



Multidisciplinary Approaches in Disability Research: A Bibliometric Analysis

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ABSTRACT: Disability is a complex, global, and multifaceted phenomenon that affects many parts of life, including healthcare, education, social welfare, inclusion, and social equality. Bibliometric analysis is a systematic, quantitative method for examining scholarly literature to identify research patterns, trends, and impacts across various fields. The present study employed quantitative bibliometric analysis to evaluate the intellectual construct, the thematic evolution, and the cooperation among researchers in multidisciplinary disability research. The data for this study were collected from the Web of Science (WoS) database, which includes high-quality articles from peer-reviewed journals of high standard. The study's findings show that multidisciplinary disability research experienced significant growth and increased academic influence between 2021 and 2025. The author citation network indicates a fragmented intellectual structure in multidisciplinary disability studies. The cluster structure reveals that multidisciplinary disability research is evolving through the coexistence of rights-based, social, clinical, and rehabilitative models. Although co-authorship analyses indicate that the most influential articles are driven by several authors or countries, multidisciplinary approaches to disabilities are expanding globally to address issues faced by PWDs.

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1. INTRODUCTION

Disability is a complex, global, and multifaceted phenomenon that affects many parts of life, including healthcare, education, social welfare, inclusion, and social equality. Therefore, disability cannot be understood from just one disciplinary perspective. Various approaches to disability combine theories, knowledge, and interventions from different fields to provide practical, comprehensive support for persons with disabilities (PWDs) that suits different contexts. In other words, multidisciplinary approaches across social work, healthcare, and sociology are necessary to give a complete view of disability research (Watson et al., 2012). Similarly, Whitburn and Michalko (2019) offered an overview of disability and its links to many other disciplines, including history, philosophy, sports, and science and technology. The literature review shows that research on disabilities often uses multidisciplinary methods focused on specific groups, such as children with autism spectrum disorders (Strunk et al., 2017), students with disabilities (Simpson & Bakken, 2021), and people with musculoskeletal disorders (Feuerstein, 1991). The reviews also point to numerous systematic reviews, conceptual papers, and narrative reviews on specific models or sub-areas of disability. Despite the growth and diversity of disability studies, the structure and themes of multidisciplinary research remain poorly understood.

Bibliometric analysis is a systematic, quantitative method for examining scholarly literature to identify research patterns, trends, and impacts across various fields. It involves three main steps: data collection, cleaning, and analysis (Passas, 2024). Essentially, bibliometric analysis is a key research tool for understanding research landscapes, offering an overview of research areas through statistical and quantitative techniques, and complementing traditional review methods (Kumar, 2025). The literature review reveals that many bibliometric studies focus on disability within Scopus and other significant databases. However, these studies only explore specific or narrative sub-areas of disability, such as disability sport (Khoo et al., 2018), children with disabilities (Alghadier et al., 2024), or workplaces for PWDs (Gautam et al., 2024). Additionally, several bibliometric analysis studies were limited to a specific country, region, context, or time period. Despite the rise in multidisciplinary research related to disability, genuine collaboration and

integration across domains worldwide remain limited. In particular, there is a lack of studies that review the overall intellectual structure, thematic co-occurrence, and collaboration patterns within this research field, which limits a comprehensive understanding of publication trends, the most impactful publications, the scholarly structure map, and global connections in the disability research area.

Therefore, the main goal of this study is to identify the overall intellectual framework and thematic development of multidisciplinary approaches in disability research. To fulfil the study's purpose, the researchers plan to examine these five objectives, as follows:

- To identify the overall publication characteristics and development trends of multidisciplinary approaches in disability research.
- To identify the most influential publications shaping multidisciplinary approaches in disability research.
- To examine the intellectual structure of multidisciplinary approaches in disability research.
- To assert and map the key thematic co-occurrence patterns of multidisciplinary approaches in disability research.
- To analyze the co-authorship networks and collaboration patterns among researchers in multidisciplinary disability research.

2. RESEARCH METHODOLOGY

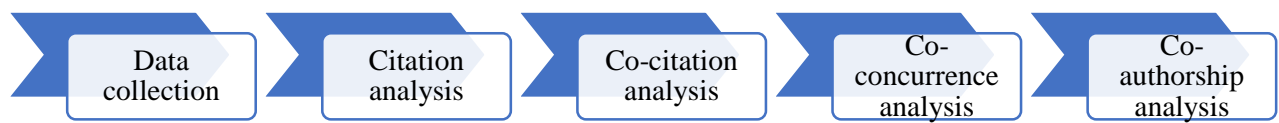


Figure 1. Bibliometric analysis research process

Note: The researchers created the image

The present study employed quantitative bibliometric analysis to evaluate the intellectual construct, the thematic evolution, and the cooperation among researchers in multidisciplinary disability research. The significant process has been displayed in Figure 1, involving data selection, citation analysis for exploring the overall publication characteristics and development, as well as the most impactful publications in the field research, co-citation analysis for examining the intellectual framework, co-concurrence analysis for assessing the key thematic clusters, and co-authorship for evaluating the co-partnership or collaboration among various researchers or research organizations in disability research.

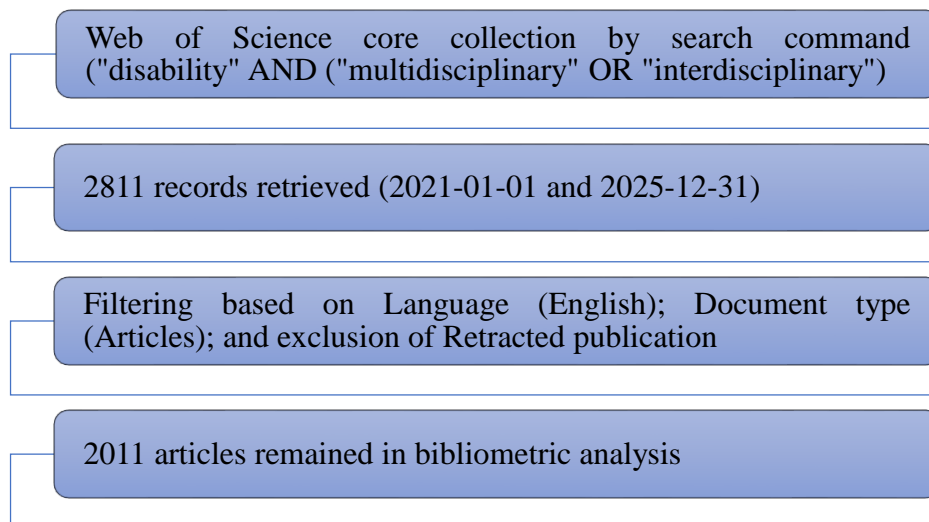


Figure 2. Data collection process for bibliometric analysis

Note: The researchers created the image

Figure 2 explains the data collection process for the bibliometrics analysis of multidisciplinary disability research. The data for this study were collected from the Web of Science (WoS) database, which includes high-quality articles from peer-reviewed journals of high standard. WoS is especially appropriate for bibliometric analysis because of its standardized citation and reference records and strong reliability and validity in evaluating the most influential publications, research flows, key thematic developments, and research collaboration networks. Therefore, an intended search strategy was conducted in WoS employing the Topic Search field. The search command used was ("disability" AND ("multidisciplinary" OR "interdisciplinary")), covering publications from 2021-

01-01 to 2025-12-31 to capture current research over the past 5 years. Moreover, the records were refined by language (English) and document type (articles), and retracted publications were excluded. The records were further screened for content relevance. As a result, only 2011 suitable articles were chosen for bibliometric analysis. Databases were exported from WoS and analyzed using VOSviewer 1.6.20 to construct and visualize citation, co-citation, co-occurrence, and co-authorship networks.

3. RESULTS

3.1. Overall publication characteristics and development trends of multidisciplinary disability research.

From 2021 to 2025, the dataset identified 2011 multidisciplinary research articles, which received a total of 11710 citations from 11141 citing articles, with 10943 of these articles without self-citations. This result shows that other researchers, rather than self-citations, mainly influence the impact factor of the publications. Additionally, the average number of citations per item was 5.83, which is typical for interdisciplinary research, especially in many recent publications. Moreover, an H-index of 39 indicates a stable and influential body of work.

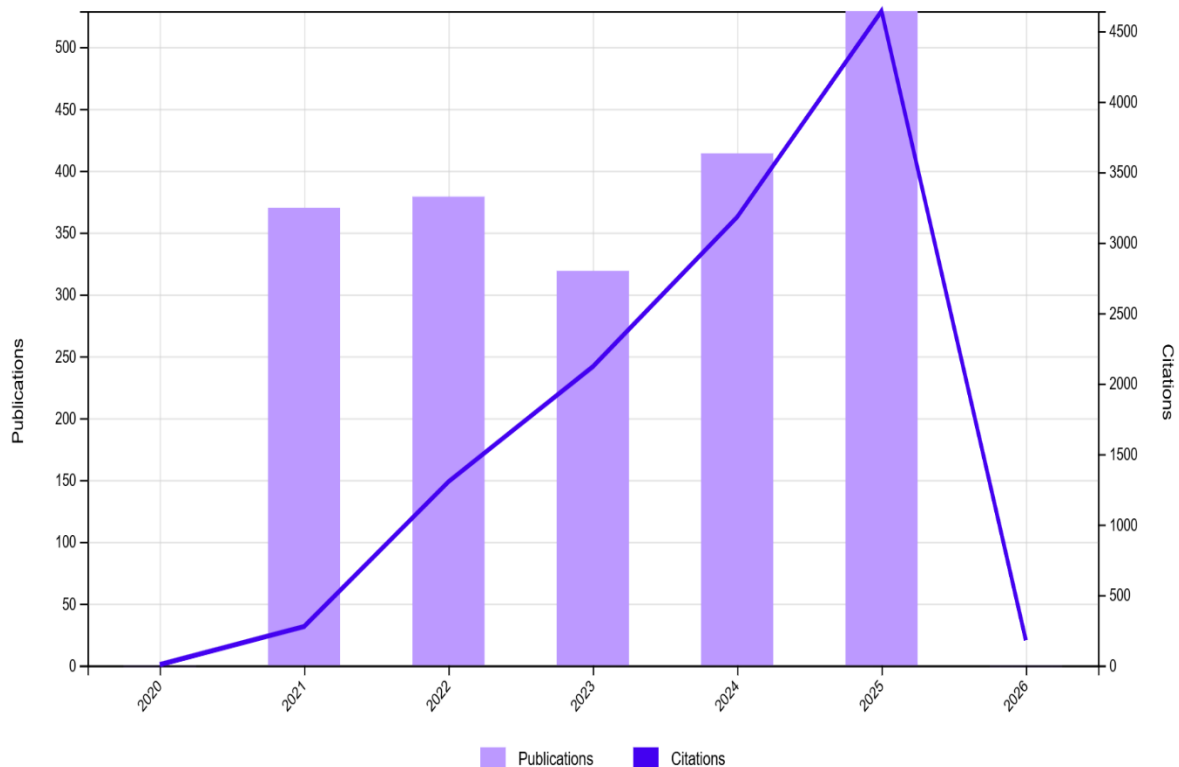


Figure 3. Overall trend analysis of publications and citations in multidisciplinary disability research

Note: The image was exported from WoS

Figure 3 shows the yearly distribution of publications and citations from 2021 to 2025. The data show clear, steady growth in both areas within multidisciplinary disability research. Publications increased slightly from 370 in 2021 to 379 in 2022. There was a slight drop to 319 publications in 2023. However, the number of publications rose significantly between 2023 and 2025, peaking at 529 in 2025. Additionally, the trends suggest rapid development and growing scholarly influence of multidisciplinary research from 2022 to 2025. This likely reflects heightened global focus on disabilities, interdisciplinary teamwork, and the integration of disability research into various other fields. The citation trends indicate that citations grew even faster than publications, especially since 2022. The sharp increase in citations from 2023 (2120) to 2025 (4643) shows that these publications not only increased in number but also attracted greater attention from scholars and were used across multiple disciplines. The strong positive relationship between publication volume and citations suggests that disability research is becoming more integrated into the broader academic landscape, including healthcare, social sciences, education, and social policy.

multidisciplinary disability studies, primarily the use of questionnaires and scales to evaluate the reliability and validity of life satisfaction measures, self-efficacy, and the psychometric properties of depression, stress, and anxiety.

Among multidisciplinary approaches in disability studies, Cluster Three focuses on older adults with disabilities, drawing from research in geriatrics, rehabilitation, neurology, and public health. These studies identify the physical and mental health challenges faced by elderly individuals with disabilities, such as cardiovascular disease, dementia, ischemic stroke, and Parkinson's disease. Most research emphasizes functional decline, memory, and physical activity or performance among older adults. Cognitive and neurological aspects highlight the importance of mental and neurological health in creating disability. This cluster, therefore, notes rehabilitation as a method to help elderly adults manage their health issues, such as stroke rehabilitation or telerehabilitation. Additionally, multimorbidity, morbidity, and mortality underscore the cumulative disease burden that results in limited functioning among PWDs. Overall, this thematic cluster demonstrates multidisciplinary perspectives on disabilities, grounded in functional and clinical approaches. Cluster Four pinpoints the integration of neurology, clinical medicine, health policy, and psychiatry. This thematic cluster highlights the situations of neurology and mental health, such as schizophrenia, stroke, substance use disorders, and mental disorders, along with neurological function and neurorehabilitation. The appearance of the International Classification of Functioning, Disability and Health (ICF), disability and healthcare, outcome measurement, neuroimaging, and mental healthcare indicates the strong connection between the theoretical framework and disability-oriented disability. Overall, this cluster closely reflects the biopsychosocial perspectives, in association with clinical evidence, rehabilitation outcomes, and the policy framework in disability studies.

3.5. Co-authorship analysis

Out of 13132 authors, only 140 were selected based on a 3-document threshold. Some of the 140 items in the network are unconnected; the largest connected group involves just 15 authors, comprising 2 clusters, 92 links, and a total link strength of 274, as shown in Figure 7. The co-authorship map highlights the core researchers who were strongly interconnected within the dataset in 2024. Most authors were characterized by the yellow cluster, which represents the current publications. The central collaboration included Petzke, Hoffmann, Kohlmann, Meyer-Moock, Preissler, Marschall, and other colleagues. Interestingly, Kaiser emerged as a connecting node, linking the core cluster to a peripheral author (Meissner), indicating collaboration between two groups.

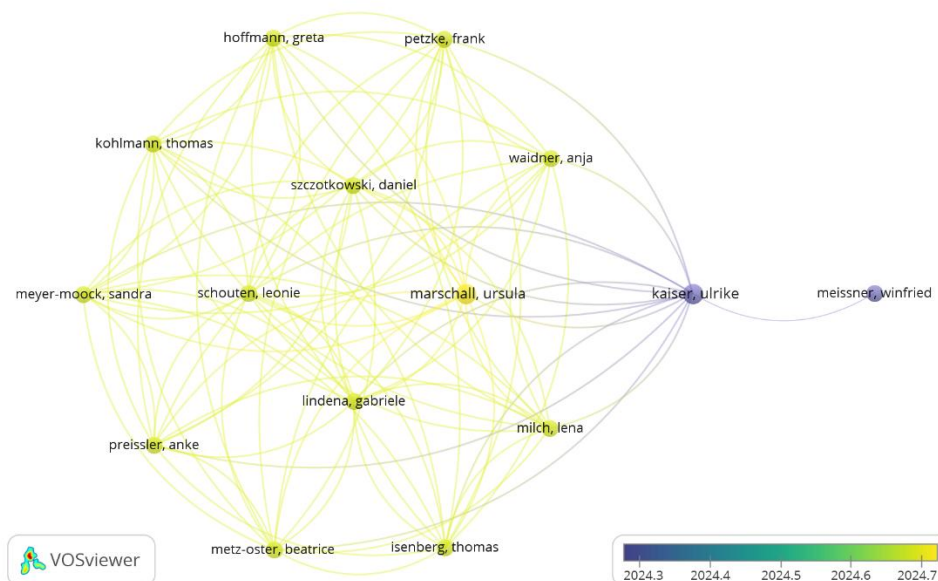


Figure 7. Overlay visualization of the co-authorships analysis by authors

Note: The image was exported from VOSviewer

The data analysis also shows the country-level co-authorship network, indicating a highly internationally connected structure. America emerged as a core central corporation, connecting different regions. There were several distinct clusters, including South European countries, centered on France and Italy; North America and the Middle East, concentrated in Canada and Türkiye; and the cluster of Australia and Britain, strongly connected to other countries such as India, Brazil, South Africa, and Singapore. Several countries, including Germany, Australia, and Britain, play a significant role in associating and linking with other isolated clusters.

4. DISCUSSION

The current study provides a detailed bibliometric overview of multidisciplinary disability research, emphasizing the intellectual framework, collaboration networks, and thematic groupings. The growing number of publications indicates increased academic interest. This shows that disability is a complex, multidisciplinary issue that needs an integrated research approach. Earlier studies have examined disabilities across various fields, including healthcare, psychology, psychiatry, clinical practice, education,

vocational training, transportation, and policy. Several studies have used bibliometric analysis to investigate the scholarly landscape of disability research through different methods. However, the present study is among the first to identify the intellectual structure, collaboration networks, and thematic trends in multidisciplinary disability studies in English-language articles published in WoS from 2021 to 2025.

The study's findings show that multidisciplinary disability research experienced significant growth and increased academic influence between 2021 and 2025. The dominance of citations without self-citations suggests that the research area's impact is primarily driven by broader research communities rather than by internal self-reflection. Both increased publications and citations suggest multidisciplinary approaches and integration among healthcare, education, and social policies. Along with H-indices, these structures reflect a developing, progressively maturing research foundation. The author citation network indicates a fragmented intellectual structure in multidisciplinary disability research. The small clusters and low network strength suggest that the most influential authors were cited primarily within localized clusters rather than within a unified citation network. Temporal analysis indicates the continuation of limited citation between the earlier and more recent contributions, reflecting the parallel development of different research directions across various domains of disability, with modest cross-citation integration.

The cluster structure reveals that multidisciplinary disability research is evolving through the coexistence of rights-based, social, clinical, and rehabilitative models. The prominence of topics such as integration, equality, and anti-discrimination against PWDs indicates a steady shift away from solely medical, social, and broader policy approaches. Naturally, areas such as chronic pain, psychology, dementia, neurology, and rehabilitation highlight the ongoing influence of clinical and biopsychosocial methods, especially within the standardized ICF framework. Overall, these models show that disability is understood through knowledge, clinical evidence, and function, while also gradually advancing social justice and integration. Furthermore, the co-authorship analysis indicates that research productivity is concentrated among a few core authors and leading countries, notably America, the United Kingdom, Canada, and Australia. These countries play a significant role in the global network of connections, and the academic contributions of developing regions and countries remain relatively limited. This imbalance highlights unequal research capacity and underscores the importance of international participation and knowledge exchange in multidisciplinary disability studies.

Disability is not a single phenomenon; it is a complex, multidisciplinary issue in which PWDs face various challenges in achieving social integration. Therefore, multidisciplinary approaches in the disability field, including education, healthcare, psychology, social work, sociology, clinical practice, and legal frameworks, are crucial to helping PWDs address the many issues they encounter. In other words, adopting a multidisciplinary approach to disability research is vital to developing a comprehensive understanding of disabilities, understanding how specific aspects are interconnected, and providing valuable insights for policy-making to effectively support PWDs across different countries or regions.

5. CONCLUSION

The present study provides an overview of how different disciplines work in the disability field through a bibliometric analysis. However, relying solely on the WoS database may limit access to high-quality research papers available in other rigorous databases, such as Scopus, a point that warrants careful consideration in future research. Access to English-language articles may also introduce several limitations when conducting bibliometric analysis in multidisciplinary research, thereby restricting the ability to select good articles in other languages related to the topic. The increasing number of publications demonstrates strengthened academic interest, indicating that disability is a complicated, multidisciplinary issue that requires integrated research approaches. The development of citations over self-citations suggests that the research field's impact is primarily influenced by broader research communities rather than by researchers' self-reflection. In addition, the intellectual structure of multidisciplinary approaches to disabilities is mainly constructed by rights-based, social, clinical, and rehabilitative models. Although co-authorship analyses reveal that the most influential articles are driven by several authors or countries, multidisciplinary approaches to disabilities are expanding globally to address issues faced by PWDs.

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