Study Of Scientific Trends On The Affectation Of Personal Relationships Due To Work Overload

John Arturo Buelvas Parra¹ , Álvaro Santamaría Escobar² William Niebles Nuñez³

Doctor en Ciencias Sociales Mención Gerencia.
 Magister en Gestión de Organizaciones. Especialista en
 Finanzas. Abogado. Administrador de Empresas. Docente de Tiempo
 Completo de la Universidad de Sucre, Colombia.

E-mail: john.buelvas@unisucre.edu.co Orcid: https://orcid.org/0000-0003-1894-3712

²Doctor en Ciencias Sociales. Magister en Administración de Empresas. Magister en Educación, Especialista en Gerencia de Producción y Calidad. Ingeniero Industrial. Profesor Titular de la Facultad de Ciencias Económicas y Administrativas en la Universidad de Sucre,

Sincelejo, Colombia. E-mail: <u>alvaro.santamaria@unisucre.edu.co</u>
ORCID: <u>https://orcid.org/0000-0002-7710-5973</u>

³Doctor en Ciencias Gerenciales, Magister en Dirección Estratégica, Administrador de Empresas. Docente de la Universidad de Sucre. ORCID: 0000-0001-9411-4583. Email: williamniebles@yahoo.com.mx

Abstract

The main objective of this work was to carry out an analysis of the scientific production on the theme "Personal relationships and work overload", through the use of bibliometric tools. A search of the Scopus abstract database has been performed, retrieving all documents published from 1974 to 2023. Descriptive analyses, correlation, thematic maps, and cocitation networks were carried out, which were developed with the use of statistical programs such as Rstudio and Excel. The results found indicate that 83% were journal articles, the most productive year at the level of academic works was 2022 with 209 documents, in terms of production by country, the United States was the one that contributed the most with 1452, the authors with the highest h index were Cooper C.L. and De White

H. with a score of 7 and finally the most frequent terms and words were Workload, stress, Bournout, mental workload and work engagement, just to mention the most relevant.

Keywords: Personal Relationships, Work Overload, Work Health.

Introduction

The COVID 19 pandemic massified cases of diseases and labor affectations, which were largely related to stress or overload at work (Crocker et al., 2023; Ghahramani et al., 2023). This resulted in the recognition by health entities and companies of the important role played by the health and well-being of people within the workplace (Chirico et al., 2023). For entities such as the WHO or the ILO, occupational diseases are currently one of the main concerns in terms of public health and quality of life of workers worldwide (Mendoza-Ocasal et al., 2022; Correia-D'Lucas & Hernández-Runque, 2023). It has been possible to demonstrate how the affectations from work have a significant impact on all areas of employees (Mendoza-Ocasal et al., 2021 Hoyos-Babilonia, Niebles-Nuñez & Santamaría-Escobar, 2022).

That is why, at present, companies make important efforts in order to guarantee an adequate work environment through strategies that are born from the mission and vision of the organization, culture and other elements that seek impact the various levels of organizations (Parra et al., 2022). In this sense, one of the elements addressed in this process are personal relationships, which are recognized as one of the key pillars for the proper functioning of any company; from which follows the assurance of a context on the other variables mentioned above (Lee & Jang, 2020; Jaramillo-Ostos et al., 2021).

Good personal relationships allow to optimize communication flows towards the achievement of the objectives and goals established by the company, reason why this motivation of senior management not only impacts the quality of life of the worker but has a direct reflection on the optimization of production processes in the organization (Paredes, 2019). Dalton, Hoyle, and Watts (2007) explain that they are innate abilities of human beings,

developed in their growth and being fundamental for confidence in work teams.

However, these relationships can be affected by various organizational variables such as work overload; on which various studies allow to show how the presence of work overload negatively impacts on the personal relationships of work teams and this, therefore, affects the organizational climate and culture (Castro et al., 2020; Zhang et al., 2022).

In view of this context, for the modern entrepreneur it is essential to know how to find a balance between a highly productive team and the generation of work overload, although companies are currently increasingly competitive, it is risky to generate consequences on the quality of life of workers by not managing resources well towards achieving the goals (Khalid et al., 2023). This theme reveals an important element of study for the scientific field, which can provide the necessary tools to interest groups such as the State, academic community, health entities and companies themselves to respond to these challenges posed today. From this, the present study is developed in order to characterize the trends of scientific production associated with the affectation of personal relationships due to work overload.

Methodology.

Currently, researchers from diverse disciplines are engaged in the field known as "social studies of science." Within this realm, some scholars utilize bibliometrics as a research tool within their specific domains. The utilization of bibliometric analysis has grown significantly due to technological advancements and its wideranging applications (Ramírez et al., 2023). Sociologists of science are delving into the investigation of the configuration and evolution of scientific domains through various bibliometric measures, with a particular focus on science maps. Similarly, historians of science aim to trace the evolution of ideas over time. However, the most prominent domain where bibliometrics is currently extensively applied is in the realm of science policy (Bordons & Zulueta, 1999).

In this work, descriptive analyses were applied with respect to the participation of authors, journals, countries, and institutions, with the aim of finishing the most relevant actors in the field of research, correlation techniques were also applied between (sources, authors, and Keywords), of networks of co-citation between

authors and between documents to determine groupings that indicate the main lines of study according to the theme.

As a search strategy, the study began by consulting the terms and keywords "Personal relationships" and "Work overload" with their respective synonyms, in the Scopus abstract database, by relating these keywords to Boolean operators "AND" and "OR" specifying the areas of knowledge related to the study and the languages of interest, the following search string was created: (ABS ("Personal relationships") OR ABS (relationships) AND ABS ("Work overload") OR ABS ("Workload") OR ABS ("excess of functions") OR ABS ("increased responsibility")) AND (LIMIT-TO (LANGUAGE , "English") OR LIMIT-TO (LANGUAGE , "Spanish")) AND (LIMIT-TO (SUBJAREA, "SOCI") OR LIMIT-TO (SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA , "ECON"), from this 1872 documents were obtained, which were downloaded in a csv format file and finally for the registration and analysis of the data the Excel and Rstudio programs were used with the bibliometrix library (Aria & Cuccurullo, 2017).

Results

This descriptive analysis begins by explaining how the works found in the Scopus database were classified according to their nature, this can be seen in figure 1. The publications contained ten different types of documents, the most frequent being articles (1553) representing 83% of the total production, followed by conference papers (170; 9%), book chapter (65; 3%) y review (57; 3%).

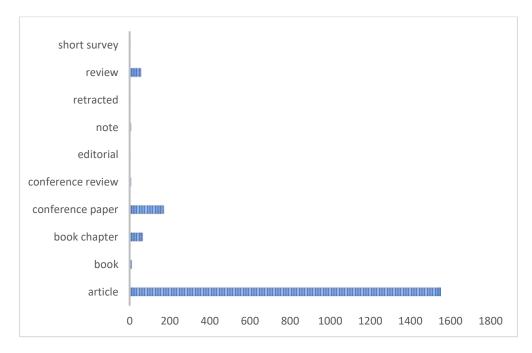


Figure 1. Nature of documents.

According to the search period from 1974 to 2023, it can be evidenced that the number of publications in the field of "Personal relationships and work overload", has remained increasingly over time as shown in figure 2. But there has really been a great interest on the part of researchers since 2010 where 68 research papers were published, and already for 2020, which is precisely the year with the most production, step to 209 documents, it is highlighted that 2023 although it has not ended, 110 contributions to the subject were presented.

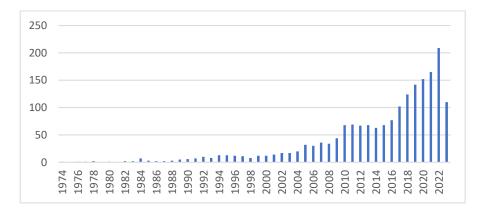


Figure 2. Annual scientific production.

The research topic "Personal relationships and work overload" according to the data collected in the Scopus database, has greater

relevance in countries such as the United States which has contributed to the field 1452 documents, followed to a lesser extent by China and the United Kingdom 528 works each. From the first region, the highlighted study, is the one in which it is argued that "Shortly after the World Health Organization declared the SARS-CoV-2 outbreak a global pandemic, medical school governing bodies issued guidance recommending pausing clinical rotations. Prior to the availability of COVD-19 vaccines, many schools implemented online-only curricula in the didactic and clinical years. These unprecedented events and paradigm shift in medical education could contribute to the burnout, well-being, and mental health of trainees" (Esguerra, Chiu, Espinoza, Williams, & Clithero-Eridon, 2023).

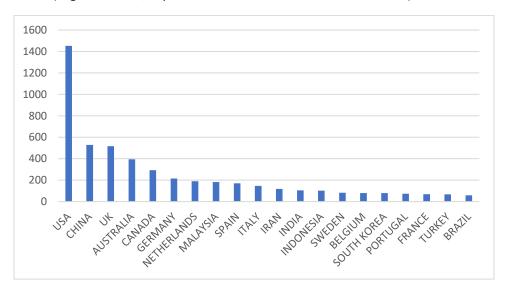


Figure 3. Most relevant countries.

A network of co-citations is created in which the times that pairs of authors are cited jointly were counted, regardless of which of his research is cited, the four clusters formed according to his field of study can be seen in figure 4. The most frequently presented researchers in each cluster are presented below:

Red: Hayes A.F., Bandura A., Demerouti E., Schaufeli W.B. and Bakker A.B.

Blue: Lazarus R.S., Maslach C., Karasek R., Baron R.M. and Lee R.T.

Purple: Hair J.F., Karatepe O.M., Fornell C., Ramsden P., Braun V., and Creswell J.W.

Green: Hart S.G., Endsley M.R., Wickens C.D., Cohen J., Parasuraman R., and Hancock P.A.

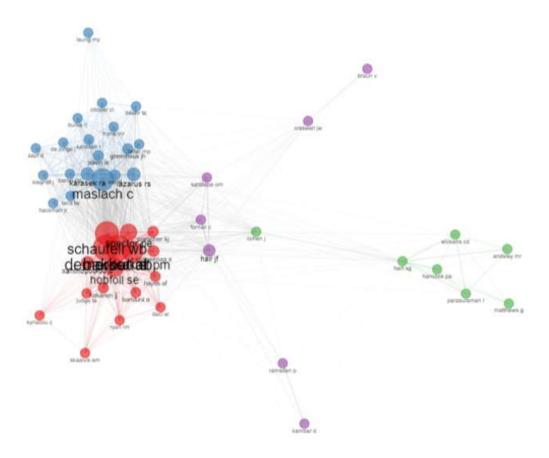


Figure 4. Co-citation of authors.

The top 10 of the H index of the authors on the area of study is listed in Table 1, of this, the authors Cooper C.L. and De White H. stand out with an index of 7 points each, the first researcher highlights the study in which it is indicated that "The use of email is a timeconsuming activity and can increase the stress of the workload. The purpose of this article is to investigate the relationship between the individual's email load, workload stress, and desired email load, based on the cybernetic stress theory. Building on the theory above, the authors first hypothesized the relationships between email load, workplace stress, and desired email load. The authors then tested these relationships on a sample of 504 full-time workers in the United States, using survey data and covariance-based structural equation modeling techniques. Authors find that higher email load is associated with higher workload stress; higher workload stress is associated with lower desired email load; lower desired email load is associated with lower workload; and higher workload stress is associated with greater psychological stress, higher negative emotions, and lower organizational engagement". (Stich, Tarafdar, Stacey, & Cooper, 2019)

Table 1. H index by author.

Element	h_index	g_index	m_index	TC	NP	PY_start
COOPER CL	7	8	0,226	242	8	1993
DE WITTE H	7	10	0,467	983	10	2009
BAKKER AB	6	6	0,286	707	6	2003
WANG L	6	9	0,429	212	9	2010
WANG Y	6	7	0,462	185	7	2011
JR	5	6	0,172	358	6	1995
KARATEPE OM	5	5	0,313	347	5	2008
LEUNG M-Y	5	5	0,263	286	5	2005
CHEN J	4	4	0,364	67	4	2013
CHEN Y	4	5	0,333	45	5	2012

The journals listed in Table 2 are the ones that have contributed the most to the research topic, "Personal relationships and work overload", The three most outstanding are, Proceedings of the human factors and ergonomics society (55), Ergonomic (41) and Human factors (33). The first source published an article where it was studied "Changes in neural connectivity during a hysteresis effect that may accompany task-demand transitions using Granger causality" (Kim, Kim, Yun & Nam, 2018).

Table 2. Most relevant journals

Sources	Articles
PROCEEDINGS OF THE HUMAN FACTORS AND ERGONOMICS	_
SOCIETY	55
ERGONOMICS	41
HUMAN FACTORS	33
BMC MEDICAL EDUCATION	22
SUSTAINABILITY (SWITZERLAND)	21
INTERNATIONAL JOURNAL OF STRESS MANAGEMENT	18
HUMAN RESOURCES FOR HEALTH	17
APPLIED ERGONOMICS	16
INTERNATIONAL JOURNAL OF INDUSTRIAL ERGONOMICS	16
SOCIAL SCIENCE AND MEDICINE	16

Figure 5 shows the research papers with the greatest similarity in the subject of study, each topic line is differentiated with a color and the size of the nodes indicates the number of citations received by each document, en total 4 groups were created formed as follows:

Blue: Lazarus R.S. 1984, Aiken L.S. 1991, Karasek R.A. 1979, Maslach C. 1996 and Maslach C. 2001-1.

Purple: Bakker A.B. 2007-1, Maslach C. 2001-2, Hobfoll S.E. 1989-1, Schaufeli W.B. 2004-1, Crawford E.R. 2010, Podsakoff P.M. 2003-1 and Bakker A.B. 2007.

Green: Fornell C. 1981, Greenhaus J.H. 1985-1, Spector P.E. 1998-1, Podsakoff P.M. 2003-2, and Kahn R.L. 1964.

Red: Cohen J. 1988, Hayes A.F. 2013, Kahneman D. 1973, Hart s.g. and Muthen L.K. 1998.

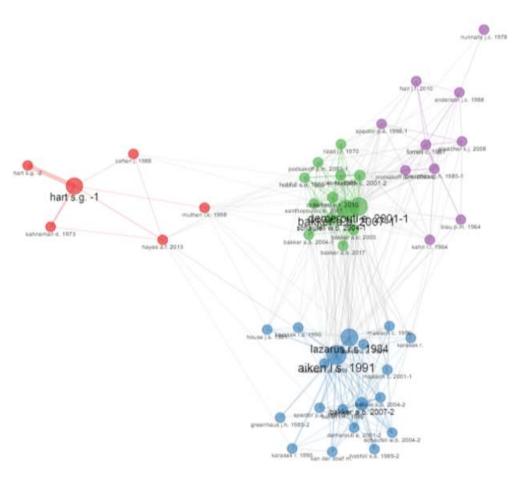


Figure 5. Co-citation of documents.

Twenty of the academic works with the highest number of citations are presented in Table 3, of those, the three most outstanding are that of the author Endsley, Mica R. with her study from 1995, which was published in the journal Human Factors and has 553 citations, "Presents a theoretical model of situational awareness based on its role in dynamic human decision-making in a variety of domains.

Situational awareness is presented as a predominant concern in the operation of the system, based on a descriptive view of decisionmaking. The relationship between situational awareness and numerous individual and environmental factors is explored. Among these factors, attention and working memory are presented as critical factors that limit operators from acquiring and interpreting information from the environment to form situational awareness, and mental models and goal-directed behavior are proposed as important mechanisms to overcome these limits. Addresses the impact of design features, workload, stress, system complexity, and automation on operator situational awareness, and introduces a taxonomy of errors in situational awareness, based on the model presented. The model is used to generate design implications for improving operator situational awareness and future directions for situational awareness investigation". The works that follow him in citations are that of Klassen, Robert M., and Chiu, M, from 2010, which they published in the Journal of Educational Psychology, this has been referenced 1056 times; finally with 810 citations is the document of Lizzio, Alf J., published in 2015 in the journal Studies in Higher Education.

Table 3. Most cited documents.

Paper	DOI	Cites
ENDSLEY MR, 1995, HUM FACTORS	10.1518/001872095779049543	5553
KLASSEN RM, 2010, J EDUC PSYCHOL	10.1037/a0019237	1056
LIZZIO A, 2002, STUD HIGH EDUC	10.1080/03075070120099359	810
SONNENTAG S, 2015, J ORGAN BEHAV	10.1002/job.1924	625
FULLER R, 2005, ACCID ANAL PREV	10.1016/j.aap.2004.11.003	592
STOUT RJ, 1999, HUM FACTORS	10.1518/001872099779577273	474
VAN DEN BROECK A, 2010, EUR J WORK ORGAN PSYCHOL	10.1080/13594320903223839	409
ENTWISTLE N, 1990, HIGH EDUC	10.1007/BF00137106	404
MCKINLAY SM, 1974, BR J PREV SOC MED	10.1136/jech.28.2.108	388
FIRTH L, 2004, J MANAGE PSYCHOL	10.1108/02683940410526127	369
WEBSTER JR, 2011, J VOCAT BEHAV	10.1016/j.jvb.2011.02.001	331
SONNENTAG S, 2010, J VOCAT BEHAV	10.1016/j.jvb.2009.06.005	322
XANTHOPOULOU D, 2007, J MANAGE PSYCHOL	10.1108/02683940710837714	315
MILLER CA, 2007, HUM FACTORS	10.1518/001872007779598037	313
ARYEE S, 1999, J VOCAT BEHAV	10.1006/jvbe.1998.1667	313
BURROWS R, 2012, SOCIOL REV	10.1111/j.1467-954X.2012.02077.x	308
DWYER DJ, 1991, J ORGAN BEHAV	10.1002/job.4030120704	291
ZABLAH AR, 2012, J MARK	10.1509/jm.10.0231	274

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Thematic distribution maps serve as a technique for comprehensively analyzing author-generated keywords. These maps serve the purpose of condensing the information into two key dimensions: i) the level of advancement, indicating the progress of research subjects, and ii) the level of significance, determining the importance of each subject in the realm of knowledge (Flórez-Martínez, 2022). The interplay between these dimensions results in four analytical categories, as depicted in graph 6.

Dominant Topics (upper right quadrant): Situated here are subjects characterized by both substantial development and high relevance within the research domain. However, it's worth noting that related terms are absent in this case.

Foundational or Cross-Cutting Themes (lower right quadrant): Within this quadrant, topics are positioned which hold noteworthy relevance in research but haven't yet achieved the status of being dominant issues due to their developmental stage. Encompassed topics include workload, job satisfaction, job stress, performance, motivation, self-efficacy, work-life balance, productivity, life satisfaction, training, personality, work environment, Covid-19, and satisfaction.

Specialized Topics (upper left quadrant): This grouping aggregates subjects that have specialized and become specific niches of study, yet haven't attained significant relevance in the research sphere. It encompasses all topics linked to mental workload, fatigue, mental health, nasa-tlx, autonomy, physical workload, simulation, job demands, work engagement, and job resources. Emergent or Fading Themes (lower left quadrant): This cluster encompasses subjects that are starting to gain prominence within research, typically as responses to global demands. However, as indicated in Figure 6, no terms were identified within this quadrant.

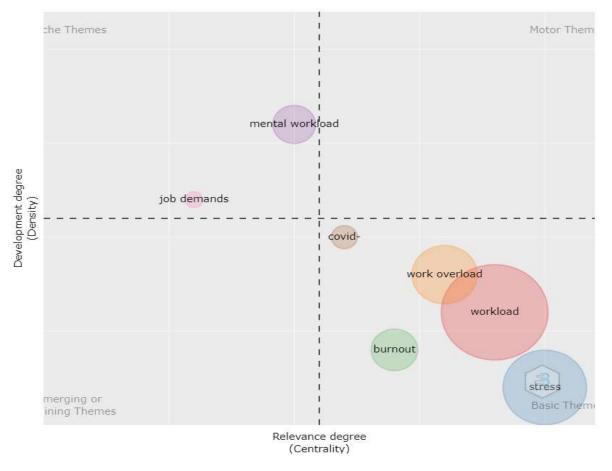


Figure 6. Thematic map.

Conclusion

It is concluded from the scientometrics analysis carried out on the research topic "Personal relationships and work overload" that this is not well developed, lines of research on work overload have been found, but related to topics such as stress, Burnout, mental health and covid-19 among others, for example, the work of the author Endsley, Mica R., from 1995, which was published in the journal Human Factors and has 553 citations, addresses the impact of design features, workload, stress, system complexity and automation on operator situational awareness.

It is also concluded that 83% of the research works are articles type, the year 2022 was the most outstanding in terms of the production of researchers (209) works presented, the authors Cooper C.L. and De White H., with an H index of 7 each, are the ones who stand out the most of the top 10 presented; the journal with the most contributions is Proceedings of the human factors and ergonomics

society (55) and finally the country that made the most contributions to the field was the United States with 1452 documents.

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