

Workers with disabilities: Context and trends in international research

Marius-Ionel ANTON

National University of Science and Technology POLITEHNICA Bucharest, Bucharest, Romania
marius.anton.ionel.1985@gmail.com

Dana Corina DESELNICU*

National University of Science and Technology POLITEHNICA Bucharest, Bucharest, Romania
Academy of Romanian Scientists, Bucharest, Romania
*Corresponding author, d_deselnicu@yahoo.com

Abstract. *This paper attempts to observe trends in the field-specific literature regarding workers with disabilities in the international context of specialized literature, by using keywords to determine the number of publications containing these keywords, countries that publish the most in this regard, the trends regarding these workers, and society's perception of disability in the context of employees with disabilities. The specialized literature on workers with disabilities focuses on discrimination, the barriers they encounter, and how to address them. In particular, researchers' view of workers with disabilities is largely through a medical lens, and solving these problems requires a solution to address the issue. To observe this stage of the literature in this field, the Web of Science Core Collection database was used to analyze the literature published, as databases of this kind provide a standardized and easily understandable way to search for and analyze information. The authors used VOSviewer to generate comprehensive knowledge maps to analyze the links between keywords using the co-occurrence method. Observing trends in the literature using bibliometric and scientometric research methods is essential to create a realistic and comprehensive view of the research field of workers with disabilities.*

Keywords: workers with disabilities, trends, scientometric analysis, bibliometric analysis, co-occurrence analysis.

How to cite: ANTON, M.-I., & DESELNICU, D. C. Workers with disabilities: Context and trends in international research. *International Conference of Management and Industrial Engineering*, 12. <https://doi.org/10.56177/12icmie2025.122>

Introduction

With the growth of the global population, it is understandable that the number of people with disabilities in this category will also increase in direct proportion to the population. Workers with disabilities belong to a category considered vulnerable in all societies, this category being stigmatized or excluded from the labor market in various ways, either willingly or unwillingly, by employers or society in general. The main ways in which society views people with disabilities are the two broad models, namely the medical model and the social model. The aim is to observe how the specialized literature views this category by analyzing the co-occurrence of words, in order to observe the associations between certain terms and this category, so that the associations between workers with disabilities and research areas or perceptions within these areas can be observed.

Literature review

One of the first historical references to people with disabilities comes from ancient Greece and refers to the mutilated Greeks of Persepolis during the time of Alexander the Great when the prisoners freed from Persian slavery who had been mutilated, should return to their families or remain among themselves as a single group, because the families would be shocked by their new appearance [1].

Disability is one of the most important characteristics that induce vulnerability in a person, having the potential to expose that person to poverty, discrimination, abuse, or torture as a consequence of their impairment and inability to respond in any way to the disabling situations they face [2]. People who enter the labor market with a disability or who develop a disability during their working life face unique challenges in terms of job retention or inequality [3]. The negative effects on employment associated with disability are well established empirically, and they are large and persistent [4]. Over time, in all societies, people with disabilities have been seen as members who need care or are worthy of pity, often being excluded from daily community activities or the labor market for various reasons, some real and others constructed by society and ingrained in their social cultures, or viewed with suspicion and associated with religious or spiritual concepts in which black magic or other elements had a negative impact on these people, negatively influencing their lives. Societies' tolerance of people with disabilities over time has been predominantly poor [5,6].

This way of looking at people with disabilities continued into the following centuries, when people with disabilities who had characteristics and conditions that could be considered amazing, strange, grotesque, or amusing were exploited by society for the entertainment of the population [7,8].

Discrimination in the labor market explains many of the harmful outcomes that arise in it, affecting several vulnerable groups, especially those with disabilities. In European Union (EU) policy, it has long been recognized that some groups of individuals in the labor market are exposed to greater risks or risks of a slightly higher severity to health and safety at work, both in terms of employment and other types of discrimination in the workplace or in the hiring process [9].

Research Methodology

Formulation of the research problem

The problem of the present research emerges from the practices and views of society, or some employers in the labor market. The research problem can be defined as follows: *"Establishing the actual situation of how these vulnerable workers are perceived by society, by observing the links between keywords and other co-occurring words."*

The research method

In order to better understand the scope of research in the field of workers with disabilities and trends in this area, situations considered relevant to this research were identified and searched for in the Web of Science Core Collection database, specifically publications in the field of workers with disabilities.

The authors used bibliometric and scientometric analyses to highlight trends and the involvement of researchers in the field of workers with disabilities, for which the Web of Science (WoS) database was used, starting with the year 2001.

In order to examine the number of publications in this field, VOSviewer was used to generate comprehensive knowledge maps for a coherent analysis of the data in the database, trying to observe which terms are commonly and predominantly used in publications in the reference fields and which are the reference fields in which the most publications are published in this regard. The purpose of this paper is to clarify researchers' views on disability in the workplace and trends in this field by analyzing trends among workers with disabilities.

Research questions

This article focuses on the following research questions:

- How many publications appear in research on workers with disabilities?
- What are the main trends in research on workers with disabilities?
- Which countries publish the most articles in the field analyzed?
- What are the main areas in which the most publications are published in the field of interest?

Data collection and processing

Given the large number of publications that need to be analyzed, it is difficult to analyze such a large database using traditional analysis tools, as there may be a lack of time allocated to research, or many publications may be omitted. It is important to note the importance of bibliometric research in understanding the literature in a particular field, with scientometrics quantitatively analyzing scientific activities based on bibliometric and statistical data [10].

This paper uses documents from the Web of Science Core Collection database - Clarivate Analytics (WoS). Therefore, using the WoS platform guarantees the quality of the analyzed literature, as databases of this kind provide a standardized and easily understandable way to search for information and analyze and interpret it from different perspectives, using VOSviewer to generate comprehensive knowledge maps in order to analyze the links between keywords. VOSviewer is a software programme designed in 2010 by Van Eck and Waltman using the Java programming language, and can therefore be run on a wide range of platforms [11]. The "knowledge maps" generated by VOSviewer are graphs that depict the relationships between trends in the field, development or research trends, and scientific knowledge.

Research methods and tools

The research method was a descriptive analysis of the number of publications in the field of workers with disabilities, using as research tools the facilities offered by the Web of Science-Clarivate Analytics database - Web of Science Core Collection for data extraction, Web of Science Analytics, and VOSviewer for generating knowledge maps. By using word co-occurrence analysis, a method often used in scientometric analyses, a series of main links between keywords and other words predominantly used in the specialized literature will be studied and interpreted. The keywords "workers with

disabilities" were used. The analysis functions of the WoS database were used to analyze a series of factors considered relevant to this research, as well as to set the tone for further research.

The analysis criteria were as follows:

- the number of articles published in the last 25 years in the field of workers with disabilities;
- articles that appear when searching for the keywords "workers with disabilities";
- the countries that publish the most in this field;
- What are the areas in which the most publications appear in the field of interest.

Results and further discussions

Distribution of publications by year using the keywords "workers with disabilities":

When it comes to workers with disabilities and related research, the search was conducted using the keywords "*workers with disabilities*", which generated 10,932 publications since 2001. The evolution over time of publications for these keywords has also been on the rise over the last 10 years, from 2014, when 441 publications were recorded, to 2024, when 713 were recorded, representing an increase of 61.9% (Figure 1):

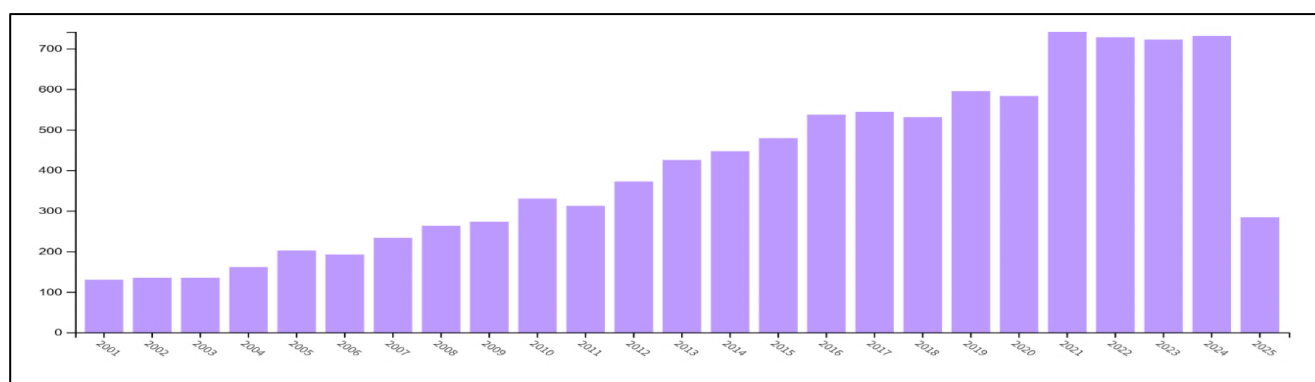


Figure. 1. Distribution of publications by year using the keywords "*workers with disabilities*"

Source: Web of Science-Analytics

Therefore, as it can be seen in Figure 1, when it comes to workers with disabilities, the research results indicate a substantial increase from year to year and a growing interest in research in this area.

Distribution of publications by field using the keywords "workers with disabilities":

When publications are distributed by field using the keywords "*workers with disabilities*", they are consistent with the other searches. The results show that the fields in which the most publications on workers with disabilities appear are Rehabilitation (5454) and Occupational Health in the Public Sector (2245), as depicted in Figure 2:

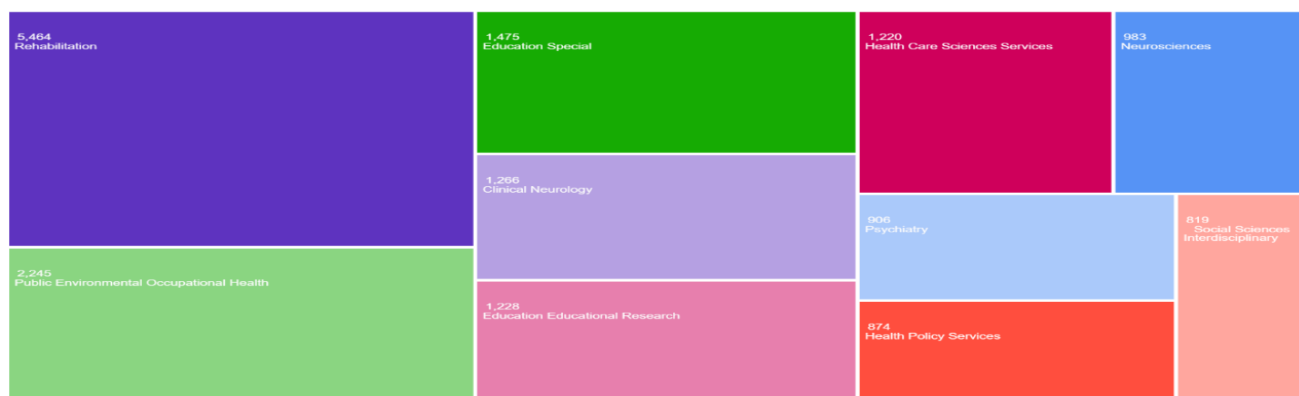


Figure 2. Distribution of literature by field using the keywords "*workers with disabilities*".
Source: Web of Science-Analytics

It can be emphasized that a large number of articles were published in fields related to the medical field of research.

Distribution of publications by country using the keywords "*workers with disabilities*":

The United States leads this research field by a wide margin, with 3466 publications (31% of the total), followed by Canada with 1237 publications and England with 1110 publications (Figure 3):

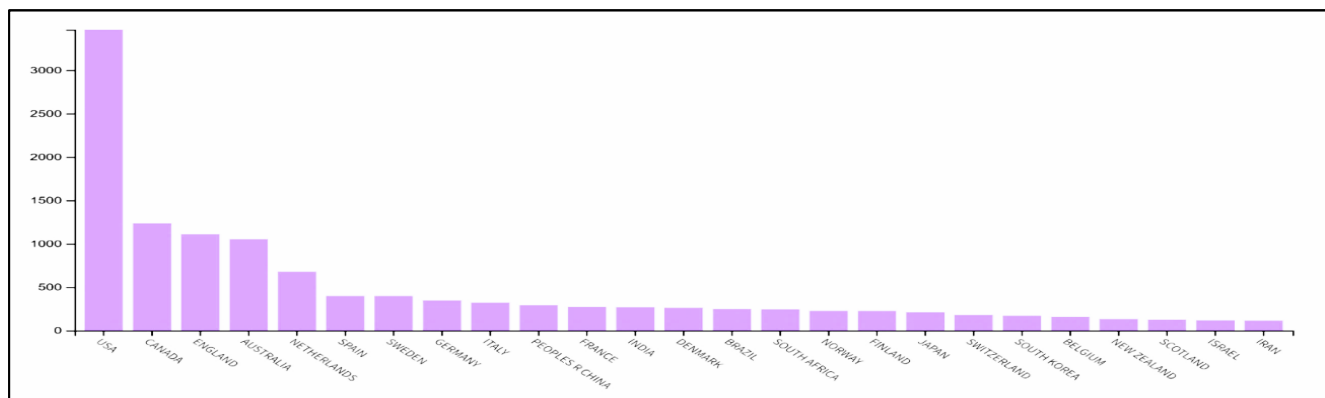


Figure 3. Distribution of literature by country using the keywords "*workers with disabilities*".
Source: Web of Science-Analytics

It can be observed that the United States still has a considerable lead in terms of scientific publications related to workers with disabilities, publishing more articles than the next two countries combined.

Trends observed using the keywords "*workers with disabilities*":

Most of the terms appearing in this knowledge map, which were generated by searching using the keywords "*workers with disabilities*" belong to the medical field. The largest cluster revealed in the map is the one showing the term "*injury*", indicating a clear direction of research in this field toward the medical problems of workers, while also emphasizing functionality, mortality, or disease (Figure 4):

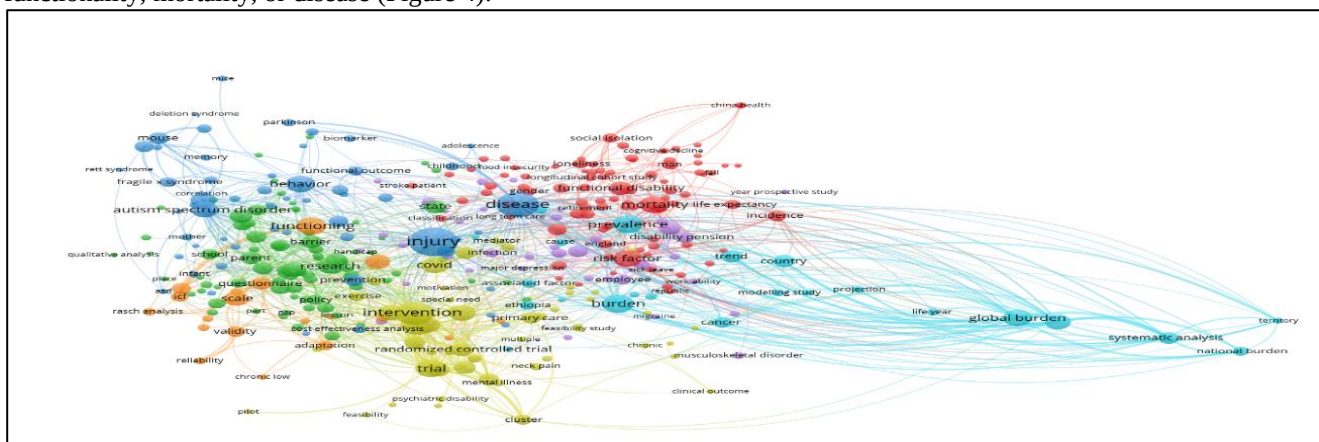


Figure 4. Knowledge map using the keywords "*workers with disabilities*".
Source: Web of Science and VOSviewer

VOSviewer, it was possible to observe the tendency to associate this category with words such as "injury" - "illness", "burden or global burden", or "intervention", terms often associated with negative events or with negative connotations in general.

The areas of interest in which the most publications have appeared are related to the medical field, with this category being viewed predominantly through the medical spectrum.

Given these findings, it is considered necessary to adopt research that can complement this medical spectrum. In order to mitigate the repercussions on workers with disabilities, the authors sought to highlight the importance of adopting policies and procedures that provide an overview of the condition of this vulnerable category in order to ensure their effective integration into the labor market.

References

- [1] Krantz, O. (2009). *Social Construction of Technical Aids-Personal Meaning and Interactional Effects of Disability and Assistive Devices in Everyday Life* (Vol. 2009, No. 23). Available from: Lund University. <https://lup.lub.lu.se/search/files/4006316/1296118.pdf>, Accessed: 11.10.2024.
- [2] Baciu, E. L., & Lazar, T. A. (2017). Between equality and discrimination: disabled persons in Romania. *Transylvanian Review of Administrative Sciences*, 13(51), 5-19, ISSN: 2247-8310, Available from: <https://www.rtsa.ro/tras/index.php/tras/article/view/521>, Accessed: 12.07.2025.
- [3] Shuey, K. M., & Jovic, E. (2013). Disability accommodation in nonstandard and precarious employment arrangements. *Work and Occupations*, 40(2), 174-205.
- [4] Grammenos, S. (2013). European comparative data on Europe 2020 & people with disabilities. Available from: <https://ecommons.cornell.edu/server/api/core/bitstreams/4c0f3ef0-f140-453c-ad7e-e9cb84b805/content>, Accessed: 12.05.2025.
- [5] Albrecht, G. L. (1993). *The disability business: Rehabilitation in America. (No Title)*. ISBN: 0803936303, 9780803936300.
- [6] Barnes, C. (2018). Theories of disability and the origins of the oppression of disabled people in western society. In *Disability and society* (pp. 43-60). Routledge. ISBN9781315841984.
- [7] Braddock, D. L., & Parish, S. L. (2001). History of disability. *Handbook of disability studies*, 11. Available from https://www.researchgate.net/profile/David-Braddock-2/publication/309849794_History_of_Disability/links/582505d808ae7ea5be77f86a/History-of-Disability.pdf, Accessed: 11.02.2025.
- [8] Barnes, C. (In 'Disability Studies: Past Present and Future' edited by Len Barton and Mike Oliver (1997); Leeds: The Disability Press, pp. 3. Available from <https://disability-studies.leeds.ac.uk/wp-content/uploads/sites/40/library/Barnes-chap1.pdf> Accessed: 01.07.2025.
- [9] Belin A., Zamparutti T., Tull K. and Hernandez G. Berlin, A., Zamparutti T., Tull, K., Hernandez G. & Graveling, R., (2011), Occupational Health and Safety Risks for the Most vulnerable Workers, Directorate-General for Internal Policies, *Occupational, Health and Safety*, (Milieu Ltd, Brussels, Belgium), pp 11-16. Available from [https://www.europarl.europa.eu/thinktank/en/document/IPOL-EMPL_ET\(2011\)464436](https://www.europarl.europa.eu/thinktank/en/document/IPOL-EMPL_ET(2011)464436), Accessed: 18.07.2025.
- [10] Pritchard, A. (1969). Statistical bibliography or bibliometrics. *Journal of documentation*, 25, 348.
- [11] Van Eck, N., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *scientometrics*, 84(2), 523-538. Available from: <https://akjournals.com/view/journals/11192/84/2/article-p523.xml> Accessed: 21.05.2025.
- [12] Bowen, P., Edwards, P., Lingard, H., & Cattell, K. (2014). Workplace stress, stress effects, and coping mechanisms in the construction industry. *Journal of Construction Engineering and Management*, 140(3), 04013059.
- [13] Beh, L. S., & Loo, L. H. (2012). Job stress and coping mechanisms among nursing staff in public health services. *International Journal of Academic Research in Business and Social Sciences*, 2(7), 131.
- [14] Lagrosen, S., & Lagrosen, Y. (2022). Workplace stress and health—the connection to quality management. *Total Quality Management & Business Excellence*, 33(1-2), 113-126. Available from: <https://www.tandfonline.com/doi/full/10.1080/14783363.2020.1807317#abstract>, Accessed: 29.07.2024.
- [15] Deselnicu, D. C., Barbu, A., & Anton, M. I. (2024). Discrimination Against Vulnerable Personnel in the Workplace. In *Proceedings of the International Conference on Business Excellence* (Vol. 18, No. 1, pp. 1007-1017). Sciendo.