Trends in the literature about work-life balance among higher education teachers

Tendências na literatura sobre o equilíbrio trabalho e vida entre professores do ensino superior

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A b s t r a c t

The purpose of this paper is to review the extant literature on work-life balance among higher education teachers, as well as their main conflicts, using bibliometric analysis in an attempt to gauge the evolution of this concept since its emergence in higher education institutions. Based on a bibliometric analysis of 105 articles in the period of 1990– July 2020, this paper carries out the following bibliometric techniques: citation analysis, co-ocurrence of authors, terms/words and keywords. The study reveals the direction of research that the field of work-life balance among higher education teachers has taken over the past decade. The study reveals the most influential journals, institutions, countries and authors pertaining to the research on work-life balance among higher education teachers, along with the evolution of the concept over the years. Three significant conflicts emerge out as prominent themes in the literature: job satisfaction; concern about promotion and career opportunities; and pressures to achieve the institution's goals. The results allow a comprehensive understanding of the concept of work-life balance so that teachers can improve well-being in the professional and family environment.

Resumo

O objetivo deste artigo é revisar a literatura existente sobre o equilíbrio entre trabalho e vida pessoal de professores do ensino superior, bem como seus principais conflitos, por meio de análise bibliométrica, na tentativa de avaliar a evolução desse conceito desde o seu surgimento nas instituições de ensino superior. Com base na análise bibliométrica de 105 artigos no período de 1990 a julho de 2020, este trabalho realiza as seguintes técnicas bibliométricas: análise de citações, coocorrência de autores, termos/palavras e palavras-chave. O estudo revela as tendências que a pesquisa sobre o equilíbrio entre trabalho e vida dos professores de ensino superior tem apresentado na última década. A pesquisa mostra os periódicos, instituições, países e autores mais influentes na área em estudo, juntamente com a evolução do conceito ao longo dos anos. Três conflitos significativos emergem como temas proeminentes na literatura: satisfação no trabalho; preocupação com promoções e oportunidades de carreira; e pressões para atingir os objetivos da instituição. Os resultados permitem uma compreensão abrangente do conceito de conciliação entre trabalho e vida pessoal para que os professores possam melhorar o bem-estar no ambiente profissional e familiar.

1 INTRODUCTION

Work-life balance refers to the subjects' intention to associate work and family in order to reconcile the level of stress, number of hours worked and obligations that are external to the work environment. Flexibility in working hours and the organizational structure geared to the individual needs of the employee contribute to work-life balance (KANG; PARK; PARK, 2019).

In this way, work-life balance is defined as the balance between the different demands of family and work. Work demands have the potential to interfere with family life (MAKHBUL; SHEIKH; SHEIKH, 2014). The work-life balance concept addresses not only the structure of conflicts, but also extends beyond the "family" to address other concerns not related to work, such as leisure activities, health, personal development and community commitments (KANG; PARK; PARK, 2019).

Researchers tried to conceptualize work-life balance among teachers of higher education institutions in a generic way through conceptual models and theoretical frameworks (PASAMAR; JOHNSTON; TANWAR, 2020; LYNCH *et al.*, 2020; NILSSON; BLOMQVIST; ANDERSSON, 2017). In addition, researchers relate work-life balance to productivity in the professional environment of higher education institutions (HEIs) and seek, through empirical research, alternatives that harmonize certain conflicts in teachers' work-life balance, in order to consolidate the commitments with the HEI (PU *et al.*, 2017; ARIF; ILYAS, 2013; CATANO *et al.*, 2010).

Due to the breadth of literature on work-life balance and its increasing representativeness for the well-being of higher education teachers (PASAMAR; JOHNSTON; TANWAR, 2020; JOHNSON; WILLIS; EVANS, 2019; DENSON; SZELÉNYI; BRESONIS, 2018), an in-depth analysis is necessary to systematize a holistic view of this concept.

Currently, no study has concentrated efforts on assessing the work-life balance of higher education teachers, identifying the main conflicts and the evolution of the concept. Review studies by authors Saltmarsh and Randell-Moon (2015), You (2016) and Hermann, Ziomek-Daigle and Dockery (2014), extract some ideas about the consequences that the imbalance between professional and family life can cause on psychological health, and describe strategies to recognize the need for teachers to balance their work commitments and family demands.

However, despite the increasing body of literature on the work-life balance of teachers in higher education institutions (HEIs), these studies have limitations in adequately addressing the primary conflicts faced by teachers. As a result, they fall short in providing a comprehensive assessment of the recent challenges experienced by educators.

Nonetheless, there exists a notable gap in the literature, calling for an in-depth review that delves into the conflicts surrounding teachers' work-life balance. This review should aim to offer a systematic and comprehensive analysis, elucidating the historical evolution of this concept within higher education institutions.

The purpose of this paper is to review the extant literature on work-life balance among higher education teachers and their main conflicts using bibliometric analysis in an attempt to gauge the evolution of this concept since its emergence in higher education institutions. This research presents originality in comparison to the review studies carried out previously based on three aspects: i) methodological rigor, ii) attempt to highlight the trends related to work-life balance in the academic professional environment based on an expanded literature and iii) report the various professional and family conflicts of HEI teachers.

Therefore, the present study attempts to answer the following research questions: i) Who are the most eminent authors in the field and which institutions, journals and countries are influential in the field of research? ii) What are the main conflicts emerging from the work-life balance among higher education teachers?

The study addresses these research questions and collaborates with the academic community as follows: this study contributes to the work-life balance theory, identifying the dominant emerging conflicts in the professional field of higher education institutions. As for its social relevance, this study aims to provide an understanding of work-life balance for deans, directors and coordinators, whichwould help them to implement this concept as a strategic intervention in higher education institutions. Work-life balance is an important topic for the satisfaction, retention and productivity of academic staff, therefore, this article provides important results for the topic, especially in policy and management functions at universities.

2 RESEARCH METHODOLOGY

A systematic literature review was conducted to fulfill the aim of this research. The *Methodi Ordinatio* (PAGANI; KOVALESKI; RESENDE, 2015) was used to select the articles to be analyzed in this research, as shown in **Figure 1**.

Figure 1: Summary of literature review steps
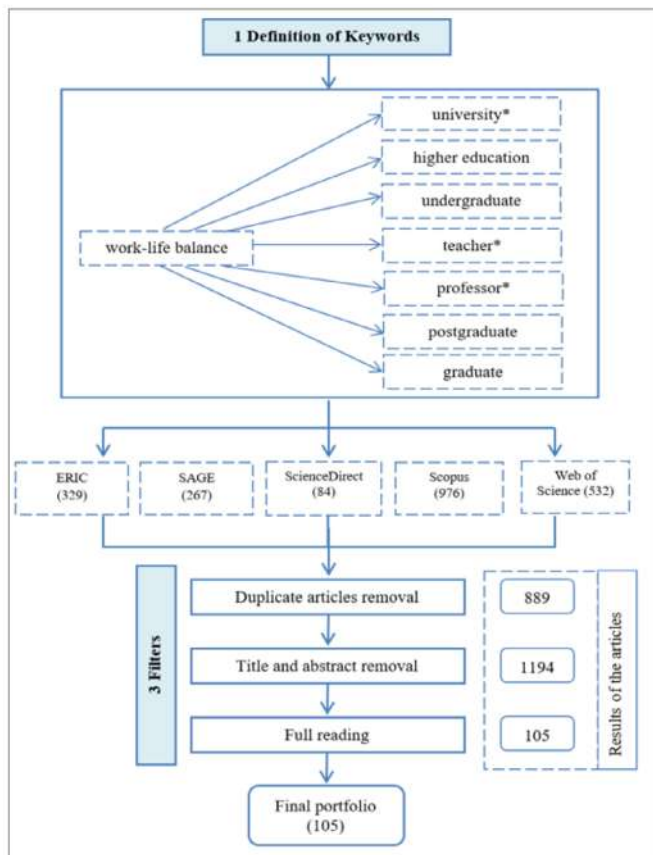
Source: Own Authorship (2020)

For the search of articles and review articles, the databases used in this study were ScienceDirect, Scopus, Web of Science, Sage and ERIC. Scopus and Web of Science databases were chosen because they are among the largest bibliographic reference bases in the multidisciplinary field of science. In addition, they present applied and basic sources of research in a wide coverage of high-impact journals (NORRIS; OPPENHEIM, 2007). Due to the search for research involving education and quality of life of teachers, ScienceDirect was used, as it has technical, scientific and health research. The ERIC database, on the other hand, contains more than 1.5 million bibliographic references in Educational Sciences (ELSEVIER, 2020; ERIC, 2020). The Sage database was chosen because it has references in management and human resources articles (SAGE, 2020).

The query used in the searches, making use of Boolean operators and wildcards, was: "work-life balance" AND university*; "work-life balance" AND "higher education"; "work-life balance" AND undergraduate; "work-life balance" AND teacher*; "work-life balance" AND professor*; "work-life balance" AND postgraduate; "work-life balance" AND graduate. The search was conducted in the mentioned databases, in July 2020, restricting the analysis to articles published only in journals, without books, chapters of books and proceedings of congresses. The search did not restrict

the timeline, since the research focus is the evolution of the concept of work-life balance in higher education institutions.

After searching the databases, a result of 2188 articles was obtained. Subsequently, 889 duplicate articles were excluded, resulting in a total of 1299. Filtering by title and abstract was performed, eliminating those studies that were not related to this search, according to the following criteria (see **Table 1**):

Table 1: Exclusion criteria for the title and abstract filter

Criteria	Description of the criteria	Number of articles
Study object	Articles that do not research the work-life balance	655
Applicability	Articles that do not research the work-life balance of higher education teachers	395
Research field	Articles that are related to Basic Education	144
Total		1194

Source: Own Authorship (2020)

After applying the exclusion criteria for the title and abstract filter, a result of 105 articles was obtained. After the complete reading, no article was eliminated, as all articles were adapted to the analyzed theme and, therefore, 105 articles remained in the final portfolio.

To perform this method, the softwares Mendeley, Jabref and Microsoft Excel were used to accomplish data entry. *Methodi Ordinatio* suggests an equation formula that relates the number of citations of the article, IF (impact factor) and year of publication. Google Scholar was used to define the number of citations; for the impact factor was considered JCR 2019 (Journal Citation Reports); these data were obtained in July 2020. In the Ordinatio coefficient, the factors considered are the year of publication and a score (α) rated from 1 to 10 by the author. The authors assigned a score of 5 to the importance of article actuality in relation to the year of publication, where a score closer to 10 indicates higher importance. This scoring decision was made to strike a balance in considering the timeframe of the study, as it did not impose any specific time restrictions. For the 105 articles, the following formula was applied:

$$InOrdinatio = (Fi / 1000) + \alpha * [10 - (YearPesq - YearPub)] + (\sum Ci).$$

Where:
Fi: Journal impact factor;
α: Coefficient attributed by the researcher, usually 10;
YearPesq: Year of research;
YearPub: Year of publication of the paper; and
Ci: Citation number of the article in other studies.

The InOrdinatio equation provides an aid in the decision-making procedure regarding the definition of the scientific representativeness of each paper. No paper was eliminated at this stage since, with the application of the equation, no article with negative index was returned.

A comprehensive bibliometric analysis was carried out for this research, in order to answer the pre-defined research questions. Bibliometric analysis generates interconnections between articles with the citation and co-citation by other studies in relation to frequency. Certain bibliometric analysis techniques were used in this study, such as citation analysis, co-occurrence of authors, terms / words and keywords. Citation analysis is a technique that evaluates various aspects of a given research area in relation to selected units, such as: year of publication; influential journals; reference of eminent authors; and countries and institutions (MOED, 2005).

The second technique is based on the analysis of co-occurrences, used to explain the link between the selected articles in relation to the authors, terms / words and keywords. Through clusters it is possible to perform a content analysis that helps to identify the main research trends. With the technique of co-occurrence of keywords and terms / words, it is possible to measure the occurrences that appear in the same articles (SEDIGHI, 2016). For co-occurrence analysis, VOSviewer bibliometric visualization software was used. The VOSviewer software is used to build and visualize bibliometric networks that are easy to interpret (VAN ECK; WALTMAN, 2009).

3 RESULTS

3.1 CITATION ANALYSIS

This analysis presents the general statistics related to the research carried out, such as articles with the highest InOrdinatio indexes; number of publications per year; most influential authors, countries and journals.

3.1.1 General results

This section considers a total of 105 articles written by 314 authors and co-authors, published in 84 journals, from 1990 to 2020, developed by 21 countries in 97 teaching and research institutions, with a total number of 536 keywords and 3628 cited references. These results present a general analysis of all the articles reviewed in the work-life balance research among higher education teachers.

3.1.2 Number of publications per year

The evolution of the number of publications on work-life balance among higher education teachers was examined from 1990 to July 2020, revealing intriguing phases of development (see **Figure 2**).

Figure 2: Number of publications per year
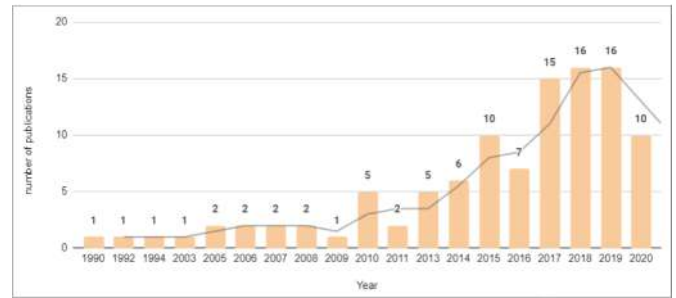
Source: Own Authorship (2020)

The idea of a balance between professional and family life emerged after the Second World War, when it became more common for women with children to remain in the workforce and reconcile family responsibilities with jobs outside the home. The term "work-life balance" in higher education has appeared since the 1990s, when women's and union movements began to demand support for working mothers, including in universities (HOWELL; SERVIS; BONHAM, 2005; HART, 1994). Studies in the United Kingdom and the United States in the 1990s and early 2000s begin to provide insights into academic work roles, workload and occupational stress, including work-life balance (GRAWITCH; TRARES; KOHLER, 2007; SCHEIB, 2003; ROSSMILLER, 1992; BORG, 1990).

From 2005 to 2009, the first concepts of work-life balance appear in the field of higher education institutions. During this period, a relatively low number of articles were published on the topic in academic journals. However, in the period from 2010 to 2019 the number of articles has an upward trend, with a fall in 2011. The years 2018 and 2019 witnessed the largest number of publications to date. The publications were analyzed until July 2020, and it is not possible to perform a complete count of articles published in that year.

3.1.3 Most-cited documents

This section shows the 32 articles with the most scientific relevance that have an InOrdinatio index above 50 (see **Table 2**), making a list of the number of citations of the article (CI), impact factor (IF) and the year of publication.

Table 2: Most cited articles in the literature about work-life balance among teachers in higher education

Rank	Article	IF	CI	InOrdinatio
1	Academic staff workloads and job satisfaction: Expectations and values in academe (HOUSTON; MEYER; PAEWAI, 2006)	0,939	441	421
2	Occupational stress in UK higher education institutions: A comparative study of all staff categories (TYTHERLEIGH *et al.*, 2005)	2,129	427	402
3	Healthy Workplace Practices and Employee Outcomes (GRAWITCH; TRARES; KOHLER, 2007)	2,164	244	229
4	Effort-reward imbalance, over-commitment and work-life conflict: testing an expanded model (KINMAN; JONES, 2008)	1,380	168	158
5	Occupational Stress in Canadian Universities: A National Survey (CATANO *et al.*, 2010)	2,164	133	133

6	Expert commentary on work-life balance and crossover of emotions and experiences: Theoretical and practice advancements (WESTMAN; BROUGH; KALLIATH, 2009).	5,026	104	99
7	Gender, health and stress in English university staff - Exposure or vulnerability? (TYTHERLEIGH *et al.*, 2007)	2,808	111	96
8	Quality of work-life model for teachers of private universities in Pakistan (ARIF; ILYAS, 2013)	0	77	92
9	'Different people have different priorities': work–family balance, gender, and the discourse of choice (BEDDOES; PAWLEY, 2014)	3,000	71	91
10	Women Faculty Departures from a Striving Institution: Between a Rock and a Hard Place (GARDNER, 2013)	2,545	75	90
11	Women's progression to senior positions in English universities (DOHERTY; MANFREDI, 2006)	1,641	109	89
12	Predictors of job satisfaction among academic faculty members: Do instructional and clinical staff differ? (CHUNG *et al.*, 2010)	4,570	84	84
13	Choices or Constraints? Family Responsibilities, Gender and Academic Career (BAKER, 2010)	0,267	78	78
14	Generation-specific incentives and disincentives for nurse faculty to remain employed (TOURANGEAU *et al.*, 2015)	2,561	51	76
15	Greedy institutions, overwork, and work-life balance (SULLIVAN, 2014)	1,091	52	72
16	The effect of psychological capital between work–family conflict and job burnout in Chinese university teachers: Testing for mediation and moderation (PU *et al.*, 2017)	2,503	36	71
17	Achieving work-life balance: Current theoretical and practice issues (POELMANS; KALLIATH; BROUGH, 2008)	1,935	80	70
18	Exploring the tensions of being and becoming a medical educator (SETHI *et al.*, 2017)	1,831	31	66
19	Cultures of Work-Life Balance in Higher Education: A Case of Fragmentation (LESTER, 2015)	1,638	37	62
20	Relation of work-life balance, work-family conflict, and family-work conflict with the employee performance-moderating role of job satisfaction (SOOMRO; BREITENECKER; SHAH, 2018)	0	21	61
21	Work-Life Balance and Cultural Change: A Narrative of Eligibility (LESTER, 2013)	2,545	45	60
22	An examination of stressors, strain, and resilience in academic and non-academic U.K. university job roles (JOHNSON; WILLIS; EVANS, 2019)	2,164	12	57
23	Awareness, Integration and Interconnectedness: Contemplative Practices of Higher Education Professionals (BEER *et al.*, 2015)	0	32	57
24	Predictors of job satisfaction among academic family medicine faculty: Findings from a faculty work-life and leadership survey (KRUEGER *et al.*, 2017)	3,112	19	54
25	Correlates of Work-Life Balance for Faculty Across Racial/Ethnic Groups (DENSON; SZELÉNYI; BRESONIS, 2018)	2,205	13	53
26	Salutogenic resources in relation to teachers' work-life balance (NILSSON; BLOMQVIST; ANDERSSON, 2017)	0	18	53
27	Chilly climates, balancing acts, and shifting pathways: What happens to women in STEM doctoral programs (CABAY *et al.*, 2018)	0	13	53
28	Do family responsibilities and a clinical versus research faculty position affect satisfaction with career and work-life balance for medical school faculty? (BECKETT *et al.*, 2015)	0	28	53
29	Correlations of the `"Work-Family Conflict" With Occupational Stress-A Cross-Sectional Study Among University Employees (JERG-BRETZKE *et al.*, 2020)	2,849	2	52
30	The impact of work-life balance on intention to stay in academia: Results from a national survey of pharmacy faculty (LINDFELT *et al.*, 2018)	2,844	12	52
31	Work-life balance of nursing faculty in research- and practice-focused doctoral programs (SMELTZER *et al.*, 2015)	2,833	27	52
32	Benchmarking work practices and outcomes in Australian universities using an employee survey (LANGFORD, 2010)	0,939	51	51

Source: Own Authorship (2020)

The articles are classified in descending order of the InOrdinatio index. Among the articles analyzed, 31.7% received InOrdinatio above 50, with the article 'Academic staff workloads and job satisfaction: Expectations and values in academe' (HOUSTON; MEYER; PAEWAI, 2006) classified as the most scientifically relevant, with InOrdinatio of 421. In this article, the authors present a concept to understand work-life balance and, then explore this concept from the perception of teachers from different universities, and explain how these professionals make decisions about the balance of their time.

The next article with the greatest InOrdinatio is 'Occupational stress in UK higher education institutions: A comparative study of all staff categories' (TYTHERLEIGH *et al.*, 2005). In this article, the authors present the concept of work-life balance, analytically defining the conflict in the level of occupational stress of teachers involved in higher education institutions. As these articles essentially deal with the concept of work-life balance among higher education teachers, they received a high number of citations, considered as references in the literature on this research topic.

3.1.4 Most influential journals

This section describes the most influential journals that have shaped the literature in the evaluated field. From a total of 81 journals, three journals that obtained more than one publication and are evaluated in JCR 2019 were selected.

As a result of the increased number of published articles, both the 'Journal of Athletic Training' and the 'International Journal of Stress Management' are classified with three articles each. However, it is premature to conclude that this arrangement is currently influencing or shaping the field of research. Then, having a higher JCR index, 'Academic Medicine' is the one that stands out the most with 5.354 points. The results show that the journals that were classified belong to the areas of human resources, health and education, therefore, it is clear that this is a theme with a multidisciplinary characteristic.

3.1.5 Most influential countries and institutions

This section illustrates the most influential countries in terms of the number of publications in the work-life balance literature among higher education teachers (see **Figure 3**).

Figure 3: Number of scientific publications per country
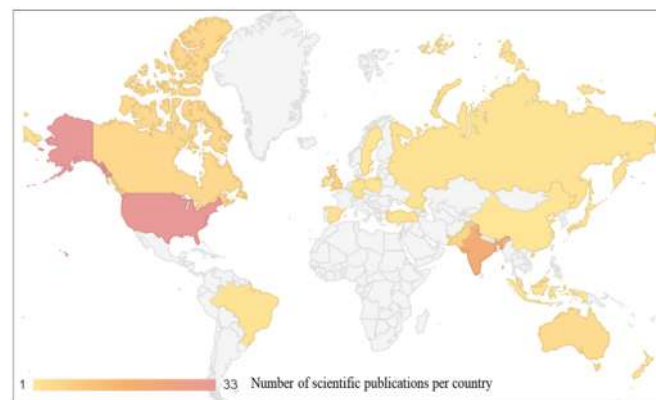
Source: Own Authorship (2020)

America is the continent with the highest number of high impact publications related to the topic, since 39.6% of the articles evaluated are from American countries. Asia also appears with a representative contribution of 34.6% of publications. Among the

countries with the highest number of surveys are the USA (32.7%) and India (19.8%). The continents of Europe and Oceania are those that appear less prominently in relation to the topic addressed, with 19.8% and 5.9% of articles respectively.

The most prominent institutions in terms of the number of publications are the University of California, the Faculty of Engineering of Trivandrum and the Faculty of Nursing of the University of Villanova, with three publications each. The reduced number of articles per university allows us to infer that there is no study center that focuses on the proposed theme.

3.2   CO-OCCURRENCE ANALYSIS

This analysis presents the following results: co-occurrence of keywords, terms/words and authors.

3.2.1   Co-occurrence of keywords

This analysis presents a visual map of the co-occurrence of keywords used most frequently, being representative for identifying the main topics of the 105 articles analyzed. The map was built using a complete counting method, with a minimum number of five occurrences, resulting in 26 keywords out of a total of 536. There are four clusters with 350 links (see **Figure 4**).

Figure 4: Co-ocurrence of keywords
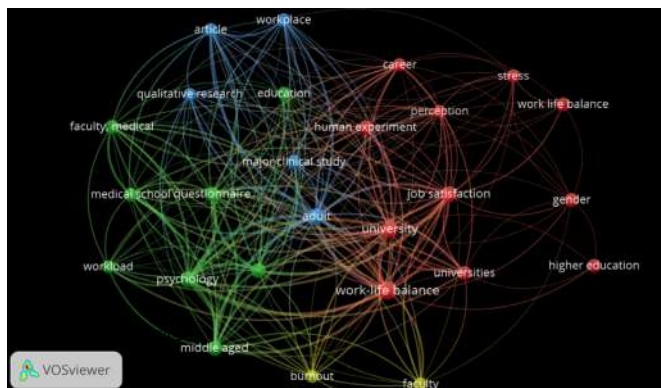
Source: Own Authorship (2020)

The keywords that most appear in the literature are 'work-life balance', 'university' and 'job satisfaction'. It is noticed that the largest cluster (red) is composed of 11 related words. When analyzing the classification of terms, it is possible to notice that the studies that deal with work-life balance in higher education institutions show conflicts of teachers in relation to the following themes: job satisfaction (MEHARUNISA, 2019; BAKER, 2010), career development (LYNCH *et al.*, 2020; AMITH; VINAY; GOWRAMMA, 2019) and level of stress at work (JERG-BRETZKE *et al.*, 2020; PU *et al.*, 2017).

The second largest cluster (green) consists of eight keywords, and analyzing the relationship between these terms,

there is a tendency for studies on conflicts involving the health area, such as the compromise of physical and psychological health due to tension at work (ZEHRA; RUKHSANA, 2020; JOHNSON; WILLIS; EVANS, 2019).

3.2.2   Co-ocurrence of terms/words by title and abstract

The terms / words co-occurred according to the title and abstract of the 105 articles. By choosing the complete counting method, the total number of terms is 2587. We opted for a cut of 12 occurrences that resulted in 59 terms, from which three clusters with 976 links were identified (see **Figure 5**).

Figure 5: Co-ocurrence of terms/words by title and abstract
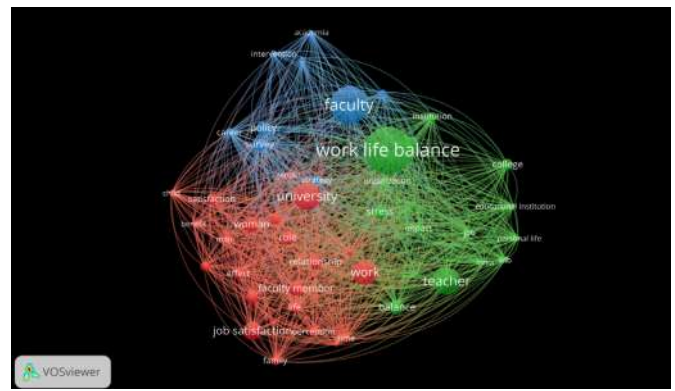
Source: Own Authorship (2020)

The results indicate that terms such as 'work-life balance', 'faculty', 'university', 'work', 'teacher', 'balance', 'job satisfaction' and 'stress' are some representative terms in the existing work literature -life balance among higher education teachers in the past 16 years.

Some other promising terms that present potential for future research include 'career', 'gender', 'woman', 'organizational strategy', 'interventional policy', among many others. These words provide interesting data about how the literature on work-life balance among higher education teachers has evolved.

3.2.3   Co-ocurrence of authors

A network of 304 authors and co-authors was found and 93 clusters (data network) were formed, that is, authors who developed studies together, with a total of 552 links. The three largest clusters are red, green and dark blue. The list of authors, institution and country of these clusters is presented below (see **Table 3**).

Table 3: Characteristics of the three largest clusters

Cluster 1 – Red (11 authors)		
Authors	**Institution**	**Country**
Chatani, Y.	Saitama National Hospital	Japan
Hiraike, H.	Teikyo University School of Medicine	Japan
Horie, S.	Teikyo University School of Medicine	Japan
Murakami, A.	Teikyo University Faculty of Law	Japan

Authors	Institution	Country
Nomura, K	Teikyo University School of Medicine	Japan
Okinaga, H.	Teikyo University School of Medicine	Japan
Sasamori, Y.	Teikyo University School of Medicine	Japan
Smith, D.	College of Public Health, Medical and Veterinary Sciences	Australia
Takemoto, K.	Tokyo Institute of Technology	Japan
Takenoshita, S.	Teikyo University School of Medicine	Japan
Takeuchi, M.	Cabinet Office, Government of Japan	Japan

Cluster 2 – Green (10 authors)

Authors	Institution	Country
Abbuhl, S. B.	University of Pennsylvania	USA
Conant, E. F	University of Pennsylvania	USA
Friedman, S.	University of Pennsylvania	USA
Grisso, J. A.	University of Pennsylvania	USA
Rubenstein, A. H.	University of Pennsylvania	USA
Sammel, M. D.	University of Pennsylvania	USA
Scott, P.	University of Pennsylvania	USA
Speck, R. M.	University of Pennsylvania	USA
Tuton, I. W.	University of Pennsylvania	USA
Westring, A. F.	DePaul University, Chicago	USA

Cluster 3 – Dark blue (8 authors)

Authors	Institution	Country
Anaya, R.	University of Northern Colorado	USA
Beer, L. E.	Marylhurst University	USA
Griffin, J.	University of Northern Colorado	USA
Lamar, M.	Palo Alto University	USA
Martinez-Jones, N.	George Mason University	USA
Rodriguez, K.	University of Northern Colorado	USA
Smith, T.R.	University of Colorado Denver	USA
Taylor, C.	University of Northern Colorado	USA

Source: Own Authorship (2020)

Partnerships between authors are perceived in departments and research areas of different universities. Only in the first cluster a partnership between countries was found, connecting Japan and Australia. The other clusters appear without partnerships between different countries.

From the identified authors, eight of them appear with three publications and 17 of them were classified with two publications. It can be seen that relationships between authors for the development of proposals around the theme are incipient.

3.3 WORK-LIFE BALANCE CONFLICTS AMONG HIGHER EDUCATION TEACHERS

Findings from the study present a list of common themes in the reviewed studies on work-life balance conflicts with an explanation of their meaning and discussion of the implications for teachers.

According to the analysis of the selected articles, the main conflicts in the work-life balance of teachers in higher education were identified. The following are ten identified conflicts that impact directly on the work-life balance of higher education teachers (see **Table 4**).

Table 4: Work-life balance conflicts among higher education teachers

Rank	Work-life balance conflicts among higher education teachers	Number of publications
1	Excessive working hours.	28
2	Concern about promotion and career opportunities.	25
3	Pressure to meet institutional goals.	23
4	Physical and psychological health due to tension at work.	17
5	Communication failures in labor relations.	14
6	Work conflicts that impact on family activities (excessive work activities and lack of flexible hours).	10
7	Salary structure.	8
8	Job insecurity.	7
9	Family conflicts that impact on professional activities (lack of family support, maternity, care for elderly parents).	7
10	Reduction in productivity due to excessive hours worked.	5

Source: Own Authorship (2020)

Based on the number of publications, the results indicate three conflicts that appear in more than 20 publications: (i) excessive working hours; (ii) concern about promotion and career opportunities; and (iii) pressure to meet institutional goals.

The teacher's workday includes the total effort - time devoted to research, scholarships, preparation of classes, corrections of tests and student work and participation in activities. The time spent at home in preparing classes or research activity is not visible, and even so, there is knowledge on the part of the teachers that this work is fundamental for the fulfillment of their responsibilities (DEVI; LALU, 2018; SULLIVAN, 2014; TYTHERLEIGH *et al.*, 2005).

The occupation of higher positions by teachers requires an excessive workload and, therefore, there is greater difficulty in maintaining the work-life balance (NAYAK; SHARMA, 2018). In this context, administrative commitments and teaching activities are the result of increased workload. In turn, the increased workload contributes to the work-family imbalance (TOURANGEAU *et al.*, 2015).

Several pieces of research suggest that academic administration sectors develop strategies for maintaining and developing the work-life balance of teaching professionals in their academic careers (AMITH; VINAY; GOWRAMMA, 2019; SONI; BAKHRU, 2019; JAIN; MISHRA; YADAV, 2018).

When there is an increase in pressure to meet goals in a stipulated time, there is an increase in stress and a reduction in performance, leading the teacher to spend more time in the work environment than at home. Difficulties in establishing a promotion impact on the pressure to meet goals at work, both in relation to meeting the demands of the new position and in adapting possible changes in relation to the work environment (MEHARUNISA, 2019; JAIN; MISHRA; YADAV, 2018).

The conflicts found are related to each other, when it

is analyzed that the excessive working hours may be related to reduced productivity. Even the pressure to fulfill the institution's goals and the concern with career building may be related to the impact on physical and psychological health (AMITH; VINAY; GOWRAMMA, 2019; DEVI; LALU, 2018; SALTMARSH; RANDELL-MOON, 2015).

Conflicts related to the family of higher education teachers appear with fewer publications, but are promising for future research. Conflicts at work and family conflicts are related, since the excess of hours worked impacts on the reduction of time with the family, and the concern with family activities (for example, care for children and elderly parents) impacts on the productivity of activities at work (SOOMRO; BREITENECKER; SHAH, 2018; BAKER, 2010).

4   DISCUSSION AND IMPLICATIONS

This research is an attempt to study the field of work-life balance of higher education teachers and to map its evolution since the identification of the concept in the literature. The research seeks to evaluate the development of this field by conducting a bibliometric analysis of 105 articles in 84 journals from 1990 to July 2020. To address the pre-defined questions, a bibliometric study is being conducted, utilizing citation analysis techniques, co-occurrence of words, terms/keywords, and authors. This study aims to identify the main conflicts of work life balance among higher education teachers.

Firstly, a general analysis of the evaluated articles is being conducted, revealing an interesting evolution in the number of publications related to work-life balance among higher education teachers over the years. The period from 2005 to 2009 represents the initial years of this field with a minimum number of studies. However, after 2010, a new phase in the literature begins with an increase in publications and with a tendency for the year 2020 to receive more publications when compared to previous years.

The article 'Academic staff workloads and job satisfaction: Expectations and values in academe' (HOUSTON; MEYER; PAEWAI, 2006), was classified as the most scientifically relevant, with InOrdinatio index of 421, being still the study with the highest frequency of citations. For the largest number of publications related to work-life balance among higher education teachers, the 'Journal of Athletic Training' and 'International Journal of Stress Management' rank the highest with three publications to date each.

The American continent is more influential in terms of quantity of publications, with emphasis on the USA; Asia is in second place with a significant contribution from India. Finally, the most prominent institutions in terms of the number of publications are the University of California, the Faculty of Engineering of Trivandrum and the Faculty of Nursing of the University of Villanova. These results indicate the most influential collaborators in the field of work-life balance among higher education teachers and also show the constant increase in this field among institutions and researchers around the world.

Then, the keyword co-occurrence technique is being performed. This analysis revealed that the keywords most used in the literature are 'work-life balance', 'university' and 'job satisfaction'. These keywords provide a perspective on the focus on areas of work-life balance research among higher education teachers over the years.

The main research themes are analyzed according to the technique of co-occurring terms / words by titles and abstracts. The results reveal that research in the field of work-life balance among higher education teachers was shaped mainly in the following lines of research: relationship between job satisfaction and level of stress; career and gender development; investment strategies and policies for higher education institutions.

Finally, the co-occurrence analysis technique by authors is performed and closes the first research question. A total of 304 authors and co-authors were identified, the studies that appear with the three largest clusters in terms of co-occurrence of authors were Chatani *et al.*, (2017), Grisso *et al.*, (2017) and Beer *et al.*, (2015).

For the second research question, the identification of the main conflicts of work-life balance among higher education teachers was carried out. In terms of quantity of publications, the results show that the conflicts that stand out most in the literature are: excessive working hours; concern about promotion and career opportunities; and pressures to meet institutional goals.

The study has significant academic and managerial implications. In terms of academic implications, this study provides representative information on influential factors in the field of work-life balance research among higher education teachers, in addition to journals, countries and institutions that have shaped the literature. When analyzing the evolution of the theme, the growing number of publications indicates that the theme has not been exhausted and there is a need for studies that continue to contribute to it.

In terms of managerial implications, it contributes to intervention policies in the development of programs in higher education institutions to offer teachers options to manage the demands of work and family obligations. In addition, it helps to guide higher education teachers so that they know how to deal with such conflicts, with a view to achieving a balance between professional and family life.

5   FINAL CONSIDERATIONS

The aim of the study was to carry out a bibliometric analysis of the literature on work-life balance among higher education teachers. The study looked for journals, institutions, countries, influential authors and the evolution of the work-life balance concept of higher education teachers over the years. This information is representative to assist researchers who are interested in the field

Work-life balance becomes representative so that people can deal with their conflicts and exercise a state of harmony between work and family on an ongoing basis to avoid situations of stress and the increase of anxiety levels. Therefore, the study identified the main conflicts that impact on the work-life balance of higher education teachers: excessive working hours; concern about promotion and career opportunities; and pressure to meet institutional goals. This is information that can serve as a basis for directors and principals to carry out intervention programs to seek to maintain the work-life balance of teachers, providing well-being and, as a consequence, increasing the productivity and quality of higher education.

As a limitation, this research used three analysis techniques, it is emphasized that in the literature review, through bibliometric analysis, several techniques can be used. Therefore, future research may adopt other bibliometric techniques to obtain useful insights on the analyzed topic, continuing to carry out such studies at intervals of five years in order to keep the field updated for future researchers.

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