveness of their study. To fill in these gaps and provide a thorough grasp of how the idea has grown, this study uses visual bibliometrics and thematic analysis to pinpoint the contributions made by the academic community and the most critical publications on WLB. Additionally, this study will deploy the substitute bibliometric software, like Biblioshiny, which provides researchers with a more complete and flexible tool [44].

This study aims to fill these gaps and thoroughly examine the implications, current issues, and potential directions for future research on WLB. The following research questions serve the study's compass: Which WLB works are the most important, and what advances have they made in the field? What new directions are emerging in WLB research, and where does this concept go from here? What are the obstacles to reaching and sustaining WLB, and how can individuals and organizations overcome these obstacles? How can one guarantee that WLB policies are just and equitable for all people and groups? Lastly, what are the consequences of WLB for men, women, homes, and businesses?

The present research utilizes a combined approach of visual bibliometrics and theme analysis to thoroughly investigate and comprehend the growth and progression of the idea of WLB in the academic domain. A quantitative analysis of academic publications
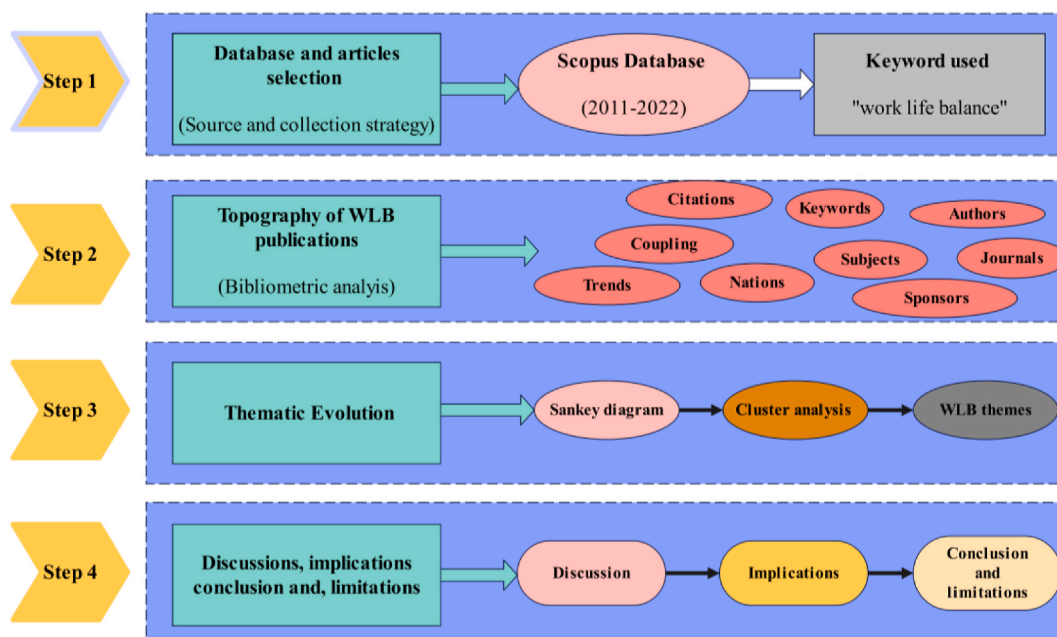

Fig. 1. Methodology used for bibliometric analysis of WLB.

is provided by bibliometric analysis, which sheds light on academic landscape dynamic visualizations, productivity, and impact [45]. Citation trajectories, co-authorship patterns, and citation networks are all made clear by visual bibliometrics. Thematic analysis, however, brings a qualitative element to the WLB literature by revealing recurrent themes, essential ideas, and developing patterns [46]. When both approaches are used in tandem, it is possible to identify critical works while providing context and depth, resulting in a comprehensive grasp of the scholarly discourse on WLB. This method improves the study's capacity to close current gaps by providing a detailed and nuanced viewpoint on the advancement and contributions of WLB in the academic field.

There are five sections of this investigation. The topic is presented in the first section, along with its importance and the rationale for the investigation. The study's methodology, including the procedures and sources used for data collection and analysis, is described in the second section. The intellectual topography of WLB publications is presented in the third section, and the thematic progression and cluster analysis of WLB research throughout time are the main topics of the fourth section. The paper is finally concluded in the fifth section, which discusses the study's shortcomings and highlights the findings.

2. Methodology

This study aims to evaluate research methodologies and trends in studies about WLB. A bibliometric evaluation that considers performance analysis and scientific mapping is done to do this. Furthermore, Biblioshiny clustering and VoS viewer are used to thoroughly review the literature on WLB. The research approach utilized in this study is depicted in Fig. 1. Lastly, the results, discussions, and shortcomings are presented.

2.1. Acquisition method and source of data

Using the search term "work-life balance" and restricting the search to English-language publications published in journals relating to the "social sciences, business, economics, and psychology" between 2011 and 2022, relevant articles for the research were found in the Scopus database.

The study's bibliographic data was gathered from the Scopus database using the search keyword "work-life balance," which produced 8395 publications. Seven thousand two hundred fifty-seven articles were located within the selected period (2011–2022). Due to the elimination of 4523 irrelevant articles from other domains, 2,733 papers published in English and related to the study's focus areas were assessed for eligibility.
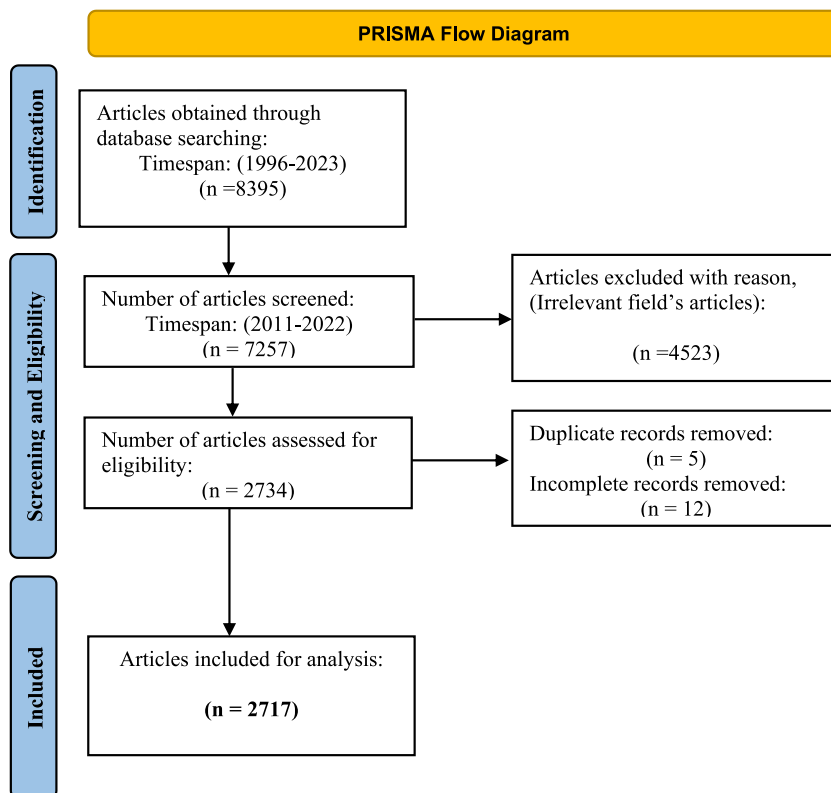

Fig. 2. WLB articles shortlisting using PRISMA.
Source: Authors Own Compilation With Prisma Statement organization [47].

Quality control procedures were used to ensure the quality of the review. Duplicate (five) and incomplete (twelve) records were thoroughly examined and eliminated. Every research published between 2011 and 2022 pertinent to WLB and included in the Scopus database met inclusion criteria and could be examined. One of the selection criteria was the PRISMA declaration [47,48]. After all papers were assessed using the predetermined inclusion and exclusion criteria, 2717 publications were selected for further study. The research aims to examine various WLB literature available in various academic domains. Fig. 2 of the PRISMA statement illustrates the inclusion and exclusion at each screening step.

2.2. Techniques for analyzing

To ensure deliberate and comprehensive coverage of the literature, this study employs a systematic, replicable bibliometric methodological method [49]. Data mining and analysis procedures are necessary to obtain pertinent and reliable study findings [50].

Co-citation analysis is performed in the study using the VOS viewer [51], co-occurrence analysis of keywords [52,53] bibliographic couplings (documents, nations, and sources) [54], and co-authorship [53,55] analysis. Since a VoS viewer simplifies bibliometric mapping and network analysis, it is used for content analysis [56]. To investigate publishing trends, word correlations, and a WLB publication based on affiliations [57], Biblioshiny on R studio is used [44]. Bibliometric indicators are evaluated using MS Excel 365 Tables & Charts. Tools for network visualization and descriptive analysis are used to examine the bibliometric data on WLB that was gathered from the Scopus database.

The co-citation analysis technique analyzes the co-citation patterns of references cited in the WLB literature. It helps identify the most influential publications and authors in the field by examining how frequently they are co-cited together. The co-citation analysis is performed using the VOSviewer software, which enables visualization of bibliometric networks and mapping [51]. Keyword co-occurrence analysis examines the co-occurrence patterns of keywords in the WLB literature. It helps identify the most prevalent and emerging topics, concepts, and themes in the field by looking at how frequently specific keywords appear together in the publications. Both author-supplied keywords and index keywords are considered in this analysis [52,53]. Bibliographic coupling analyzes the degree of similarity between publications based on the references they share. Publications that cite a standard set of references are considered bibliographically coupled. By examining bibliographic coupling patterns, the study aims to identify clusters of related publications and potential research frontiers in the WLB domain [54]. Co-authorship analysis examines the patterns of collaboration among authors in the WLB literature. It helps identify the most prolific authors, influential research groups, and potential research collaborations in the field by analyzing the co-authorship networks [53,55]. The study utilizes VOSviewer to conduct co-citation analysis, keyword co-occurrence analysis, and bibliographic coupling, as this software facilitates bibliometric mapping and network visualization [51]. By employing these diverse bibliometric analysis techniques, the study aims to provide a comprehensive understanding of the research methodologies, trends, and intellectual structures within the WLB literature. The combination of these analyses contributes to the formation of research findings by identifying influential publications, authors, institutions, emerging topics, potential research frontiers, and collaboration patterns in the field of work-life balance.

Table 1
Publications trends for WLB.

Description	Results
Main Information Regarding Data	
The period selected for analysis	2011:2022
Number of sources	1181
Number of documents	2717
Growth rate % annually	14.71
The average age of documents	4.89
Average citations per document	14.28
Number of references	128707
Document Contents	
Number of keywords: keywords plus	2807
Author's keywords	6207
Authors	
Number of Authors	6928
Number of authors of single-authored documents	482
Collaboration (authors)	
Number of single-authored documents	524
Number of Co-authors per document	2.94
Co-authorships (International) %	18.37
Types of Documents	
Articles	2717

Source: Scopus Database, 2011–2022, Complied with Biblioshiny.

3. The WLB publications' conceptual topography

This section presents the conceptual structure of WLB publications. Ten subsections within this section describe the results and findings regarding "best authors, maximum co-citation, publication trends, subject areas, top funding sources, bibliographic couplings (sources, countries, documents), top affiliations, publication years, and co-occurrence of author's keywords". Through a visual display of the findings, the study improves knowledge of the state of the WLB domain's research by highlighting the priorities, points of view, and trends currently being investigated.

3.1. Trends in WLB publications

A Scopus database file was imported into Biblioshiny using R-studio to generate Table 1, summarising the publication trends in WLB from 2011 to 2022. With a growth rate of 14.71 percent each year, the data derived from 2717 documents published in 1181 peer-reviewed journals showed a sharp increase in publications. The search was restricted to papers from 2011 to 2022 to account for the current interest in studies about WLB. This indicates that the topic is garnering significant interest from the scientific community. According to the current research, documents are 4.89 years old and have 14.28 citations on average. This field's studies are wide-ranging, as seen by the numerous references (1,28,707, and keywords 6,207). Collaboration is standard in WLB research; 18.37 % of co-authors are from foreign geolocations, making this an extremely global undertaking. The significant surge in publications on WLB and the extensive international collaboration demonstrates a rising global interest in and acknowledgment of the significance of WLB matters. These patterns suggest that the area of WLB is growing and diversifying, attracting a broad range of scholars from around the world and promoting substantial collaboration. This analysis elucidates the attributes of WLB research as indicated by these statistical data and provides an overview of the area's current condition.

Based on the number of citations, Table 2 summarizes the top 10 WLB-related works published between 2011 and 2022. The Table includes the information: author, year, journal, total annual citations, and normalized total citations (T.C.). With 528 total citations and 52.80 citations annually, the article written by Ceci et al. is the most cited one [58]. With 437 and 356 citations, the second and third most cited publications are by Candelo et al. and Haar et al. [38,59]. The T.C. range for the remaining articles is 356–209 [35,38,59–65]. From the article's inception, the normalized T.C. column has shown an average of 3.34–34.68 citations annually. The high citation counts indicate robust engagement with these works, highlighting their influence and the field's dynamic development. This revised analysis aims to provide a clearer picture of the current state of WLB research, emphasizing its diversity and the broadening scope of inquiry as seen through these seminal publications.

3.2. Publication of the WLB research annually

Table 3 presents the trend in WLB research articles from 2011 to 2022, based on information from the Scopus database. There were 829 research papers on WLB between 2011 and 2016. Nonetheless, 1888 papers were published on the same topic between 2017 and 2022, indicating a consistent rise in research interest in WLB. The average T.C. per article and the average T.C. annually show a declining trend, suggesting that WLB research is becoming less influential.

3.3. WLB publication according to the subject area

Fig. 3 shows the subject-wise publication pattern for WLB from 2011 to 2022, based on the Scopus database. The "social sciences" are the most often studied topic in WLB research, with 1608 publications published. With 1247 articles, "business, management, and accounting" rank second. "Psychology" comes in third with 506 articles. "Finance, Econometrics, and Economics" ranks fourth among the chosen fields, with 331 citations each. The interdisciplinary nature of WLB research, spanning multiple subject areas, is demonstrated in Fig. 3. It is essential to consider these various points of view to appreciate WLB's effects. The interdisciplinary nature of the research, spanning subjects like social sciences, business, psychology, and economics, suggests that WLB is a complex and multifaceted concept that requires a diverse range of perspectives to fully comprehend its implications for individuals, organizations, and societies.

Table 2
Top 10 globally cited WLB documents (based on citation count).

S. No.	Author/year	Journal	Total citations (T.C.)	T.C. per year	Normalized T.C.
1.	Ceci Sj, 2014	Psychological Science in the Public Interest	528	52.80	16.01
2.	Vandello Ja, 2013	Psychology of Men & Masculinity	437	39.73	13.57
3.	Haar Jm, 2014	Journal of Vocational Behaviour	356	35.60	10.80
4.	Lyons S, 2014	Journal of Organizational Behaviour	335	33.50	10.16
5.	Felstead A, 2017	New Technology, Work, and Employment	285	40.71	14.18
6.	Rudman La, 2013	Journal of Social Issues	282	25.64	8.76
7.	Sonnentag S, 2017	Journal of Occupational Health Psychology	265	37.86	13.19
8.	Del Boca D, 2020	Review of Economics of the Household	237	59.25	24.68
9.	French Ka, 2018	Psychological Bulletin	217	36.17	13.29
10.	Boxall P, 2014	Work, Employment, and Society	209	20.90	6.34

Source: Scopus Database, 2011–2022, Complied with Biblioshiny.

Table 3
Year-wise publication related to WLB.

S. No.	Year	Mean T.C. Per Articles	Number of articles	Mean T.C. per Year	CiTable Years
1.	2011	30.67	93	2.36	13
2.	2012	30.56	105	2.55	12
3.	2013	32.19	146	2.93	11
4.	2014	32.97	138	3.30	10
5.	2015	19.03	156	2.11	9
6.	2016	16.08	191	2.01	8
7.	2017	20.1	206	2.87	7
8.	2018	16.33	211	2.72	6
9.	2019	10.6	258	2.12	5
10.	2020	9.6	394	2.40	4
11.	2021	6.07	398	2.02	3
12.	2022	2.18	421	1.09	2

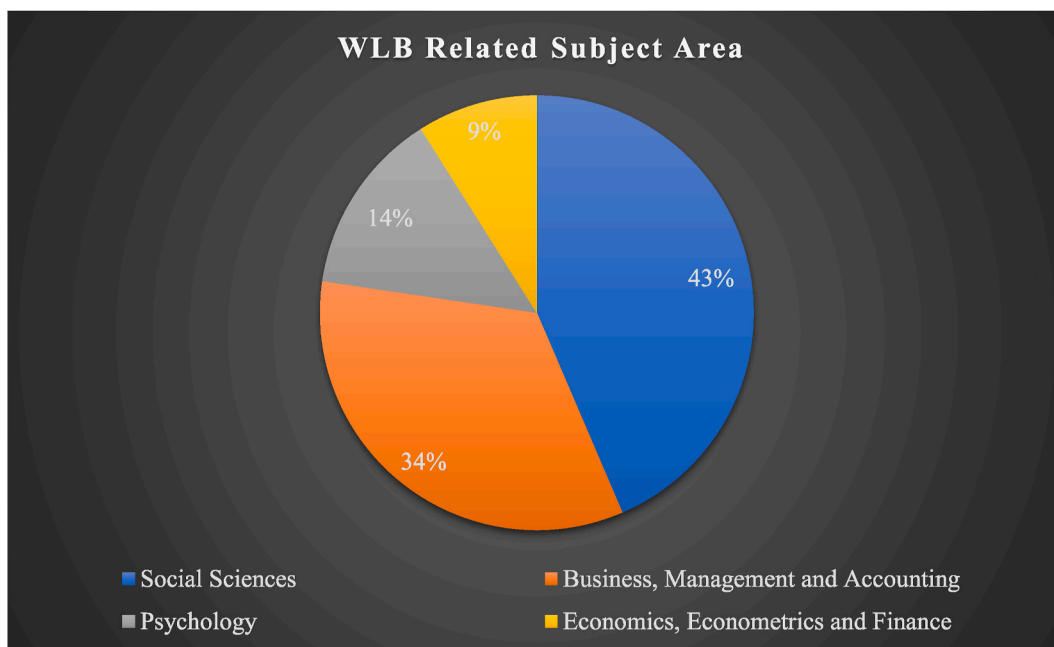**Source**: Scopus Database, 2011–2022, Complied with Biblioshiny.

Fig. 3. Subject area-wise publication related to WLB.
Source: Scopus Database, 2011–2022.

Table 4
Affiliation-wise publication related to WLB.

S. No.	Affiliation	Articles
1.	Griffith University	54
2.	University of South Africa	38
3.	University of Toronto	35
4.	Deakin University	34
5.	Auckland University of Technology	30
6.	University of Johannesburg	29
7.	Stockholm University	26
8.	RMIT University	25
9.	Monash University	24
10.	University of Georgia	23

3.4. Publication of the WLB according to affiliation

Based on data from the Scopus database, Table 4 shows the affiliation-wise publication trend for WLB from 2011 to 2022. With 54 publications on WLB, "Griffith University (Australia)" is at the top of the list. Universities of "Toronto (Canada)" and "South Africa (Pretoria)" are next, with 38 and 35 papers, respectively. These institutions are pivotal in advancing WLB research. The significant output from these universities reflects not only their strong focus on WLB issues but also a broad academic interest in this field. This trend suggests a growing recognition of WLB's importance in organisational and societal contexts, characterised by diverse methodologies and an interdisciplinary approach. These leading institutions' contributions help us understand the evolving dynamics and current state of WLB research, which appears to be expanding both in-depth and reach globally.

3.5. Sponsor-wise funding for the WLB's publishing

Table 5 presents sponsor-wise financing for WLB-related articles from 2011 to 2022, derived from the Scopus database. The "Economic and Social Research Council" of the "United Kingdom" tops the list with thirty papers. In second place with 23 publications is the "Australian Research Council," followed by the "Japan Society for the Promotion of Science" with 22 publications. Significant additional funding supporters include the "European Commission," "National Science Foundation of China," "National Natural Science Foundation," and the "Horizon 2020 Framework Program." This funding landscape not only emphasizes the strategic importance of WLB studies, but it also shapes the research agenda, reflecting a recognition of WLB's impact on individual well-being and organizational effectiveness. The diverse funding sources indicate robust growth and evolving research dimensions, underscoring the field's expansion and the innovative directions it is taking.

3.6. Publishing of the WLB according to authors

According to the Scopus database, Table 6 lists the top 10 authors who contributed the most excellent WLB articles between 2011 and 2022. Lingard H., the leading author, has produced nine publications, while Vasumathi A. has also written nine articles. Baral R. and Coetzee M. both authored eight papers. Cegarra-Leiva D., Mordi C., Pasamar S., and Singh S. authored seven articles. These authors predominantly hail from diverse academic backgrounds such as social sciences, psychology, and management. Their substantial contributions have not only enriched the WLB literature, but they have also introduced varied interdisciplinary perspectives that underscore the complexity of WLB issues. This prolific output by top researchers highlights the evolving nature of WLB studies, suggesting a dynamic interplay of theoretical and practical insights that continue to shape the field's development.

3.7. Top 10 authors based on co-citation analysis

Fig. 4 presents the co-citation analysis of the 161 related authors connected to WLB research. The co-citation analysis on the VOS viewer yielded 161 co-cited authors with a minimum citation criterion of 100 out of 1,24,451 authors. One sixty-one related authors formed four clusters of varying sizes and colours. As for the co-cited authors, the red cluster has 55, the green cluster has 42, the blue cluster has 41, and the yellow cluster has 23 authors, respectively. Larger nodes than less influential authors represent influential authors. The authors' relationships with one another indicate they have co-cited one another. Table 7 displays the top ten authors according to the number of citations, which indicates the importance and frequency of co-citations between the authors. This table not only emphasizes the importance of these authors, but also illustrates the diverse topics and contributions they have made to advancing WLB research, reflecting the field's dynamic interconnections and thematic richness.

3.8. Bibliographic coupling

The bibliometric coupling compares the standard references of two or more scientific works to ascertain their degree of similarity. The procedure compares the references cited in two or more different publications to identify the linkages cited in each. The more

Table 5
Funding sponsor-wise publication related to WLB.

S. No.	Sponsor	Articles
1.	Economic and Social Research Council	30
2.	Australian Research Council	23
3.	Japan Society for the Promotion of Science	22
4.	European Commission	19
5.	National Natural Science Foundation of China	17
6.	National Science Foundation	17
7.	Horizon 2020 Framework Programme	16
8.	National Institutes of Health	16
9.	Social Sciences and Humanities Research Council of Canada	14
10.	Canadian Institutes of Health Research	12

Source: Scopus Database, 2011–2022.

Table 6
Author-wise publication related to WLB.

S. No.	Authors	Articles	Articles Fractionalized
1.	Lingard H	9	3.20
2.	Vasumathi A	9	4.33
3.	Baral R	8	4.17
4.	Coetzee M	8	3.83
5.	Cegarra-Leiva D	7	2.25
6.	Mordi C	7	1.82
7.	Pasamar S	7	4.33
8.	Singh S	7	2.78
9.	Adisa T	6	1.65
10.	Allen T	6	2.03

Source: Scopus Database, 2011–2022, Complied with Biblioshiny.
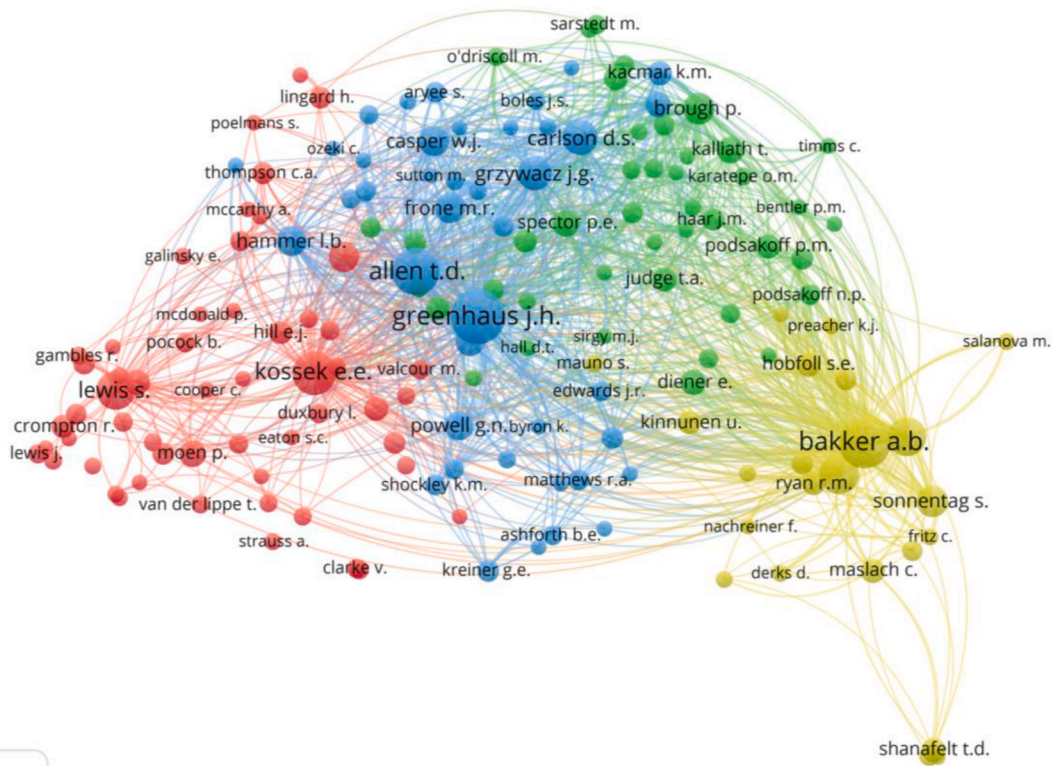

Fig. 4. Co-citation analysis in VOS viewer.
Source: Scopus Database, 2011–2022, Compilation with VoS Viewer.

Table 7
Top 10 authors based on citation count related to WLB.

S. No.	Author	Citations	Total Link Strength
1.	Greenhaus J.H.	997	32937
2.	Bakker A.B.	945	34014
3.	Allen T.D.	761	28785
4.	Kossek E.E.	674	23551
5.	Demerouti E.	578	20899
6.	Schaufeli W.B.	554	12497
7.	Lewis S.	527	17707
8.	Carlson D.S.	463	18464
9.	Grzywacz J.G.	427	17098
10.	Brough P.	997	32937

Source: Scopus Database, 2011–2022, Compilation with VoS Viewer.

closely the bibliographies of the two articles are coupled, the more connections they have [66,67]. Bibliographic coupling can create co-citation networks and reveal research trends and author collaborations. The ensuing subsections list the countries, sources, and documents bibliographically.

3.8.1. Bibliographic coupling of sources

For this study, 1181 sources were considered. However, only sources with ten or more publications were selected for the study to guarantee the results' calibre. The analysis was further restricted to ten citations per publication to improve accuracy. After applying these criteria, 29 related sources that satisfy the parameters were found. The bibliographic coupling of these sources was displayed using the VOS viewer, which determined the total link strength of each source [56]. Four source clusters were identified through the investigation. Thirteen sources formed the first cluster (red), whereas the second cluster was formed by eight sources (green). The third cluster (blue) was made up of five sources, and the fourth cluster was made up of four sources (shown in yellow). Table 8 lists the qualifications and citation metrics of the top 10 sources, with the average number of citations per document in the final column. The "International Journal of Human Resource Management" (IJHRM) produced 42 papers with 1480 citations; however, an intriguing analytical result showed that the average number of citations per document was just 35.34. With only 15 articles published, "New Technology, work, and Employment" had 1120 citations and an average of 74.67 citations per document, significantly more than the IJHRAM. This disparity underscores the value of examining average citations per document as a metric for assessing a source's influence and reliability within the field. Fig. 5 ranks the top ten most productive sources based on document count, offering insights into which journals and repositories are most influential in shaping the discourse in work-life balance research. This analysis not only highlights the prevalent sources, but also reveals the interconnectedness and thematic concentrations within the field, demonstrating how these top sources contribute to the development and understanding of WLB studies.

3.8.2. Bibliographic coupling of countries

Regarding WLB publications, the "United States, the United Kingdom, and Australia" are the top three producing nations; "Canada, the Netherlands, Germany, Spain, India, New Zealand, and France" are the next in ranking. The bibliographic coupling results based on WLB-related countries are shown in Table 9. The "Netherlands and New Zealand" have made significant contributions to WLB; they have the highest average number of citations per document. Table 9 also displays the average number of citations per country, the total number of citations, and the popularity of links overall. The data point to the United States having the most significant number of publications in the WLB field. New Zealand has the most significant average number of citations per document through any country, with just 55 documents. Documents about WLB are produced in 139 countries. Nevertheless, just 49 nations meet the minimal requirements for analysis in the VOS viewer - ten papers and ten citations. This worldwide viewpoint not only highlights the broad interest in WLB but also offers insights into the major contributions and patterns of collaboration that are influencing the field's development trends.

The clustering approach of the VOS viewer was used to classify the countries and areas in the study into four categories, as depicted in Fig. 6. According to Fig. 6, the "United States, United Kingdom, Australia, Canada, the Netherlands, Germany, and India" are the most notable nodes with table connections. Nonetheless, these countries are assigned different colour labels, suggesting that their research on WLBs may change based on their world locations. These findings suggest that the location of a study influences its direction in various countries and areas.

3.8.3. Coupling of documents bibliographically

Table 10 presents the top ten publications according to their total number of citations and link strength across the dataset, illustrating the bibliographic coupling of documents related to WLB. To obtain more in-depth results, the VOS viewer established a minimum citation threshold of 70; nonetheless, only 94 documents out of 2717 satisfied this condition. Eighty-seven papers out of 94 were found to be related. The 87 documents are divided into eight clusters in various colours, as shown in Fig. 7. The most incredible clusters were red (19 papers) and green (16 documents), followed by blue (13 documents), yellow (12 documents), purple (10 documents), cyan (10 documents), orange (5 documents), and brown (2 documents). In the WLB research field, the top three most cited papers (from 2011 to 2022) were by Ceci et al., Haar et al., Vandello & Bosson [38,58,59], followed by Boxall & Macky, Deery & Jago,

Table 8
Bibliographic coupling map for sources related to WLB.

S. No.	Source	Documents	Citations	Total Link Strength	Average citations
1.	International Journal of Human Resource Management	42	1480	8165	35.24
2.	New technology, work, and employment	15	1120	1713	74.67
3.	Work, employment, and Society	27	1095	3951	40.56
4.	Personnel review	33	750	7511	22.73
5.	Gender, work, and organization	22	701	2891	31.86
6.	Journal of Occupational Health Psychology	15	697	3056	46.47
7.	Journal of Applied Psychology	11	672	3711	61.09
8.	Social indicators research	25	633	3600	25.32
9.	Academic medicine	17	584	587	34.35
10.	Employee relations	25	550	4414	22.00

Source: Scopus Database, 2011–2022, Compilation with VOS Viewer.
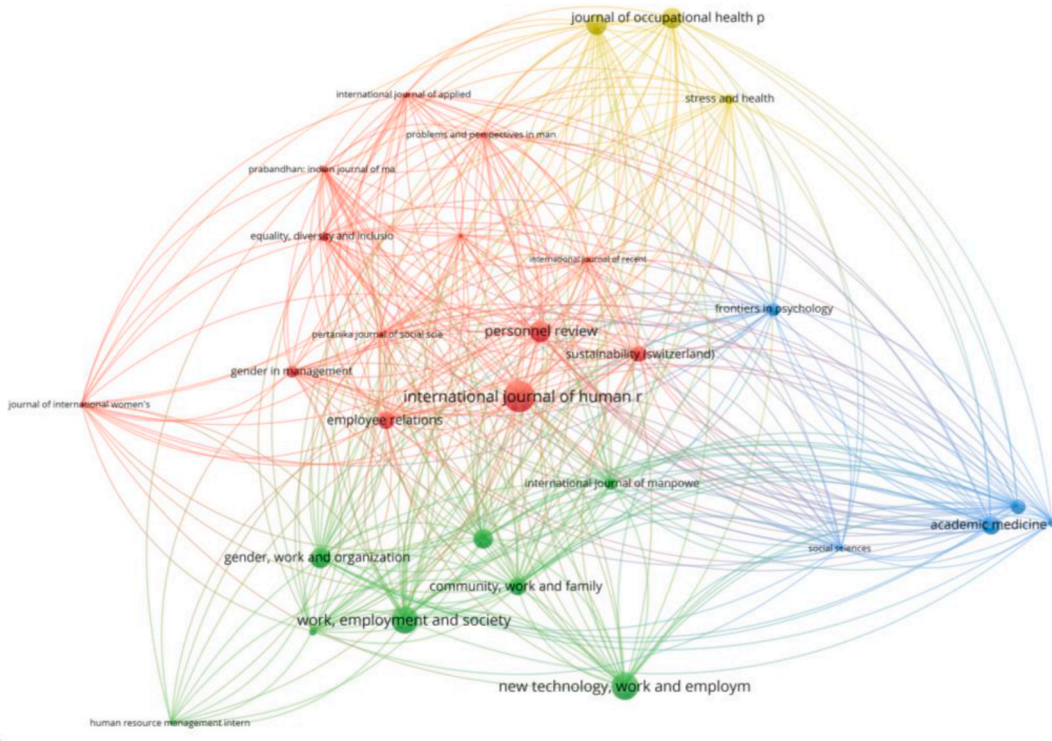
Fig. 5. Bibliographic coupling map for sources.
Source: Scopus database, 2011–2022, compilation with VoS viewer.

Table 9
Bibliographic coupling based on countries related to WLB.

S. No.	Country	Document	Citations	Total Link Strength	Average citations
1.	United States	674	12152	221588	18.03
2.	United Kingdom	336	7026	122271	20.91
3.	Australia	231	4230	98426	18.31
4.	Canada	160	3426	80424	21.41
5.	Netherlands	78	2006	49609	25.72
6.	Germany	116	1963	61162	16.92
7.	Spain	127	1901	56778	14.97
8.	India	247	1793	108229	7.26
9.	New Zealand	55	1565	29684	28.45
10.	France	55	1290	27976	23.45

Source: Scopus Database, 2011–2022, Compilation with VoS Viewer.

Del Boca et al., Felstead & Henseke, French et al., Lyons & Kuron, Rudman & Mescher, Sonnentag et al., [35,60–65,68]. Ceci et al. [58] were not displayed in the network as a result of being excluded from 87 connected articles. Through revealing both the specific significant publications that have shaped contemporary knowledge and practices in the field as well as the broader thematic connections that underpin WLB research, this thorough bibliographic coupling study offers a greater understanding of the core literature. This review is essential reading for novice researchers looking for basic books as well as seasoned researchers looking to expand on previously published work.

3.9. Keyword co-occurrence

Creating word clouds to find the most prevalent terms on a specific subject is possible. The authors choose author keywords so researchers and readers can quickly determine the article's main points and focus [69,70]. In contrast, Scopus's Keywords Plus was automatically developed after examining the article's referenced sources, abstract, and title [46,70]. The top 50 terms based on "author keywords and keywords plus" are shown in Fig. 8, where the size of the words indicates how frequently they appear. The phrase "work-life balance" appears in the middle of the graph, as seen in Fig. 8(a), followed by "gender" and "job satisfaction." Fig. 8 (b), on the other hand, demonstrates that the most common term is "job satisfaction," closely followed by "workplace" and
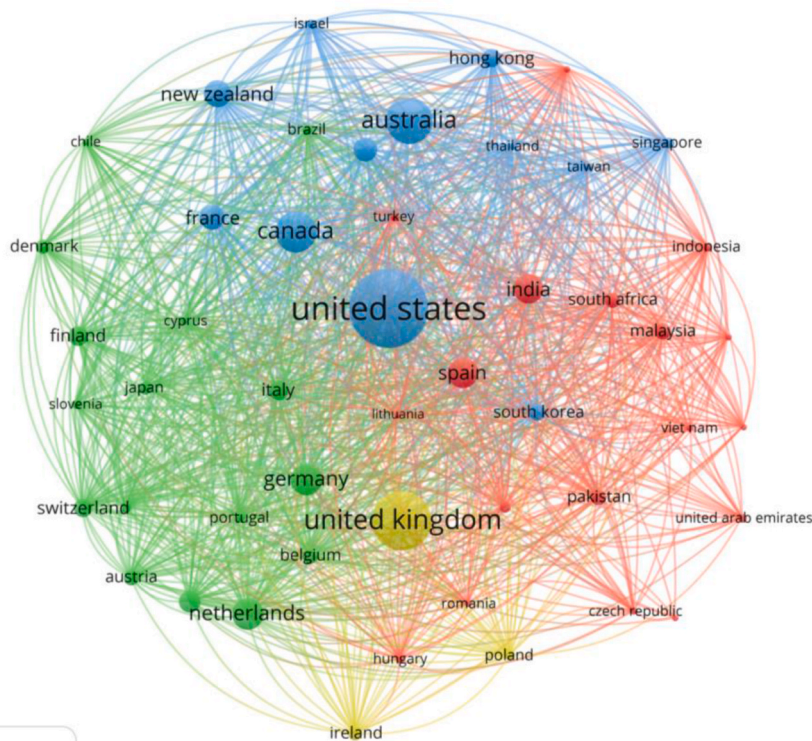
Fig. 6. Bibliographic coupling based on countries.
Source: Scopus database, 2011–2022, compilation with VoS viewer.

Table 10
Bibliographic coupling of documents related to WLB.

S. No.	Document	Citations	Total Link Strength
1.	Ceci S.J.; Ginther D.K.; Kahn S.; Williams W.M. (2014)	528	0
2.	Vandello J.A.; Bosson J.K. (2013)	437	10
3.	Haar J.M.; Russo M.; Suñe A.; Ollier-Malaterre A. (2014)	356	52
4.	Lyons S.; Kuron L. (2014)	335	5
5.	Felstead A.; Henseke G. (2017)	285	42
6.	Rudman L.A.; Mescher K. (2013)	282	15
7.	Sonnentag S.; Venz L.; Casper A. (2017)	265	39
8.	Del Boca D.; Oggero N.; Profeta P.; Rossi M. (2020)	237	1
9.	French K.A.; Dumani S.; Allen T.D.; Shockley K.M. (2018)	217	84
10.	Boxall P.; Macky K. (2014)	209	9
11.	Deery M.; Jago L. (2015)	202	2

Source: Scopus Database, 2011–2022, Compilation with VoS Viewer.

"psychology".

Using a VOS viewer, the co-occurrence network analysis results of 6212 keywords taken from research publication titles and abstracts are shown in Fig. 9. Finding co-occurrence patterns among these terms was the study's primary goal. The VOS viewer required a minimum of ten keyword occurrences for better results; this resulted in 159 keywords. Thirty-seven superfluous terms were eliminated, leaving 125 keywords for the investigation. Furthermore, each keyword was separated into nine clusters, each given a distinct colour. Twenty-eight keywords, including "career satisfaction," "job performance," "age," and "job satisfaction," are included in the first cluster, which is highlighted in red. Seventeen keywords, including "happiness," "productivity," "social responsibility," etc, are found in the second cluster, which is indicated in green. The third cluster, highlighted in blue, has 14 keywords, including terms like "stress," "mental health," and "burnout." The fourth cluster, shown in yellow, has 14 terms, including "work-life balance," "resilience," and "work-family conflict," among others. There are thirteen terms in the fifth cluster, coloured purple, with the two most frequent keywords being "childcare" and "leadership". The two most important terms in the sixth cluster, which is shown in cyan, are "work from home" and "psychological well-being." Eleven keywords are included in the seventh cluster, which is highlighted in orange, with the most common terms being "working time" and "work-life conflict." The nine keywords, including "part-time work" and "gender inequality," are highlighted in the eighth cluster in brown. The final set of six keywords from the pink cluster includes
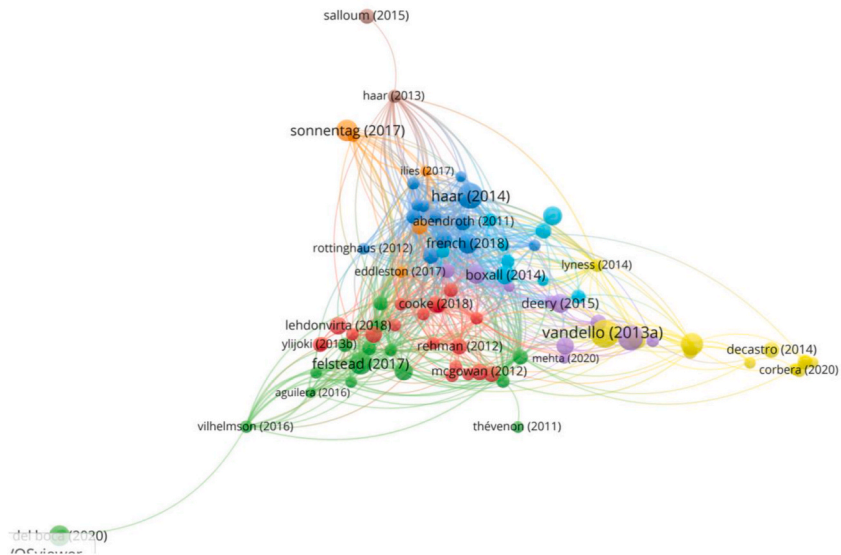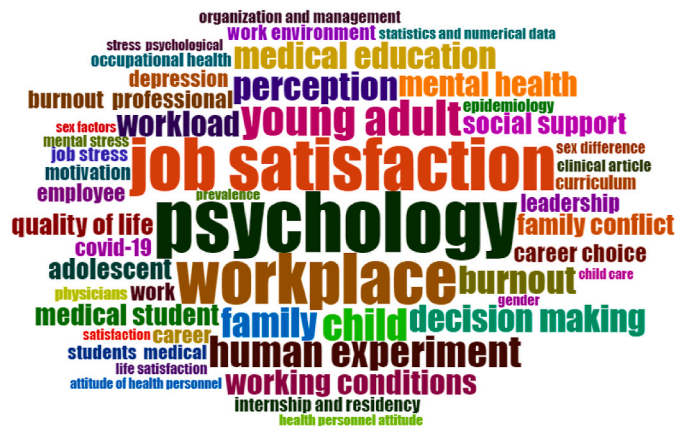
Fig. 7. Bibliographic coupling of documents.
Source: Scopus database, 2011–2022, compilation with VoS viewer.

(a) Authors' Keywords

(b) Keywords Plus

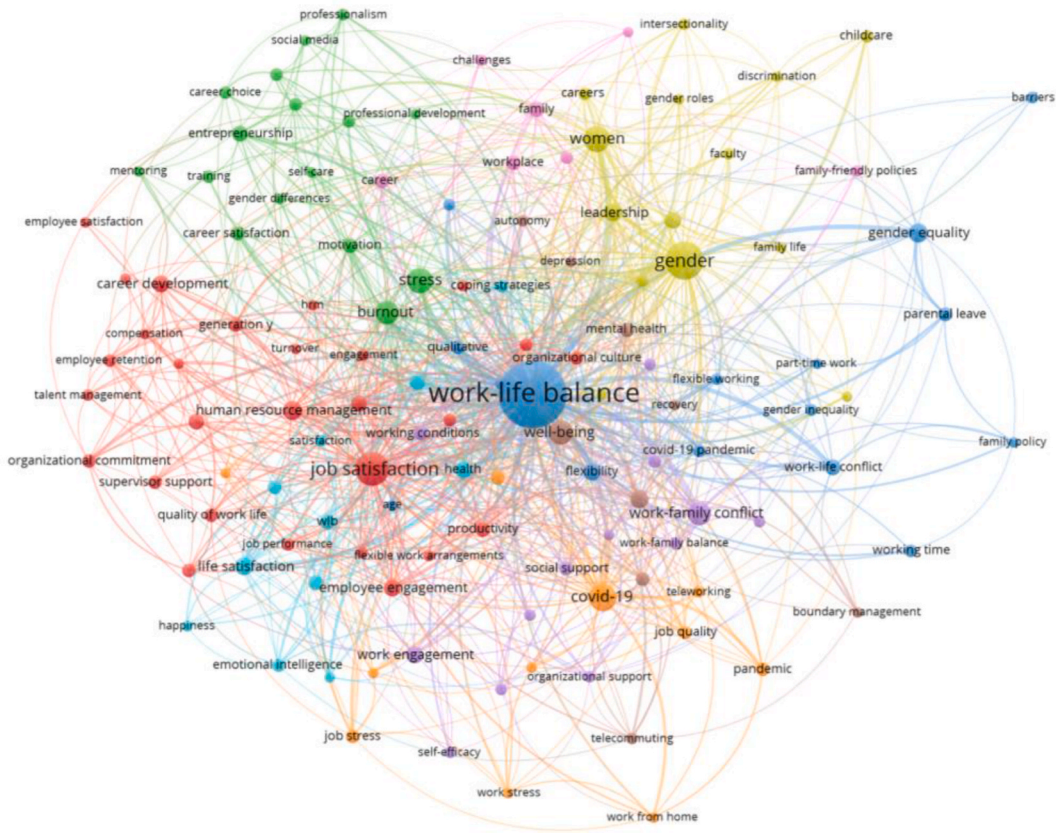**Fig. 8.** Word cloud of keywords.

Fig. 9. Co-occurrence network of keywords.

"management," "family-friendly policies," etc. The top 10 keywords associated with the WLB studies are listed in Table 11.

The analysis highlights the key concepts and themes as well as the intricate connections between them, showing how they come together to define the state of WLB research today. The complexity of the field's investigation into how many facets of work-life balance impact both the personal and professional spheres is made evident by this methodological approach. We can identify the range of research emphasis areas and the changing trends by looking at these keyword clusters, which gives us a thorough picture of how WLB studies help to better understand and enhance the interaction between the work and life domains.

3.10. Results and methodology synthesis

The analysis and statistics presented in the conceptual topography section provide valuable insights into the characteristics, trends, and influential works within the domain of WLB research. These analyses directly contribute to addressing the research questions and objectives outlined in the methodology section. Specifically, the analysis of publication trends over time, subject area distribution, and collaboration patterns helps characterize the current state and evolution of WLB research. This information can address research questions aimed at understanding the growth, interdisciplinary nature, and global reach of WLB studies. Furthermore, the

Table 11
Co-occurrence of keywords related to WLB (top 10 keywords based on number of occurrences).

S. No.	Keyword	Occurrences	Total link strength
1.	Work-life balance	790	898
2.	Gender	199	238
3.	Job satisfaction	155	262
4.	Covid-19	100	144
5.	Women	85	131
6.	Stress	78	103
7.	Well-being	72	112
8.	Burnout	66	83
9.	Work-family conflict	65	112
10.	Human resource management	42	62

identification of top-cited papers, influential authors, and prominent affiliations and funding sources shed light on the seminal works, key contributors, and driving forces shaping the conceptual foundations and future directions of WLB research. These findings can directly inform research questions focused on mapping the theoretical frameworks, paradigms, and emerging areas within this field. The methodological section likely outlines the use of bibliometric techniques, such as citation analysis, co-authorship analysis, and keyword co-occurrence analysis, to systematically explore and quantify the conceptual landscape of WLB publications. The specific analytical approaches employed in the conceptual topography section should align with and operationalize the methods described in the methodology. Overall, the conceptual topography section provides empirical evidence and quantitative insights that directly contribute to answering the research questions outlined in the methodology section. By clearly establishing this link, coherence is ensured between the analytical approach, findings, and overarching research objectives, thereby enhancing the quality and impact of the study.

4. Thematic and cluster analysis of WLB research from 2011 to 2022

This section provides a detailed examination of the evolution and interconnectivity of research themes in WLB through thematic evolution analysis and bibliographic cluster analysis.

4.1. Thematic evolution analysis

A different strategy that can provide insight into the periodic evolution of research in WLB is "thematic evolution" analysis, illustrated in Fig. 10, and involves using a "Sankey diagram." This method offers a thorough overview of the field's evolution, including shifts in research focus and emerging trends. The "Sankey diagram" demonstrates the main themes' evolving trajectories and provides a detailed knowledge of how various themes interact across decades [46]. The Bibliometrix software was used to build the block diagram that included each subject. Every block has the most used word along with the relevant sub-period. The block size will grow depending on how many keywords are connected to that topic [46]. The width and colour of the lines that separate various themes can be used to infer information about the flow of the ideas and the degree of links between them. Thick lines show stronger relationships, while different colours represent different research themes [46].

The analysis demonstrates the many essential links among the ideas that emerged during WLB research. The subjects' connections have gotten more robust over time. Some topics have grown compactly and gradually since they were first introduced. One such theme that increased gradually till the last sub-period of 2020–2022 is "stress". On the other hand, specific themes steadily expanded up to a certain degree before starting to decline. For instance, the subject "career" increased until the sub-period of 2014–2016, then began to decline during the sub-period of 2017–2019, and then increased again during the last period of 2020–2022. However, concepts like "professionalism" and "resilience" have recently become prominent themes in the WLB between 2017 and 2022.

4.2. Cluster analysis

The VOS viewer software was utilized to categorize WLB publications based on their bibliographic connection. Similar scientific papers cite the same sources, and these works create bibliographic couples that demonstrate the intellectual connections [71]. A bibliographic coupling study of the 2717 publications published on WLB between 2011 and 2022 revealed 24 clusters. With a minimum of 50 citations, the 159 documents fulfilled the criteria, streamlining and enriching the research much more. Using 130 linked
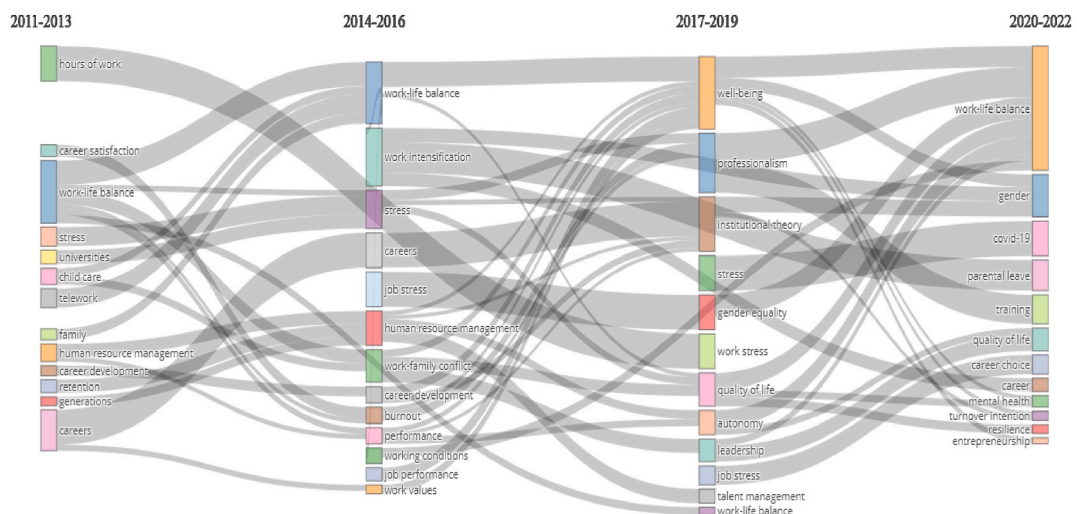
Fig. 10. Thematic evolution of WLB research from 2011 to 2022.

Table 12
Bibliographic clusters of WLB publications.

Cluster	Central Theme	Major Topics	T. P.	Title	Authors	Year	T. C.
1 (Red)	Job stress	Employee well-being, job performance, job satisfaction, organizational commitment, balance with the job–life–family, work-life balance, psychological preoccupation.	23	Advances in recovery research: What have we learned? What should be done next? Organizational Members' Use of social networking sites and job performance: An exploratory study Are generational differences in work values fact or fiction? Multi-country Evidence and Implication The jingle-jangle of work–nonwork balance: A comprehensive and meta-analytic review of its meaning and measurement. Mindfulness as a cognitive-emotional segmentation strategy: An intervention promoting work-life balance	Sonnentag, S., Venz, L., & Casper, A. Murad Moqbel, Saggi Nevo, Ned Kock Julie Cogin Casper, W. J., Vaziri, H., Wayne, J. H., DeHauw, S., & Greenhaus, J. Alexandra Michel, Christine Bosch, Miriam Rexroth	2017 2013 2012 2017 2014	265 181 173 139 129
2 (Green)	Work-life balance strategies	Retention strategies, talent management, temporal flexibility, working arrangements and employment relationships, permanent and part-time work.	22	Revisiting talent management, work-life balance, and retention strategies Flexibility in the gig economy: managing time on three online piecework platforms All of the work? All of life? Reconceptualizing work-life balance for the 21st century	Margaret Deery, Leo Jago Vili Lehdonvirta Clare Kelliher, Julia Richardson, Galina Boiarintseva	2015 2018 2018	202 165 118
3 (Blue)	Productivity	Employee engagement, corporate social responsibility, health and safety policies, Female entrepreneurship, expectations, and realities.	16	Corporate social responsibility as an employee governance tool: Evidence from a Quasi-experiment Female entrepreneurship and the management of business and domestic roles: Motivations, expectations, and realities Are family-friendly workplace practices a valuable firm resource?	Caroline Flammer, Jiao Luo Pauric McGowan, Caroline Lewis Redeker Nick Bloom, Tobias Kretschmer, John Van Reenen	2015 2011 2011	198 159 139
4 (Yellow)	Work arrangements	Housework, childcare, organizational control, workers' transformation, adoption of telework	15	Women's and men's work, housework, and childcare before and during COVID-19 Transcending Socialization: A Nine-Year Ethnography of the Body's Role in Organizational Control and Knowledge Workers' Transformation Who and where are the flexible workers? Exploring the current diffusion of telework in Sweden	Daniela Del Boca, Noemi Oggero, Paola Profeta & Mariacristina Rossi Alexandra Michel Bertil Vilhelmson, Eva Thulin	2020 2012 2016	237 161 94
5 (Purple)	Work intensification	Life satisfaction, mental health, anxiety, depression, fatigue.	15	Outcomes of work-life balance on job satisfaction, life satisfaction, and mental health: A study across seven cultures High-involvement work processes, work intensification, and employee well-being	Jarrod M. Haar, Marcello Russo, Albert Suñe, Ariane Ollier-Malaterre Peter Boxall and Keith Macky	2014 2014	356 209
6 (Cyan)	Work overload and job insecurity	Work values, work attitudes, leadership, teamwork, career patterns,	14	Generational differences in the workplace: A review of the evidence and directions for future research The construction of academic identity in the Changes in Finnish higher education	Sean Lyons, Lisa Kuron Oili-Helena Ylijoki, Jani Ursin	2013 2013	335 123
7 (Orange)	Quality of work	Remote working, organizational commitment, job effectiveness, the impact of remote e-working,	13	Assessing the growth of remote working and its consequences for effort, well-being, and work-life balance An exploration of the psychological factors affecting remote workers' job effectiveness, well-being, and work-life balance	Alan Felstead, Golo Henseke Christine A. Grant, Louise M. Wallace, Peter C. Spurgeon	2017 2013	285 193
8 (Brown)	Role conflict	Risk-taking, aggression, stress, mental health, and gender equality.	6	Hard-won and quickly lost: A review and synthesis of theory and research on precarious manhood.	Vandello, J. A., & Bosson, J. K Laurie A. Rudman, Kris Mescher	2013 2013	437 282

Table 12 (*continued*)

Cluster	Central Theme	Major Topics	T.P.	Title	Authors	Year	T.C.
9 (Pink)	Various supports for work-life balance	Social support, family support, work interference, social support, the relationship between gender and work-interference-with-family.	4	Penalizing Men Who Request a Family Leave: Is Flexibility Stigma a Femininity Stigma?	French, K. A., Dumani, S., Allen, T. D., & Shockley, K. M. Shockley, K. M., Shen, W., DeNunzio, M. M., Arvan, M. L., & Knudsen, E. A.	2018	217
				A Meta-analysis of work-family Conflict and social support		2017	152
				Disentangling the relationship between gender and work-family conflict: An integration of theoretical perspectives using meta-analytic methods			
10 (Parrot Green)	Human resource management challenges	Family support, co-worker support, supervisor support, work-life balance policies, and work-family culture.	2	Examining the moderating influence of gender on the relationships between work-family antecedents and work-family enrichment	Rupashree Baral, Shivganesh Bhargava Narendra M. Agrawal, Naresh Khatri, R. Srinivasan	2011	58
				Managing growth: Human resource management challenges facing the Indian software industry		2012	56

Note: All the works in the Table are included based on their citations; only the two – five most-cited publications are presented under each cluster. Here, T.P. = total publication, T.C. = total citations.
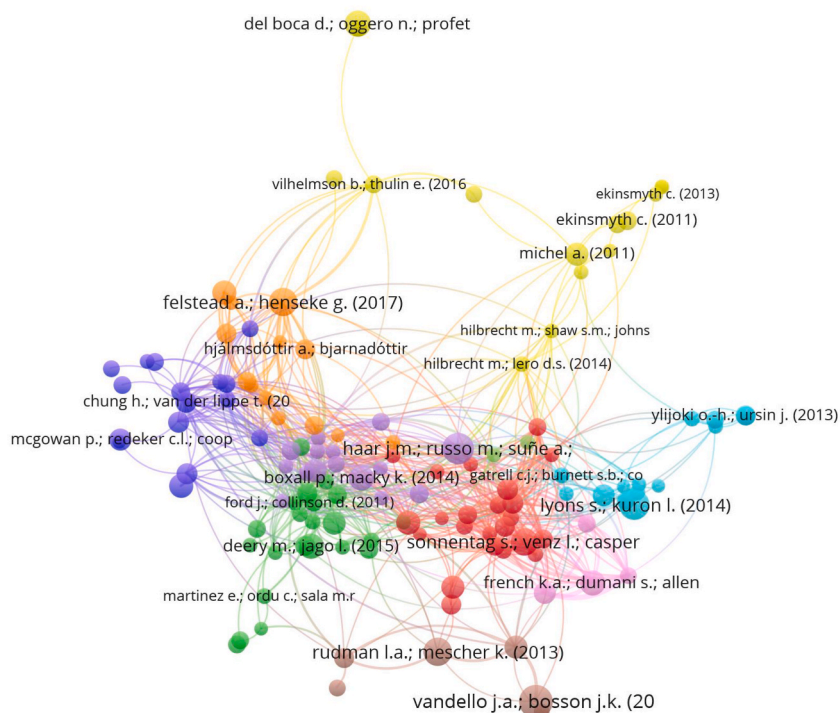Source: Scopus database 2011–2022 and VoS compilation.

Fig. 11. Network visualization of clusters.

documents out of 159, ten bibliographic clusters are created, indicating the main subjects and themes covered by most publications cited in each cluster (Table 12). A network view of the collections is shown in Fig. 11.

4.2.1. Job stress: cluster 1

There are twenty-three publications in the first cluster. This cluster covered various topics, including work-life balance, psychological preoccupation, organizational commitment, job performance, job satisfaction, and employee well-being. Research on stress recovery by Sonnentag et al. received 265 citations [63]. In their investigation of work performance, Moqbel et al. received 181 citations [72]. Cogin received 173 citations for his work on generational differences [73]. Focusing on work-life balance, Casper et al. and Michel et al. got 139 and 129 citations, respectively [74,75].

4.2.2. Work-life-balance strategies: cluster 2

In the second cluster, twenty-two publications are found. Deery and Jago's research on retention strategies and staff management was acknowledged with 202 citations [68]. Lehdonvirta received 165 citations while concentrating on the gig economy [76]. Kelliher et al. looked into permanent and part-time job approaches and got 118 citations [1].

4.2.3. Productivity: cluster 3

There are sixteen publications in the third cluster. Researching corporate social responsibility, Flammer & Luo received 198 citations [77]. In 2012, McGowan et al. researched female entrepreneurship and received 159 citations [78]. After analyzing workplace practices, Bloom et al. received 139 citations [79].

4.2.4. Work arrangements: cluster 4

There are fifteen publications in the fourth cluster. Del Boca et al. looked at housework and related topics and received 237 citations [64]. Michel looked at sources of organizational control and received 161 citations [80]. Flexible work was investigated by Vilhelmson & and Thulin using 94 sources [81].

4.2.5. Work intensification: cluster 5

There are fifteen publications in the fifth cluster. Research on life satisfaction was done by Haar et al., and work intensification was examined by Boxall Macky, who received 356 and 209 citations, respectively [38,65].

4.2.6. Work overload and job insecurity: cluster 6

There are fourteen publications in the sixth cluster. Ylijoki and Ursin discussed collaboration, while Lyons and Kuron focused on generational disparities and received 123 and 335 citations, respectively [60,82].

4.2.7. Quality of work: cluster 7

There are thirteen publications in the seventh cluster. Felstead and Henseke examined distant work, and Grant et al. examined job effectiveness; their studies yielded 285 and 193 citations, respectively [61,83].

4.2.8. Role conflict: cluster 8

The eighth cluster has six publications in it. Vandello and Bosson looked into risk-taking, and Rudman & Mescher looked at mental health; they received 437 and 282 citations, respectively [59,62].

4.2.9. Various supports for work-life balance: cluster 9

Four publications make up the ninth cluster. With 217 and 152 citations, French et al. examined social support for WLB, whereas Shockley et al. noted the gender effect for WLB [35,84].

4.2.10. Human resource management challenges: cluster 10

The two publications make up the eleventh cluster. Work-family antecedents were covered by Baral & Bhargava. The difficulties in human resource management were examined by Agrawal et al., with 58 and 56 citations, respectively [85,86].

4.3. Theme evolution and interconnection

The thematic evolution analysis provides valuable insights into the dynamic interplay between various themes in the field of WLB research. The relationships between these themes are multifaceted, evolving, and shaping the overall trajectory of this domain. Here's an in-depth analysis of these themes' relationships, nature, and evolution, and their impact on the WLB research field's development. Initially, the focus was on core themes such as "stress," "career," and "job performance," laying the foundation for understanding the fundamental challenges and implications of WLB. These themes were interconnected, as stress often arose from the conflict between work and personal life, impacting career progression and job performance. This early emphasis on foundational concepts set the stage for subsequent research directions.

As the field progressed, the emergence of themes like "professionalism" and "resilience" signaled a shift toward exploring strategies and personal attributes that could help individuals navigate the complexities of WLB. These themes intersected with the earlier ones, recognizing that professionalism and resilience could mitigate the effects of stress and enhance job performance while maintaining a balanced lifestyle. Simultaneously, the theme of "work-life balance strategies" gained prominence, reflecting the growing recognition of the need for practical solutions to address WLB challenges. This theme intersected with various others, such as "work arrangements," "productivity," and "work intensification," as researchers explored flexible work arrangements, the impact of WLB on productivity, and the effects of work intensification on employee well-being.

The cluster analysis further illuminates the interconnectedness of these themes. For instance, the "job stress" cluster encompasses themes like "employee well-being," "job satisfaction," and "organizational commitment," highlighting the intricate relationships between stress, work-life balance, and organizational factors. Similarly, the "work-life balance strategies" cluster encompasses themes like "retention strategies," "talent management," and "working arrangements," emphasizing the role of organizational policies and practices in facilitating WLB. Notably, the emergence of themes like "quality of work," "role conflict," and "work overload and job insecurity" reflects the evolving nature of work and the associated challenges for WLB. These themes intersect with earlier ones, such as "stress" and "job performance," indicating the ongoing complexities and dynamic relationships within the field.

The impact of these themes' relationships, nature, and evolution on the WLB research field's development is multifaceted. Firstly, it has led to a more holistic and nuanced understanding of the factors influencing WLB, acknowledging the interplay between individual, organizational, and societal factors. Secondly, it has fostered interdisciplinary collaborations, as researchers from diverse fields like psychology, sociology, and management contribute their perspectives to address the multifaceted nature of WLB challenges. Thirdly, it has catalyzed the development of practical interventions and policies, as organizations and policymakers seek to leverage the insights from WLB research to enhance employee well-being and productivity. Overall, the thematic evolution analysis highlights the dynamic and interconnected nature of WLB research, where various themes have emerged, evolved, and intersected over time, shaping the field's trajectory and contributing to a more comprehensive understanding of this crucial aspect of modern work and life.

5. Discussion and implication

This section summarizes the essential findings and implications of the bibliometric and thematic analysis of the WLB study.

5.1. Discussions

The findings of this comprehensive bibliometric analysis and thematic review of WLB research provide valuable insights into the current state, evolution, and future directions of this critical field. Several key implications and considerations emerge from the study. Firstly, the significant growth in WLB publications, especially in recent years, underscores the increasing recognition of the importance of this topic among scholars, organizations, and societies. The interdisciplinary nature of WLB research, spanning social sciences, business, psychology, and economics, highlights the multifaceted impact of work-life dynamics on various aspects of individual and organizational well-being. However, the declining trend in citations per article suggests a potential saturation or fragmentation of the field, necessitating novel theoretical frameworks and methodological approaches to reignite impactful research.

Secondly, the dominance of certain institutions, countries, and funding sources in WLB research reflects regional priorities, research strengths, and available resources. This pattern presents opportunities for international collaboration and knowledge exchange, enabling a more diverse range of perspectives and approaches to address the global challenges of work-life balance. Simultaneously, it emphasizes the need for increased investment and support for WLB research in underrepresented regions, ensuring a more equitable and inclusive discourse. Thirdly, the thematic analysis reveals the evolution of WLB research from foundational concepts like stress, career, and job performance to more nuanced themes such as professionalism, resilience, and work-life balance strategies. This progression reflects the field's maturation and the recognition of the complex interplay between individual, organizational, and societal factors influencing work-life dynamics. The emergence of themes like work intensification, role conflict, and job insecurity highlights the need to address the changing nature of work and its implications for WLB.

Furthermore, the cluster analysis provides a comprehensive overview of the diverse research areas within WLB, ranging from job stress and employee well-being to work arrangements, productivity, and human resource management challenges. This diversity underscores the multidisciplinary nature of WLB research and the importance of integrating insights from various domains to develop holistic solutions and policies. Moving forward, several avenues for future research emerge. Firstly, there is a need for more cross-cultural and comparative studies to understand the impact of cultural, societal, and institutional factors on work-life balance perceptions and strategies. Secondly, longitudinal studies that track the long-term effects of WLB interventions and policies on individual and organizational outcomes would provide valuable insights for evidence-based policymaking. Thirdly, the increasing prevalence of remote work, gig economies, and flexible work arrangements necessitates research on the unique challenges and opportunities they present for achieving a healthy work-life balance.

Additionally, future research should prioritize the development of theoretical frameworks that integrate diverse perspectives and findings from various disciplines, fostering a more cohesive understanding of WLB dynamics. Methodological innovations, such as the integration of qualitative and quantitative approaches, could provide a more nuanced and contextual understanding of the lived experiences and challenges associated with work-life balance. In conclusion, this study contributes to a comprehensive understanding of the current landscape, trends, and future directions of WLB research. By identifying influential works, key contributors, emerging themes, and potential research frontiers, it provides a solid foundation for scholars, practitioners, and policymakers to address the pressing challenges of achieving a sustainable work-life balance in our rapidly evolving work environments.

5.2. Implications

This study employs bibliometric and thematic analysis to provide essential insights for policymakers and organizational leaders regarding WLB research. Analyzing patterns and changes in WLB research establishes a basis for making informed strategic decisions. Policymakers can utilize this knowledge to design measures that specifically target the emerging concerns emphasized in the global context. This entails customizing policy at national and organizational levels to address specific difficulties found in the study. Organizations can use these insights to improve workplace well-being programs, ensuring they align with current global concerns. Moreover, the study emphasizes the significance of adaptable work schedules in attaining an improved equilibrium between work and personal life, urging organizations to advocate for and implement policies that cater to employees' requirements for increased flexibility.

Moreover, the consequences have a wide-reaching impact on the academic and research community. The suggested thematic areas have the potential to shape the research priorities in the field of WLB, motivating academics to explore specific issues in more depth and contributing to the growth of knowledge in this area. The study facilitates collaborative research by discovering shared interests among academics and institutions. Insights into global variances in WLB views can inform the development of culturally responsive strategies and policies. This information supports social advocacy efforts by informing workers of the global work-life balance discussion. It gives them the tools to take active steps toward improving the balance between their personal and work lives.

6. Conclusion, limitation, and future work

This part is devoted to our study's conclusion, its shortcomings, and its future directions for WLB research.

6.1. Conclusion

This review article aims to offer significant insights into WLB employing a thematic-cum-bibliometric analysis. Firstly, this paper uses publishing trends to investigate the field's retroactive advances. Secondly, the research furnished a concise summary of the representative statistics and the theoretical framework employed in the existing literature. Third, the structure of the research fields was outlined using various indicators in the citation analysis, which gave an outline of the selected study area. It has been stated that highly cited top research articles and journals serve as a gauge for the importance and appeal of articles and journals in this discipline and give early researchers a clear roadmap of the knowledge base. Fourth, bibliographic coupling analysis has been used to investigate an intellectual structure in this topic. In addition, a thematic analysis was conducted to extract different cluster research subjects. Finally, the content analysis of the most recent papers was used to look at the rising research trends and upcoming projects.

According to the findings, there is still much to comprehend about WLB and the different aspects affecting workers' capacity to manage their personal and professional lives. More investigation is required to pinpoint the precise processes by which various elements influence WLB and to determine practical tactics for advancing it in various organizational contexts. The analysis indicates that the intricate interactions between many elements and their effects on workers' well-being must be considered in a comprehensive

approach to WLB research. These revelations may be helpful to human resource management scholars, practitioners, and policymakers as they devise plans to advance WLB and enhance worker well-being. Future scholars hoping to advance in the WLB research field might find this study a comprehensive reference.

6.2. Limitations and future work

The study focuses exclusively on research articles; reviews, conference proceedings, book chapters, and other publications that might provide significant WLB-related insights are not included. One of the study's limitations is that it only used journals with Scopus indexation for data collection, which would have hindered the incorporation of relevant papers from other databases like Web of Science (WoS), Dimensions, PubMed, etc. The analysis examined only articles published between 2011 and 2022, excluding previous works that could have provided valuable insights. Furthermore, the co-authors' names are excluded from the assessment of author co-citations because only the first author is considered.

The results of this kind of research could potentially be impacted by the existence of other authors sharing the same name. By doing a comprehensive search and verifying that the names of the authors chosen from the database and those included in the papers under review are an exact match, this approach aimed to get beyond these limitations. To conduct future research comparable to this one, researchers can analyze the bibliometric records of WLB for the same or various periods and identify any changes in the publishing patterns involving keywords, authors, nations, scope, etc. Future studies might potentially use fresh data sources, such as the WOS (web of Science), to spot any trends in published publications. To undertake bibliometric analysis, this article has solely employed VOS viewer software; page rank, modularity, and network visualization can also be performed using other tools, such as Gephi, CiteSpace, etc. Despite the abovementioned limitations, this study endeavour could provide a foundation for comprehending WLB research, its current state, and the thematic flow of knowledge.

The study on the global landscape of work-life balance (WLB) research opens up several avenues for further exploration and research. Given the rapidly changing nature of work environments, socio-economic factors, and technological advancements, it is crucial to continue monitoring the trends and patterns in WLB research to identify emerging challenges and opportunities. One potential area for future research could involve delving deeper into the cultural and regional differences that influence WLB perceptions and practices. By conducting cross-cultural comparisons and examining the impact of societal norms, values, and policies, researchers can gain valuable insights into the contextualized factors that shape work-life balance dynamics. Moreover, as the nature of work continues to evolve with the rise of remote work, gig economies, and digital platforms, it becomes imperative to investigate the implications of these trends on WLB. Exploring the unique challenges and opportunities presented by these new work arrangements could contribute to the development of tailored strategies and policies that promote a healthy work-life balance.

Additionally, future research could delve into the intersectionality of WLB with other factors such as gender, age, socioeconomic status, and family structures. By examining these intersections, researchers can uncover the nuanced experiences and challenges faced by diverse populations, ultimately informing more inclusive and equitable WLB policies and practices. Furthermore, the impact of technological advancements, such as artificial intelligence, automation, and digital tools, on WLB warrants further investigation. Examining how these technologies can either alleviate or exacerbate work-life conflicts could provide valuable insights for organizations seeking to leverage technology effectively while promoting employee well-being. Finally, longitudinal studies that track the long-term effects of WLB initiatives and interventions on individual and organizational outcomes could offer valuable insights into the sustainability and effectiveness of such measures. By combining bibliometric and thematic analyses with empirical studies, researchers can contribute to a comprehensive understanding of WLB and its implications for individuals, organizations, and society as a whole.

Data availability statement

Data sharing does not apply to this article.

CRediT authorship contribution statement

Nancy Verma: Writing – original draft, Formal analysis, Data curation, Conceptualization. **Bhaskar Dhiman:** Writing – original draft, Validation, Software, Project administration, Methodology, Investigation, Conceptualization. **Vedant Singh:** Writing – original draft, Validation, Supervision, Project administration, Methodology, Investigation, Conceptualization. **Jatinder Kaur:** Supervision, Project administration, Formal analysis. **Sunita Guleria:** Writing – review & editing, Resources, Formal analysis. **Tej Singh:** Writing – review & editing, Resources, Investigation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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