

MAPPING FACULTY WELL-BEING RESEARCH IN HIGHER EDUCATION: A BIBLIOMETRIC ANALYSIS (2015–2024)

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Abstract: This study conducts a bibliometric and visualized analysis of international research on university teacher well-being from 2015 to 2024. Based on 182 valid articles retrieved from the WoSCC, CiteSpace was employed to examine annual publication trends, keyword co-occurrence, keyword bursts, thematic clusters, co-cited references, and collaboration networks among countries, institutions, and authors. The results show that university teacher well-being research has grown rapidly after 2020. Major hotspots include job satisfaction, burnout, mental health, stress, performance, life satisfaction, and occupational stress. The field has shifted from early concerns with stress, satisfaction, staff conditions, and performance toward recent interests in subjective well-being, happiness, adaptation, work engagement, and model construction. Co-cited reference and collaboration analyses suggest a growing but still fragmented research field.

Keywords: University teacher well-being; Faculty well-being; Higher education; Bibliometric analysis

1 INTRODUCTION

Well-being is generally regarded as a multidimensional construct rather than a single psychological state, involving subjective evaluations of life, affective experiences, psychological functioning, and the balance between individual resources and environmental challenges [1-3]. In educational contexts, teacher well-being is not only associated with teachers' personal happiness and professional fulfillment, but also closely related to teaching quality, teacher retention, teacher-student relationships, and broader educational outcomes [4-6]. Therefore, examining teacher well-being is essential for understanding both individual professional development and the sustainable development of educational institutions.

University and college teachers are expected to undertake multiple professional responsibilities, including teaching, research, student supervision, academic service, administrative work, public engagement, and international collaboration. These multiple role expectations may generate professional achievement and academic identity, but they may also produce stress, emotional exhaustion, work-life conflict, and declining job satisfaction when institutional demands exceed available resources [7-9]. Studies on higher education staff have repeatedly shown that academic employees are exposed to increasing workloads, intensified performance evaluation, administrative pressure, job insecurity, and mental health challenges [8, 9]. As a result, faculty well-being has become a key issue for higher education governance, academic labor studies, institutional management, and teacher development.

The concept of well-being itself has been discussed from different theoretical perspectives. Subjective well-being usually refers to individuals' cognitive and affective evaluations of their lives, including life satisfaction, positive affect, and the relative absence of negative affect [1]. Psychological well-being, by contrast, emphasizes positive functioning, autonomy, personal growth, environmental mastery, purpose in life, self-acceptance, and positive relations with others [3]. In workplace and educational research, well-being is often examined together with job satisfaction, morale, burnout, work engagement, occupational stress, mental health, resilience, and professional identity [6, 7, 10]. For university teachers, well-being is therefore shaped by the interaction of personal, institutional, and socio-cultural factors. At the individual level, academic identity, career stage, self-efficacy, coping strategies, motivation, and work-life balance may influence teachers' perceptions of happiness and professional satisfaction. At the institutional level, workload, promotion systems, collegial relationships, leadership style, employment security, research evaluation, and organizational support play important roles. At the broader social level, higher education policies, academic labor markets, cultural expectations of teachers, and public recognition of academic work also contribute to the construction of faculty well-being [4, 8, 9].

Over the past decade, research on teacher well-being has expanded rapidly. Previous studies have examined the relationship between teacher well-being and teaching effectiveness, job satisfaction, burnout, emotional labor, resilience, professional development, and mental health [5, 6, 10]. In higher education, scholars have paid increasing attention to faculty stress, academic workload, job insecurity, institutional support, workplace climate, and the psychological consequences of changing university governance [9]. In particular, the COVID-19 pandemic further intensified academic interest in teachers' mental health and well-being, as university teachers were required to adapt to emergency online teaching, technological change, blurred work-home boundaries, and increased emotional demands [11]. Consequently, teacher well-being in higher education has gradually developed into an interdisciplinary research field involving education, psychology, public health, management, sociology, and related disciplines.

Bibliometric analysis provides an effective method for identifying the structure and evolution of a research field. By examining publication trends, disciplinary distribution, keyword co-occurrence, co-cited references, co-cited authors, and collaborative networks, bibliometric tools can reveal both the visible and latent patterns of knowledge production [12]. The present study conducts a CiteSpace-based knowledge mapping analysis of international research on university teacher well-being. Specifically, this study seeks to answer the following research questions:

- (1) What are the annual publication trends of research on university teacher well-being from 2015 to 2024?
- (2) What research hotspots, thematic clusters, and emerging trends can be identified through keyword co-occurrence analysis, keyword burst detection, cluster analysis, and timeline visualization?
- (3) What are the major intellectual foundations and collaboration patterns of this field in terms of co-cited references, author collaboration, country/region collaboration, and institutional collaboration?

By answering these questions, this study aims to provide a systematic overview of international research on university teacher well-being and to clarify the knowledge structure, thematic evolution, and future directions of this field.

2 METHODOLOGY

2.1 Data Source and Processing

The data used in this study were retrieved from the Web of Science Core Collection (WoSCC), which is widely used in bibliometric studies because of its rigorous indexing standards, structured citation information, and compatibility with visual analysis tools such as CiteSpace [12, 13]. In order to obtain a representative dataset of international research on university teacher well-being, the search was conducted by combining well-being-related terms with higher education-related terms. The search query was formulated as follows: (“teacher well-being” OR “faculty well-being” OR “teacher happiness” OR “subjective well-being”) OR (“faculty morale” AND (“happiness” OR “well-being”)) OR (“job satisfaction” AND (“happiness” OR “well-being”)) OR (“mental health” AND (“happiness” OR “well-being”))) AND (“university” OR “college” OR “higher education”). The time span was set from 2015 to 2024. This period was selected because research on teacher well-being in higher education has developed rapidly over the past decade, especially in relation to academic workload, job satisfaction, mental health, institutional support, and the changing working conditions of university teachers. The document type was limited to articles in order to ensure the academic quality and comparability of the dataset. After retrieval and screening, a total of 182 articles were obtained for further analysis.

2.2 Research Tool and Analytical Procedure

CiteSpace is a Java-based visual analytic software designed to detect and visualize emerging trends, intellectual structures, and dynamic patterns in scientific literature [13]. In this study, CiteSpace was used to analyze the literature on university teacher well-being from multiple dimensions. First, annual publication trends were examined to reveal the general development of the field from 2015 to 2024. Second, country, institution, and author collaboration networks were generated to identify the major contributors and cooperative patterns in this research area. Third, keyword co-occurrence and keyword burst analyses were conducted to explore research hotspots and emerging topics. Fourth, reference co-citation analysis was performed to identify the intellectual foundation and influential literature of the field. Finally, cluster analysis and timeline visualization were used to reveal the thematic structure and temporal evolution of university teacher well-being research.

The basic parameter settings in CiteSpace were as follows. The time slicing was set from 2015 to 2024, with one year per slice. The term sources included title, abstract, author keywords, and Keywords Plus. Different node types were selected according to the specific analytical purpose, including country, institution, author, keyword, cited reference, and cited author. The selection criteria and pruning methods were adjusted according to the characteristics of each network in order to obtain clear and interpretable visual maps. In the generated maps, nodes represent analytical units such as countries, institutions, authors, keywords, or cited references; the size of a node indicates the frequency or citation strength of the unit; links between nodes indicate co-occurrence, cooperation, or co-citation relationships; and purple rings indicate high betweenness centrality, which suggests that the corresponding node plays an important bridging role in the network.

3 RESEARCH FINDINGS AND DISCUSSION

3.1 Annual Publication Trends

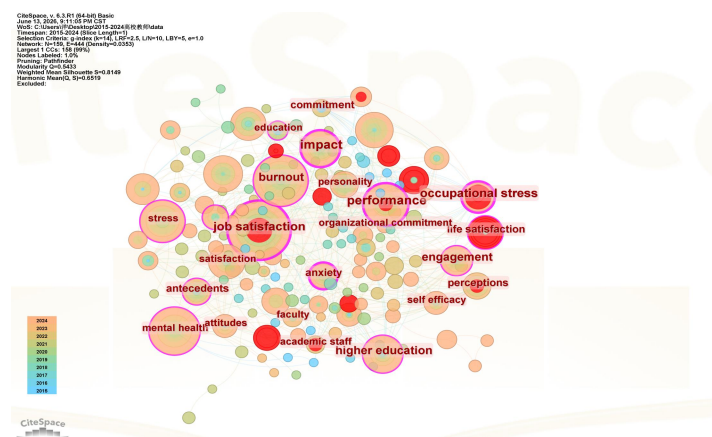
As shown in Figure 1, the overall publication trend demonstrates a clear upward trajectory, although the growth is not strictly linear. In the initial stage from 2015 to 2017, the annual output remained low and fluctuated slightly, with three publications in 2015, eight in 2016, and three in 2017. This suggests that research on university teacher well-being was still at an exploratory stage during this period. Although issues such as job satisfaction, occupational stress, academic staff morale, and mental health had already appeared in the literature, they had not yet converged into a highly visible and sustained research field. From 2018 to 2020, the field entered a stage of gradual growth. The number of publications increased to 10 in 2018 and 14 in 2019, before declining slightly to 11 in 2020. Compared with the previous stage, the volume of research became more stable, indicating that university teacher well-being had begun to attract more consistent scholarly attention. During this period, the field was mainly organized around work-related and

Year	Annual Publications	Cumulative Total
2015	3	3
2016	5	8
2017	3	11
2018	9	20
2019	14	34
2020	11	45
2021	12	57
2022	18	75
2023	10	85
2024	15	100

Figure 1 Annual Publication Trends

Overall, the annual publication pattern indicates that research on university teacher well-being has moved from a scattered and exploratory stage to a period of rapid development. The substantial growth in the later years shows that this topic has gained increasing academic visibility and has gradually developed into an interdisciplinary research area connecting higher education, psychology, organizational behavior, occupational health, and mental health studies.

Keyword co-occurrence analysis was conducted to identify the major research hotspots and conceptual relationships in studies of university teacher well-being. Keywords are concise indicators of the central topics of academic publications, and their co-occurrence patterns can reveal the thematic structure of a research field. As shown in Figure 2, the keyword co-occurrence network contains 159 nodes and 444 links, with a network density of 0.0353. The largest connected component includes 158 nodes, accounting for 99% of the whole network. This indicates that the keywords in this field are highly interconnected and that research on university teacher well-being has formed a relatively coherent knowledge structure. The modularity value is $Q = 0.5433$, and the weighted mean silhouette value is $S = 0.8149$, suggesting that the network has a clear cluster structure and relatively reliable internal consistency.



In the keyword co-occurrence map, node size represents keyword frequency, while the purple outer ring indicates betweenness centrality. The most frequent keyword is “job satisfaction” (frequency = 49, centrality = 0.22), indicating that job satisfaction constitutes a central entry point in the literature on university teacher well-being. It is followed by

“burnout” (frequency = 36, centrality = 0.18), “mental health” (frequency = 33, centrality = 0.17), “stress” (frequency = 25, centrality = 0.11), “performance” (frequency = 24, centrality = 0.26), “health” (frequency = 21, centrality = 0.06), “higher education” (frequency = 20, centrality = 0.13), “impact” (frequency = 19, centrality = 0.32), and “satisfaction” (frequency = 19, centrality = 0.08). These high-frequency keywords show that the field is mainly organized around work-related satisfaction, psychological health, occupational pressure, institutional context, and professional outcomes. Betweenness centrality further reveals the structural importance of specific keywords. The keyword with the highest centrality is “impact” (centrality = 0.32), suggesting that it plays an important bridging role in connecting different thematic areas. This reflects the field’s concern with the consequences and effects of teacher well-being on individuals, institutions, and professional performance. “Performance” also has a high centrality value (centrality = 0.26), indicating that professional performance functions as a key link between teacher well-being and higher education outcomes. In addition, “job satisfaction,” “occupational stress,” and “anxiety” all have centrality values of 0.22, showing that they are not only frequently discussed but also structurally significant in connecting work-related, psychological, and organizational topics.

The keyword co-occurrence results suggest three major thematic orientations in this field. The first orientation concerns work experience and organizational outcomes, represented by “job satisfaction,” “performance,” “impact,” “satisfaction,” “organizational commitment,” “engagement,” and “work engagement.” This group of keywords indicates that university teacher well-being is often examined in relation to professional satisfaction, work involvement, institutional commitment, and academic performance.

The second orientation focuses on psychological strain and negative well-being indicators, represented by “burnout,” “stress,” “occupational stress,” “anxiety,” “depression,” and “mental health.” These keywords suggest that a considerable proportion of the literature approaches university teacher well-being through the lens of occupational health psychology, emphasizing the psychological risks and emotional burdens associated with academic work.

The third orientation reflects positive psychological functioning and well-being resources, represented by “life satisfaction,” “happiness,” “subjective well-being,” “resources,” “self-efficacy,” “motivation,” and “adaptation.” This orientation indicates a shift from merely identifying stress and burnout toward understanding the resources, perceptions, and mechanisms that support sustainable well-being among university teachers. Overall, the keyword co-occurrence network shows that university teacher well-being research has developed into an interdisciplinary field linking higher education studies, occupational psychology, mental health research, and organizational behavior.

3.3 Keyword Burst Analysis

Keyword burst analysis was used to detect terms that experienced a sudden increase in scholarly attention during a specific period. Unlike high-frequency keywords, burst keywords reveal temporal changes in research focus and are useful for identifying emerging topics and research frontiers. Figure 3 presents the top 13 keywords with the strongest citation bursts from 2015 to 2024.

Top 13 Keywords with the Strongest Citation Bursts

Keywords	Year	Strength	Begin	End	2015 - 2024
occupational stress	2015	2.11	2015	2021	
job satisfaction	2015	1.61	2015	2020	
staff	2016	2.01	2016	2019	
academic staff	2016	1.31	2016	2019	
consequences	2016	1.31	2016	2018	
performance	2017	2.5	2017	2019	
perceptions	2018	1.4	2018	2020	
conservation	2019	1.27	2019	2021	
life satisfaction	2019	2.74	2022	2024	
subjective well-being	2022	2.36	2022	2024	
happiness	2017	2.24	2022	2024	
model	2022	2.15	2022	2024	
teacher well-being	2022	1.57	2022	2024	

Figure 3 Top 13 Keywords with the Strongest Citation Bursts

The strongest burst keyword is “life satisfaction” (strength = 2.74), with the burst lasting from 2022 to 2024. This indicates that life satisfaction has become one of the most prominent emerging topics in recent studies of university teacher well-being. The second strongest burst is “performance” (strength = 2.50), which occurred from 2017 to 2019, suggesting that earlier research was strongly concerned with the relationship between teacher well-being and professional outcomes. “Subjective well-being” also shows a strong burst from 2022 to 2024, with a burst strength of 2.36, followed by “happiness” (strength = 2.24, 2022–2024), “model” (strength = 2.15, 2022–2024), and “occupational stress” (strength = 2.11, 2015–2021).

The temporal distribution of burst keywords reveals a clear shift in the development of the field. In the early stage, “occupational stress” had the longest burst period, extending from 2015 to 2021. This suggests that occupational stress was one of the earliest and most sustained concerns in the literature. Similarly, “job satisfaction” showed a burst from 2015 to 2020, indicating that job satisfaction served as a major conceptual entry point for early research on university

teacher well-being. Other early burst terms, including “staff” (2016–2019), “academic staff” (2016–2019), “consequences” (2016–2018), and “performance” (2017–2019), further suggest that early studies tended to frame the topic around staff conditions, work outcomes, institutional performance, and the consequences of occupational pressure. From 2018 to 2021, the burst terms began to show a transitional pattern. “Perceptions” emerged as a burst keyword from 2018 to 2020, indicating growing attention to teachers’ subjective evaluations and lived experiences. “Conservation” showed a burst from 2019 to 2021, which may be associated with resource-based perspectives, especially studies concerned with how individuals preserve psychological and organizational resources under demanding work conditions. This transitional stage indicates that the field was moving from external outcomes and staff-level indicators toward more subjective and mechanism-oriented explanations.

A more significant thematic shift occurred after 2022. The burst keywords “life satisfaction,” “subjective well-being,” “happiness,” “model,” and “teacher well-being” all lasted from 2022 to 2024. These recent bursts indicate that the field has increasingly moved beyond treating well-being as the absence of stress, burnout, or dissatisfaction. Instead, well-being has begun to be conceptualized more explicitly as a positive and multidimensional construct involving happiness, life satisfaction, subjective evaluation, psychological resources, and professional fulfillment. The burst of “model” also suggests increasing attention to theoretical construction, empirical modeling, and the relationships among stress, satisfaction, burnout, engagement, motivation, and institutional support.

Overall, the keyword burst analysis shows that research on university teacher well-being has moved from a problem-oriented stage to a more positive and multidimensional stage. Earlier studies were mainly concerned with occupational stress, job satisfaction, staff conditions, performance, and consequences, whereas recent studies have increasingly emphasized life satisfaction, subjective well-being, happiness, teacher well-being, and model construction. This shift reflects the growing maturity of the field and suggests a transition from risk identification toward mechanism explanation and well-being promotion.

3.4 Thematic Clusters and Temporal Evolution

To further identify the thematic structure and temporal evolution of university teacher well-being research, keyword cluster analysis and timeline visualization were conducted using CiteSpace. Cluster analysis helps reveal the major thematic groups embedded in the keyword co-occurrence network, while the timeline view shows how these thematic clusters have developed over time. As shown in Figures 4 and 5, the keyword network generated ten major clusters. The modularity value of the network is $Q = 0.5433$, indicating that the network has a relatively clear modular structure. The weighted mean silhouette value is $S = 0.8149$, suggesting that the clustering result has a high degree of internal consistency and reliability.

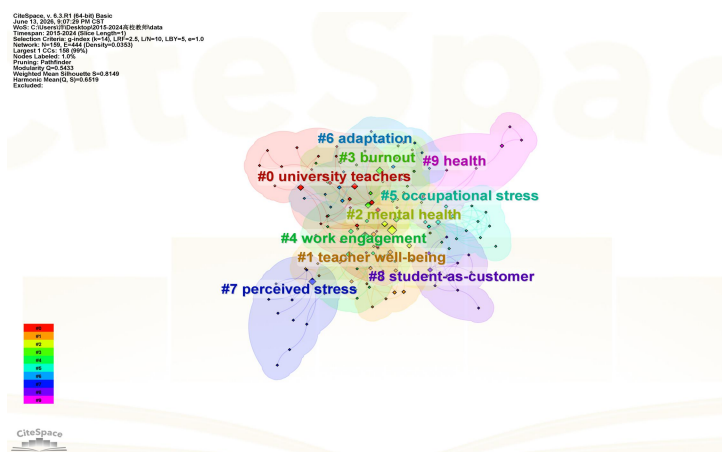


Figure 4 Keyword Cluster Map

As shown in Figure 4, the ten major clusters are #0 “university teachers,” #1 “teacher well-being,” #2 “mental health,” #3 “burnout,” #4 “work engagement,” #5 “occupational stress,” #6 “adaptation,” #7 “perceived stress,” #8 “student-as-customer,” and #9 “health.” These clusters indicate that research on university teacher well-being is not organized around a single concept. Instead, it has developed into a multidimensional knowledge structure involving professional identity, psychological health, occupational pressure, emotional exhaustion, work engagement, institutional adaptation, and the changing culture of higher education. Given their relative size and thematic centrality, the following discussion focuses on the five most prominent clusters, namely #0 “university teachers,” #1 “teacher well-being,” #2 “mental health,” #3 “burnout,” and #4 “work engagement,” while the remaining clusters are briefly summarized.

Cluster #0, labeled “university teachers,” is the largest cluster and directly corresponds to the main research population of this study. This cluster indicates that the literature has increasingly moved from general discussions of teachers or academic staff to a more specific focus on university teachers. It reflects the distinctive professional conditions of university teachers, who are required to balance teaching, research, student supervision, administrative service, academic performance evaluation, and career advancement within increasingly competitive higher education systems.

The prominence of this cluster suggests that university teachers are no longer treated merely as a subgroup of teachers in general, but as a specific professional group whose well-being requires independent scholarly attention.

Cluster #1, labeled “teacher well-being,” represents the core conceptual cluster of the field. The emergence of this cluster suggests that teacher well-being has gradually become an independent research topic rather than simply a secondary issue under job satisfaction, occupational stress, or burnout. This cluster is associated with positive psychological states, professional fulfillment, organizational support, and sustainable academic work. It indicates that the field has begun to develop a more explicit conceptual focus on well-being itself.

Cluster #2, labeled “mental health,” highlights the psychological and public health dimension of university teacher well-being. This cluster is related to anxiety, depression, psychological distress, emotional burden, and institutional support. Its prominence suggests that faculty well-being is increasingly understood not only as a matter of professional satisfaction, but also as an issue of occupational health and psychological care. This is particularly important in the context of higher education transformation, where academic staff are exposed to increasing workload, emotional demands, and performance pressure.

Cluster #3, labeled “burnout,” represents one of the most important negative indicators of teacher well-being. Burnout is closely associated with work overload, emotional exhaustion, reduced professional efficacy, and long-term occupational strain. The existence of this cluster shows that a considerable body of research continues to focus on the psychological costs of academic labor. It also suggests that burnout remains a key concept through which scholars examine the risks and consequences of deteriorating well-being among university teachers.

Cluster #4, labeled “work engagement,” reflects a more positive and resource-oriented dimension of the field. Unlike burnout and occupational stress, work engagement emphasizes teachers’ motivation, energy, involvement, and commitment to academic work. This cluster shows that recent studies have increasingly shifted from a deficit-based perspective to a more positive perspective that explores how teachers maintain engagement, self-efficacy, satisfaction, and professional vitality under demanding institutional conditions.

The remaining clusters further enrich the thematic structure of the field. Cluster #5 “occupational stress” and Cluster #7 “perceived stress” reflect the continuing importance of stress-related research, with the former emphasizing work-related demands and the latter highlighting teachers’ subjective appraisal of pressure. Cluster #6 “adaptation” points to teachers’ adjustment to changing academic, institutional, and technological environments, while Cluster #8 “student-as-customer” reflects the influence of market-oriented higher education culture on teacher well-being. Cluster #9 “health” complements the mental health and burnout clusters by indicating broader health-related concerns in university teacher well-being research.

The timeline view in Figure 5 further illustrates the temporal evolution of these clusters. In the early stage from 2015 to 2017, the field was mainly structured around occupational stress, job satisfaction, academic staff, performance, consequences, and mental health. This indicates that early research was largely problem-oriented and focused on the negative consequences of academic work, work-related pressure, and institutional outcomes. During this stage, teacher well-being was often examined indirectly through related concepts such as stress, satisfaction, performance, and staff conditions.

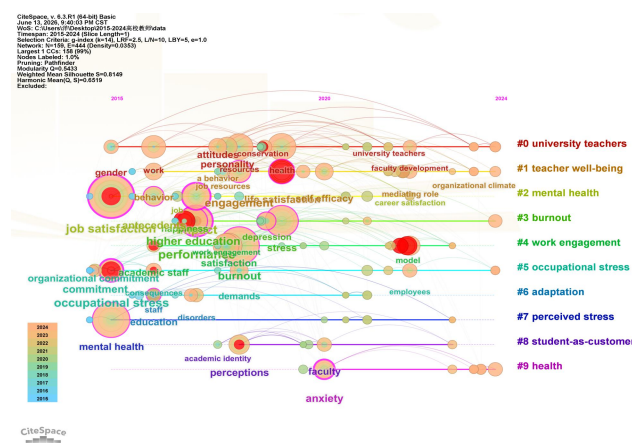


Figure 5 Timeline View of Keyword Clusters

From 2018 to 2021, the thematic focus became more diversified. Keywords such as burnout, perceived stress, engagement, health, depression, job resources, and attitudes became more visible in the timeline map. This suggests that the field gradually expanded from job satisfaction and occupational stress to broader psychological and emotional dimensions. At the same time, concepts related to resources and engagement indicate that researchers began to pay more attention to the factors that may protect or promote teacher well-being.

In the most recent period from 2022 to 2024, the field shows a clear movement toward more explicit and positive well-being themes. Keywords such as teacher well-being, life satisfaction, self-efficacy, organizational climate, career satisfaction, faculty development, model, employees, and adaptation became increasingly prominent. This indicates that recent studies have shifted from identifying risks and negative outcomes toward explaining mechanisms, constructing

models, and exploring the institutional and psychological conditions that support sustainable academic work. The emergence of “adaptation” also suggests that teacher well-being is increasingly discussed in relation to changing work environments, institutional transformation, and teachers’ capacity to adjust to new professional demands.

Taken together, the cluster and timeline analyses show that university teacher well-being research has undergone a gradual thematic transition. The field initially focused on occupational stress, job satisfaction, performance, and negative consequences. It then expanded to include burnout, mental health, perceived stress, work engagement, and psychological resources. In recent years, it has moved toward a more comprehensive framework that emphasizes teacher well-being, life satisfaction, adaptation, self-efficacy, organizational climate, and faculty development. This evolution indicates that the field is moving from a problem-identification stage toward a mechanism-explanation and well-being-promotion stage. University teacher well-being is therefore increasingly understood as a multidimensional construct shaped by individual psychological resources, work-related experiences, institutional conditions, and broader transformations in higher education.

3.5 Intellectual Foundations and Author Collaboration Network

To further identify the intellectual foundations and knowledge production patterns of university teacher well-being research, co-cited reference analysis, reference burst analysis, and author collaboration network analysis were conducted using CiteSpace. Co-cited references reveal the major knowledge bases of a research field, while citation bursts identify influential studies that received a rapid increase in scholarly attention during a specific period. Author collaboration analysis, by contrast, helps reveal the extent to which researchers in the field are connected through co-authorship.

As shown in Figure 6, the co-cited reference network contains 208 nodes and 403 links, with a network density of 0.0187. The largest connected component contains 102 nodes, accounting for 49% of the whole network. This suggests that the field has formed an identifiable core of co-cited literature, although the overall knowledge base remains relatively dispersed. Several highly visible references occupy central positions in the map, including Bakker & Demerouti [7]; Brooks et al. [14]; Daumiller et al. [15]; Greenier et al. [16]; Han et al. [17]; Hascher & Waber [6]; Kinman & Johnson [18]; MacIntyre et al. [19]; Mudrak et al. [20]; Panagioti et al. [21]. These references indicate that the intellectual foundation of university teacher well-being research is built upon several interrelated areas, including academic work stress, burnout, job demands and resources, teacher well-being, mental health, work engagement, and the psychological consequences of the COVID-19 pandemic.

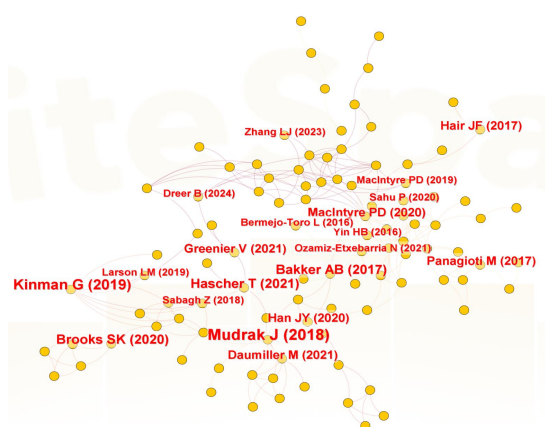


Figure 6 Co-cited Reference Network



Figure 7 Author Collaboration Network

Among the co-cited references, Mudrak et al. [20] is particularly important, with the highest co-citation frequency and the highest betweenness centrality in the dataset. Its high centrality value indicates that it plays a bridging role in connecting different lines of research. Kinman & Johnson [18], Hascher & Waber [6], Bakker & Demerouti [22], and Brooks et al. [14] are also frequently cited, suggesting that studies on stress management, teacher well-being reviews, occupational health psychology, and pandemic-related mental health concerns provide important conceptual and empirical support for this field. The presence of Bakker & Demerouti [22] also shows the influence of the job demands-resources perspective, which has been widely used to explain the relationship between workplace demands, resources, burnout, engagement, and well-being.

The reference burst analysis further reveals the temporal dynamics of influential literature. Six references show strong citation bursts between 2020 and 2024. Panagioti et al. [21] had a citation burst from 2020 to 2021, suggesting that burnout and occupational stress became important reference points during the early stage of intensified attention to well-being. Mudrak et al. [20] showed the strongest burst strength, lasting from 2021 to 2022, which confirms its significant influence on the development of university teacher well-being research. Brooks et al. [14] also had a burst from 2021 to 2022, reflecting the influence of pandemic-related mental health research on this field. More recent burst references include Han et al. [17], Daumiller et al. [15], and Kinman & Johnson [18], all of which remained active from 2022 to 2024. This indicates that recent studies have drawn increasing attention to higher education staff well-being,

academic motivation, work-related stress, and psychological adjustment. The continuation of these bursts into 2024 suggests that the field is currently moving beyond general discussions of stress and burnout toward more specific explanations of how university teachers experience, manage, and sustain well-being under changing academic conditions.

Figure 7 presents the author collaboration network. The network contains 133 nodes and 155 links, with a density of 0.0177. The largest connected component contains only 10 nodes, accounting for 7% of the whole network. This indicates that the author collaboration network is relatively sparse and fragmented. Although several collaborative groups can be identified, there is not yet a highly integrated or centralized international research community in this field. The most visible collaborative group includes authors such as Jessica Haskins, Daniel P. Link, Jeffrey Uppington, Lorin M Scher, Leslie Navarra, Peter Yellowlees, Andres F. Sciolla, Carol Kirshnit, John G. Carson, and Celia H. Chang [23]. This group forms the largest connected component in the author collaboration map. Another important group includes Jiri Mudrak, Marek Blatny, Petr Kveton, Iva Solcova, Katerina Machovcova, Katerina Zabrodskaa, and Martin Jelinek [20], whose publications are also visible in the co-cited reference network. Other small collaborative groups can also be observed, but many authors remain isolated or loosely connected.

The author collaboration results suggest that research on university teacher well-being is still characterized by small-scale team collaboration rather than large-scale cross-team or cross-national collaboration. This pattern may be related to the interdisciplinary nature of the field, as studies are distributed across education, psychology, occupational health, higher education management, and organizational behavior. It may also indicate that the field is still developing and has not yet formed stable global collaboration networks. Therefore, future research may benefit from stronger international cooperation, comparative studies across higher education systems, and more sustained collaboration among scholars from different disciplinary backgrounds.

Taken together, the co-cited reference and author collaboration analyses show that university teacher well-being research has developed a recognizable but still evolving intellectual foundation. Its knowledge base is mainly shaped by studies on occupational stress, burnout, job demands and resources, teacher well-being, mental health, and pandemic-related academic work. However, the author collaboration network remains relatively fragmented, suggesting that the field still has considerable potential for stronger scholarly integration and international collaboration.

3.6 Country/Region and Institutional Collaboration Networks

To examine the geographical distribution and institutional collaboration patterns of university teacher well-being research, country/region and institutional collaboration networks were generated using CiteSpace. Country/region collaboration analysis reveals the macro-level distribution of scholarly production, while institutional collaboration analysis shows the meso-level organization of research communities. Together, these two maps help identify the major contributors and collaborative structures in the field.

As shown in Figure 8, the country/region collaboration network contains 55 nodes and 59 links, with a network density of 0.0397. The largest connected component includes 39 nodes, accounting for 70% of the whole network. This suggests that international collaboration exists in this field, although the overall density of collaboration remains relatively low. In the network, China, the USA, England, Australia, Germany, Spain, Canada, South Africa, Saudi Arabia, the Netherlands, Italy, the United Arab Emirates, Iran, Hungary, and Portugal are among the most visible contributors. The large node size of China and the USA indicates their important positions in the production of research on university teacher well-being. England, Australia, Germany, and Spain also occupy prominent positions, suggesting that the field has attracted attention across different higher education systems.

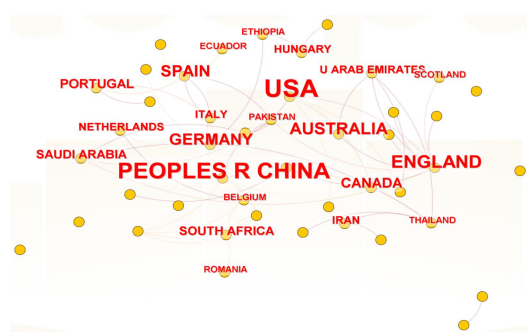


Figure 8 Country/Region Collaboration Network



Figure 9 Institutional Collaboration Network

The country/region network shows that research on university teacher well-being is geographically diverse, but the collaboration structure is not yet highly integrated. China appears as one of the most productive contributors, reflecting growing scholarly attention to university teachers' work pressure, job satisfaction, mental health, and professional development in the context of rapid higher education expansion. The USA and England also play important roles, which may be related to their long-standing research traditions in higher education studies, occupational health psychology, and faculty development. Australia, Germany, Spain, and Canada are also visible in the network, indicating that teacher well-being has become a shared concern across different national and institutional contexts.

As shown in Figure 9, the institutional collaboration network contains 104 nodes and 72 links, with a network density of 0.0134. The largest connected component includes only 8 nodes, accounting for 7% of the whole network. Compared with the country/region collaboration network, the institutional network is more fragmented, indicating that institutional-level cooperation is still relatively limited. Although several collaborative groups can be identified, most institutions are weakly connected or isolated in the network.

The most visible institutions include the University System of Ohio, Ohio State University, Brigham Young University, the University of Iowa, Albert Einstein College of Medicine, Indiana University Indianapolis, Indiana University System, California State University System, University of Houston, University of Houston System, University of Adelaide, and the Czech Academy of Sciences. Among them, the University System of Ohio has the highest frequency, suggesting its relatively strong contribution to this research field. The California State University System, University of Houston, University of Houston System, University of Adelaide, and Czech Academy of Sciences also appear as important institutional contributors. However, the low network density and small largest connected component indicate that these institutions have not yet formed a strongly connected global collaboration network.

Taken together, the country/region and institutional collaboration networks suggest that university teacher well-being research has become an internationally distributed field, with contributions from Asia, North America, Europe, Oceania, and the Middle East. However, the collaboration pattern remains uneven. At the macro level, several countries and regions have begun to form visible connections, especially China, the USA, England, Australia, Germany, and Spain. At the institutional level, collaboration is more scattered and localized, with limited cross-institutional integration. This indicates that future research may benefit from stronger international and inter-institutional collaboration, especially comparative studies across higher education systems and interdisciplinary projects involving education, psychology, public health, and organizational studies.

4 CONCLUSION

This study conducted a CiteSpace-based bibliometric and visualized analysis of international research on university teacher well-being from 2015 to 2024. Based on 182 valid articles retrieved from the WoSCC, it examined annual publication trends, keyword co-occurrence, keyword bursts, thematic clusters, co-cited references, and collaboration networks among authors, countries/regions, and institutions. The findings provide a systematic overview of the knowledge structure, research hotspots, intellectual foundations, and developmental trajectory of this field over the past decade.

The results show that research on university teacher well-being has grown substantially, especially after 2020. The field developed slowly from 2015 to 2017, expanded gradually from 2018 to 2020, and entered a stage of rapid growth from 2021 to 2024. This trend indicates that university teacher well-being has become an increasingly visible topic in higher education studies, psychology, occupational health, and organizational behavior, partly in response to changing academic work conditions, growing concerns about mental health and burnout, and the impact of the COVID-19 pandemic. Keyword co-occurrence, burst detection, cluster analysis, and timeline visualization reveal a clear thematic evolution. Earlier studies mainly focused on occupational stress, job satisfaction, staff conditions, performance, and negative consequences, whereas recent studies have increasingly emphasized life satisfaction, subjective well-being, happiness, teacher well-being, work engagement, adaptation, and model construction. The major clusters, including “university teachers,” “teacher well-being,” “mental health,” “burnout,” “work engagement,” “occupational stress,” “adaptation,” “perceived stress,” “student-as-customer,” and “health,” suggest that the field has developed into a multidimensional knowledge structure linking professional identity, psychological health, institutional pressure, work engagement, and the transformation of higher education. The co-cited reference analysis indicates that the intellectual foundation of the field is mainly built on studies of occupational stress, burnout, job demands and resources, teacher well-being, mental health, and pandemic-related academic work. Collaboration network analysis further shows that although research on university teacher well-being has become geographically diverse, cooperation among authors, institutions, and countries/regions remains relatively fragmented. Future studies may therefore benefit from stronger cross-national, cross-institutional, and interdisciplinary collaboration.

In sum, this study shows that university teacher well-being research has moved from a problem-oriented concern with stress and job satisfaction toward a broader framework that integrates mental health, positive well-being, work engagement, adaptation, and organizational support. However, this study is limited by its reliance on the WoSCC and its focus on articles published between 2015 and 2024. Future research may expand data sources, compare different databases, incorporate full-text qualitative analysis, and further examine how institutional policies, academic evaluation systems, digital transformation, and cultural contexts shape university teachers’ well-being.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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AUTHOR CONTRIBUTIONS

Fang Qiao contributed to the conceptualization and design of the study, data collection, interpretation of the analytical results, manuscript drafting, and revision. QianYang Wu contributed to data processing, bibliometric analysis, knowledge mapping visualization, and revision.

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