

Bibliometric and science mapping analysis of occupational therapy research in Greece (1977–2025)

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Abstract

Occupational therapy research in Greece has developed gradually, yet its scientific output, impact, collaboration patterns, and thematic orientation have not previously been examined systematically. This study aimed to provide the first comprehensive bibliometric analysis and science mapping of occupational therapy research produced by academic staff affiliated with Greek higher education institutions. A bibliometric and science-mapping analysis was conducted, with the identification and selection of publications reported in accordance with the PRISMA 2020 framework. PubMed, Scopus, and Google Scholar were searched for peer-reviewed publications produced between 1977 and 2025 by academic staff affiliated with the three Greek university departments offering undergraduate occupational therapy programmes. Study selection was managed through Covidence, while publication trends, journal rankings, citation performance, keyword co-occurrence, thematic clusters, and co-authorship networks were examined. VOSviewer was used for science mapping and network visualization. Of the 429 records identified, 55 peer-reviewed articles met the eligibility criteria. Research output remained limited until 2021 but increased considerably thereafter, rising from five publications in 2022 to sixteen in 2025. Nearly half of the articles were published in non-indexed journals, while relatively few appeared in Q1 and Q2 journals. Citation impact was concentrated in a limited number of highly cited publications. Keyword analysis revealed nine thematic clusters covering cognitive functioning, mental health, neurodevelopment, rehabilitation, ageing, and emerging technologies. Co-authorship mapping indicated a centralized and fragmented collaboration structure. This study establishes the first bibliometric baseline for occupational therapy research associated with Greek higher education institutions. By identifying patterns of productivity, visibility, thematic development, and scientific collaboration, the findings provide evidence that may support institutional research planning, stronger interinstitutional collaboration, advanced research training, and the strategic development of occupational therapy research in Greece.

Keywords: occupational therapy, bibliometric analysis, Greece, science mapping, research productivity.

Análise bibliométrica e de mapeamento científico da investigação em terapia ocupacional na Grécia (1977–2025)

Resumo

A investigação em terapia ocupacional na Grécia desenvolveu-se gradualmente; contudo, a sua produção científica, impacto, padrões de colaboração e orientação temática ainda não tinham sido examinados de forma sistemática. Este estudo teve como objetivo realizar a primeira análise bibliométrica abrangente e o primeiro mapeamento científico da investigação em terapia ocupacional produzida por docentes afiliados a instituições gregas de ensino superior. Foi realizada uma análise bibliométrica e de mapeamento científico, com a identificação e seleção das publicações reportadas de acordo com as diretrizes PRISMA 2020. Foram pesquisadas as bases de dados PubMed, Scopus e Google Scholar para identificar publicações revistas por pares, produzidas entre 1977 e 2025 por docentes afiliados aos três departamentos universitários gregos que oferecem cursos de licenciatura em terapia ocupacional. A seleção dos estudos foi gerida através da plataforma Covidence, enquanto foram examinadas as tendências de publicação, a classificação dos periódicos, o desempenho de citações, a coocorrência de palavras-chave, os clusters temáticos e as redes de coautoria. O VOSviewer foi utilizado para o mapeamento científico e a visualização das redes. Dos 429 registos identificados, 55 artigos revistos por pares cumpriram os critérios de elegibilidade. A produção científica permaneceu limitada até 2021, mas aumentou consideravelmente nos anos seguintes, passando de cinco publicações em 2022 para dezasseis em 2025. Quase metade dos artigos foi publicada em periódicos não indexados, enquanto relativamente poucos apareceram em periódicos Q1 e Q2. O impacto de citações concentrou-se num número limitado de publicações altamente citadas. A análise de palavras-chave revelou nove clusters temáticos relacionados com o funcionamento cognitivo, a saúde mental, o neurodesenvolvimento, a reabilitação, o envelhecimento e as tecnologias emergentes. O mapeamento das coautorias indicou uma estrutura de colaboração centralizada e fragmentada. Este estudo estabelece a primeira linha de base bibliométrica para a investigação em terapia ocupacional associada às instituições gregas de ensino superior. Ao identificar padrões de produtividade, visibilidade, desenvolvimento temático e colaboração científica, os resultados fornecem evidências que podem apoiar o planeamento institucional da investigação, uma colaboração interinstitucional mais forte, a formação avançada em investigação e o desenvolvimento estratégico da investigação em terapia ocupacional na Grécia..

Palavras-chave: terapia ocupacional, análise bibliométrica, Grécia, mapeamento científico, produtividade científica.

1. Introduction

According to WFOT's definition (2025), "Occupational therapy promotes health and wellbeing by supporting participation in meaningful occupations that people want, need, or are expected to do". Over the last few decades, the evolution of the profession has incorporated attitudes from different disciplines in order to expand to many clinical, community, and research contexts. Furthermore, to prove its specificity, it had to develop scientific activity and issue data to the scientific community. The first occupational therapy journal, *Archives of Occupational Therapy*, was published in 1922 (Cruz et al., 2019).

Since then, an increasing number of journals have been published, giving the large body of research a platform for communication. Among the earliest titles are the *American Journal of Occupational Therapy* (AJOT; 1947, present), the *Canadian Journal of Occupational Therapy* (CJOT; 1933, present), the *British Journal of Occupational Therapy* (BJOT; 1938, present), and the *Australian Occupational Therapy Journal* (AOTJ; 1952, present) (Brown et al., 2017). In the 21st century, the evolution of technology brought about important changes in occupational therapy research in relation to the reliability of scientific results and their dissemination (Cruz et al., 2019). Besides this, this evolution has led to the development of tools for the analysis and measurement of scientific output, such as bibliometric analysis (Meho; Yang, 2006).

Bibliometric analysis is widely used as an appropriate tool for analyzing scientific outputs and their features, such as publications, citations, and authors, through quantitative and statistical procedures (Pritchard, 1969; Donthu et al., 2021). The literature generally distinguishes between two types of bibliometric analysis: performance analysis and science mapping. Performance analysis is primarily concerned with measuring the productivity and impact of individual researchers, institutions, or even countries by use of quantifiable indicators like the number of publications and citation-based metrics such as the impact factor and h-index (Donthu et al., 2021).

Besides performance indicators, science mapping entails the study of the various ways scientific knowledge is interconnected. It explores how researchers collaborate and how research topics are linked through methodologies like the analysis of co-authorship, co-citation, and keyword co-occurrence (Cobo et al., 2011). In the health sciences, and especially in fields like rehabilitation and occupational therapy, these tools allow the

evaluation of a wide range of scientific studies, make recognizing new research directions easier, and contribute to informed decision-making in the planning and improvement of healthcare systems (Donthu et al., 2021; Ellegaard; Wallin, 2015).

Bibliometric methods have been widely applied to examine global research trends in OT. Espinosa-Sempere et al.'s (2021) examination of the world's scientific output in occupational therapy from 1917 to 2020 revealed The American Journal of Occupational Therapy as the topmost publication source, accounting for over 20% of global output, and the U.S. as the most productive country. Furthermore, regarding the quantifiable indicators, AJOT was the sole journal ranked in the first quartile (Q1), while BJOT and AOTJ ranked in the second (Q2), and CJOT obtained the fourth quartile (Q4). These findings came in accordance with Brown et al.'s (2018) results.

Bibliometric analyses were expanded towards particular OT areas. Mazaro et al. (2021), in their study on mental health, identified Brazil as the most productive country. In a related way, Man et al. (2019) investigated rehabilitation research in four Western countries (Australia, Canada, the U.S., and the U.K.) and five Asian countries (Hong Kong, Japan, Taiwan, Singapore, and South Korea). Their results highlighted that the highest mean citation count (2211.6) was obtained by Hong Kong, while Australia ranked in second place (1771.2), and the United States in third one (1575.9).

Regarding median h-index, Hong Kong also kept the first place, scoring 21, whereas Australia's score was 16, and Canada's 14. In contrast, a year earlier, Brown et al. (2018) identified the United States as the most productive country in rehabilitation research. This discrepancy could be due to methodological differences, as Brown et al. included only journals indexed in the Science Citation Index Expanded (SCI-E) and the Social Sciences Citation Index (SSCI), whereas Man et al. retrieved publications from broader databases, including Scopus and Google Scholar. The United States, as with Brown et al. (2018), is recognized as the leading contributor in related areas such as autism research (Alkattan et al., 2025) and virtual reality applications in stroke rehabilitation (Wei et al., 2025).

More recent bibliometric studies have extended this approach to the historical and methodological evolution of occupational therapy, long-term developments in rehabilitation journals, neurorehabilitation, prehabilitation, and digital therapeutics (Pamboris et al., 2024; Cantorani; Oliveira, 2025; Ma et al., 2025; Yoo; Jang, 2025; Márquez-Álvarez et al., 2026). These studies demonstrate the value of bibliometric and science-mapping methods for identifying publication growth, thematic evolution, collaboration structures, methodological trends, and emerging areas of research.

Occupational therapy in Greece has undergone important academic and professional development, including the expansion of university-based education and research. At the time of the present study, three Greek university departments offered undergraduate occupational therapy programmes. Despite these developments, no comprehensive bibliometric assessment has examined the publication output, citation impact, thematic orientation, and collaboration patterns of this academic research community. Greece therefore represents a relevant national case study for understanding how occupational therapy research develops within a relatively small and evolving higher-education system and for identifying priorities that may strengthen its scientific contribution and international visibility.

This study aims to provide a comprehensive bibliometric analysis and science mapping of occupational therapy research in Greece. More specifically, the purposes are to: (a) explore trends in the publication output and citation impact; (b) identify the most productive authors, institutions, and journals; (c) map national and international collaboration networks; and (d) identify the conceptual structure and emerging research themes within the field. By presenting a methodological account of the research field, this study contributes to a deeper understanding of the evolution of occupational therapy in Greece and supports its scientific and professional path with evidence-based recommendations.

2. Materials and Methods

2.1 Study design

This study employed bibliometric performance analysis and science mapping to examine research output associated with occupational therapy departments in Greece. First, the official websites of all Greek public universities offering undergraduate occupational therapy programmes were examined. Three departments were identified: the Department of Occupational Therapy at the University of West Attica, the Department of Occupational Therapy at the University of Western Macedonia, and the Department of Occupational Therapy at Democritus University of Thrace. The names of academic staff listed on the official departmental websites at the

time of data collection were compiled in a Microsoft Excel spreadsheet. The number of records retrieved for each author and the number of publications meeting the eligibility criteria were recorded to support consistency across the research team.

Searches were conducted in PubMed, Scopus, and Google Scholar between October and December 2025 and covered publications from 1977 to 2025. The year 1977 was selected because it marked the beginning of formal occupational therapy education in Greece. The search was conducted in two complementary phases. First, author-based searches were performed using the full names, initials, and available name variants of academic staff. Second, institutional searches were conducted using the names of the occupational therapy departments and their respective universities. Search terms were combined using the Boolean operators “AND” and “OR” and were adapted to the requirements of each database. The complete database-specific search strategies are provided in (Supplementary Table S1).

Google Scholar was included as a supplementary source to increase the coverage of multidisciplinary and locally published literature that might not be fully represented in PubMed or Scopus. However, because its indexing processes and search results are less transparent and may include duplicate or inconsistently reported records, all potentially eligible Google Scholar results were manually verified before inclusion. Zotero was used to organize the retrieved references and classify them by institution before their transfer to Covidence for study selection.

2.2 Inclusion and exclusion criteria

Our inclusion criteria were as follows: (1) the paper had to be written in either Greek or English; (2) it had to be peer-reviewed; and (3) it had to be produced or co-authored by members of academic staff connected to one of the three occupational therapy departments in Greece. There are no restrictions on the study design, population, or topic. The exclusion criteria were as follows: 1) no affiliation with any of the three identified departments; 2) non-peer-reviewed documents: book chapter, abstract, conference proceedings, editorial, grey literature.

The studies that matched all the inclusion criteria were successfully imported into the Covidence database, and all duplicate papers were removed after identification. All retrieved references were imported into Covidence, where automatic duplicate detection was initially applied. Potential duplicates were subsequently reviewed manually by comparing the article title, authors, publication year, journal, and DOI, where available. Disagreements or uncertain records were discussed by the research team before the screening process commenced. Further on, as per the 2 stage process, two assessors reviewed the title and the abstract of the papers, and then a full-text review was completed.

The papers were selected if the title or the summary of the study referred to related terms of Occupational Therapy/, Functionality/, Quality of Life/, Activities of Daily Living (ADLs)/, Occupations/, Participation/, Occupational Performance, Meaningful Activity, Client-Centered Care, Holistic Care, Functional Independence, Instrumental Activities of Daily Living (IADLs), Occupational Engagement. In case of conflict between the 2 reviewers, the final decision was assessed by a third reviewer who proceeded with the 2 stage process review as mentioned above. Finally, a total of 55 studies were gathered for subsequent bibliometric analysis.

2.3 Data extraction and analysis

After the completion of the study selection process, we conducted several analyses, including publication trends analysis, journal analysis, citation analysis, and thematic analysis. Regarding publication trends, we determined the distribution of publications across the period 1977–2025. Furthermore, in order to assess the quality of the journals in which Greek occupational therapy literature is published, the Impact Factor, the SJR values, and the quartile ranking (Q1–Q4) were identified for each journal. We looked at the Journal Citation Reports to find out the Impact Factor of journals. We also checked the SCImago Journal & Country Rank website for the SJR value and the ranking of each journal. If we could not find the Impact Factor of a journal, we used the SJR value to see how important and good the journal is.

We made a list of the five journals that have the most papers and the top five journals that have the highest Impact Factor and SJR value. We also looked at how papers are spread out across different types of journals. We compared the number of papers in ranked journals to those in lower-ranked journals. If a journal was not listed in Scopus or Web of Science, we marked it as not indexed. To perform the citation analysis, the number of citations for each paper was manually retrieved from Google Scholar, and the top 10 most cited papers were identified. Lastly, with the purpose of thematic analysis, author-assigned keywords and article abstracts were analyzed to identify key research areas.

VOSviewer software was used to categorize author-assigned keywords and to conduct the thematic analysis. Science mapping was conducted using VOSviewer version 1.6.20. Keyword co-occurrence and co-authorship networks were constructed using the full counting method and the association strength normalization approach. For the keyword co-occurrence analysis, the minimum occurrence threshold was set at five, while authors were required to have a minimum of five included publications for the co-authorship analysis. The clustering resolution parameter was set at 1.00, with a minimum cluster size of one item. All remaining layout and clustering parameters were retained at their default values.

3. Results

3.1 Search Results and Study Selection

A total of 429 records were identified through the systematic search. Following duplicate removal, the remaining records underwent title and abstract screening and subsequent full-text eligibility assessment. Most records excluded during title and abstract screening did not demonstrate a clear relationship with occupational therapy or the predefined occupational therapy-related concepts. At the full-text stage, the principal reasons for exclusion were the absence of an affiliation with one of the three identified occupational therapy departments and an ineligible publication type, such as a book chapter, conference proceeding, editorial, or other non-peer-reviewed output. Ultimately, 55 peer-reviewed articles met all eligibility criteria and were included in the bibliometric analysis. The complete study selection process and the reasons for exclusion are presented in the PRISMA 2020 flow diagram (Figure 1).

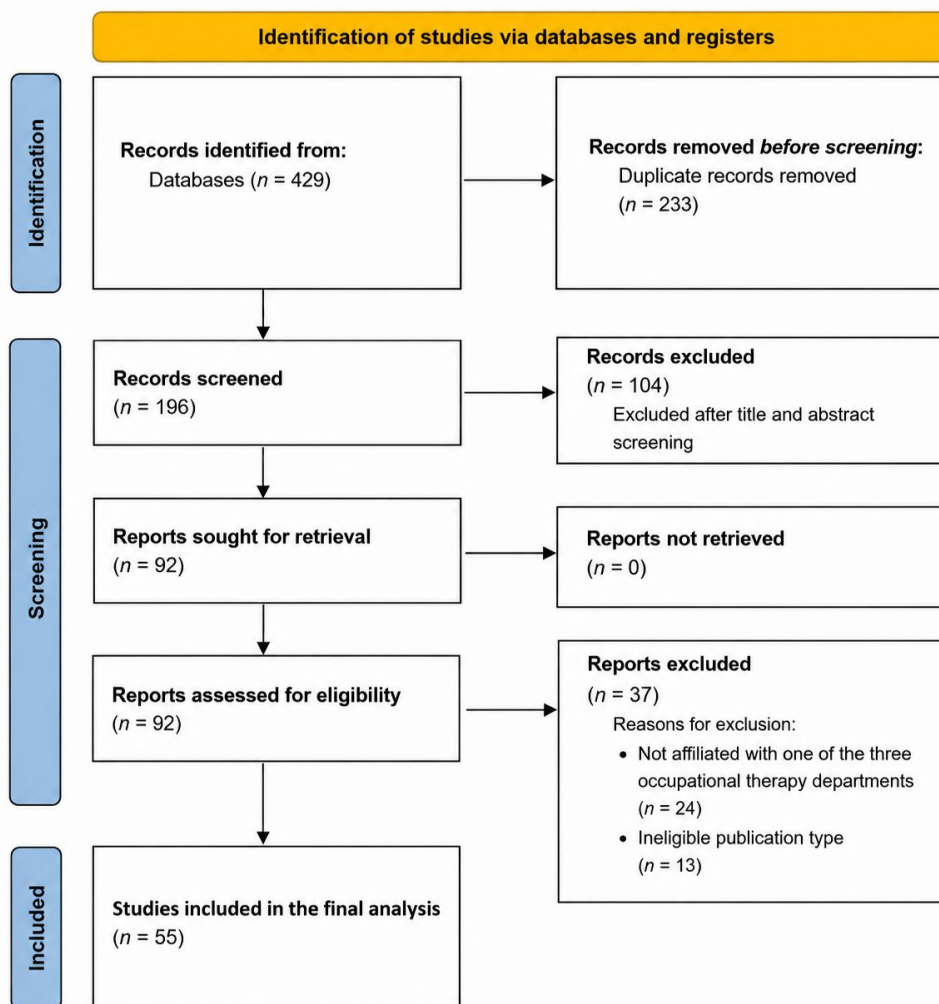


Figure 1. PRISMA 2020 flow diagram of the systematic search and study selection process for the bibliometric analysis of Greek occupational therapy academic output (1977–2025).

3.2 Annual distribution of publications

The analysis regarding annual publication indicates that the annual publication output was very inconsistent through time, with long periods of no activity followed by a rapid increase in recent years. There were no publications detected before 2009, which is expected as the Greek occupational therapy departments were established around that time and their research activities were very limited. Between 2009 and 2018, publications were limited, and more specifically, it was less than five articles per year. In addition, there were quite a few years when no papers were published (2010, 2014, 2016, 2017, and 2018).

In 2015, a little increase in the number of publications was noted as four papers were released, but this was a temporary situation as the number of publications dropped to very low levels until 2021. As per the data in Figure 2, a very obvious and continuous upward trend took off in 2022. The number of articles published yearly shot up drastically from only five articles in 2022 to nine in 2023, ten in 2024, and the highest figure of sixteen in 2025, which was the peak level of annual publication output for the whole period under study. This recent acceleration indicates a transition from sporadic publication activity to a more sustained pattern of research production. The trend is interpreted in relation to international occupational therapy publication patterns in the Discussion section.

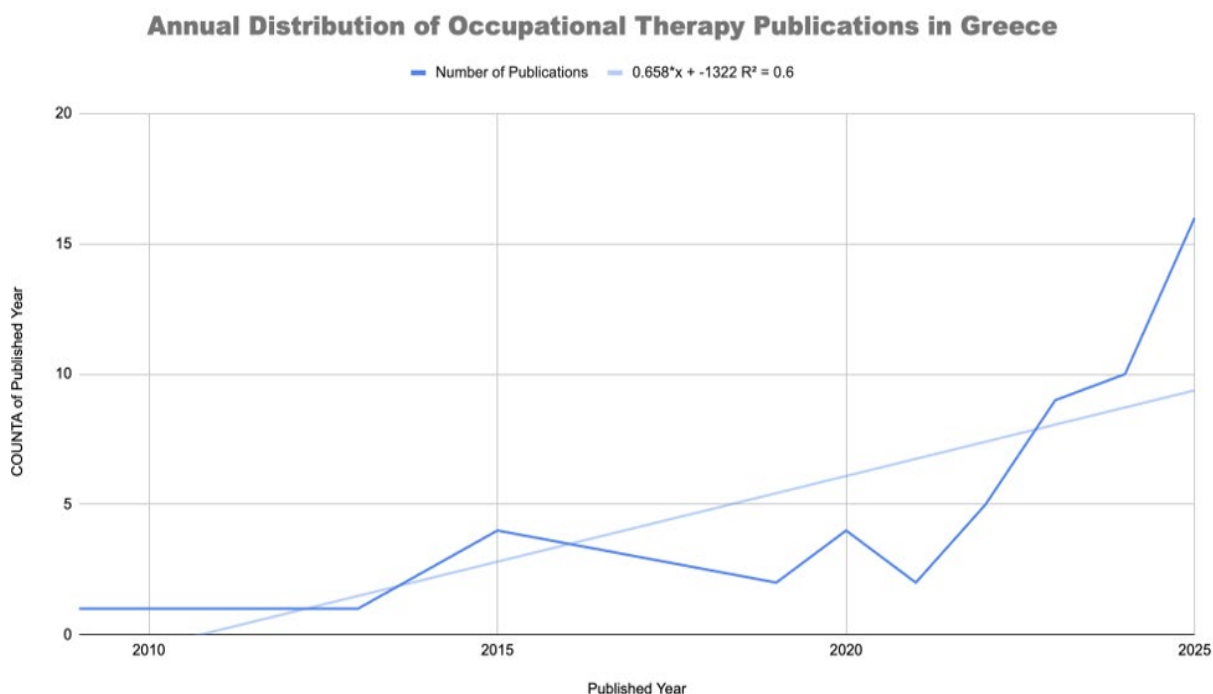


Figure 2. Annual distribution of Occupational Therapy publications in Greece (2009–2025), showcasing the transition from early stagnation to the recent significant increase in research output. Source: Authors, 2026.

3.3 Journal ranking analysis

The quartile distribution revealed considerable variation in the indexing status and journal-level visibility of the included publications. Five articles (9.1%) were published in Q1 journals and eight (14.5%) in Q2 journals. Publications in Q3 and Q4 journals accounted for 11 (20.0%) and four articles (7.3%), respectively. Nearly half of the included publications ($n = 27$; 49.1%) appeared in journals that were not indexed in Scopus or Web of Science and therefore could not be assigned a quartile ranking.

Analysis of the most frequent publication sources showed that PRIME contained the largest number of included articles ($n = 10$), followed by the Brazilian Journal of Science ($n = 5$); neither journal was indexed in Scopus or Web of Science at the time of data extraction. Among indexed journals, Healthcare published three articles and Medical Sciences published two.

These findings indicate that Greek occupational therapy research has been disseminated across journals with markedly different levels of international indexing and visibility. In short, the data showcased in (Figure 3) reveal a multifaceted publication trend. Even though the greatest portion of the publications came from non-indexed or less recognized sources, several articles appeared in top Q1 and Q2 journals, showing a steady enhancement in both quality and visibility of the research findings as time goes on.

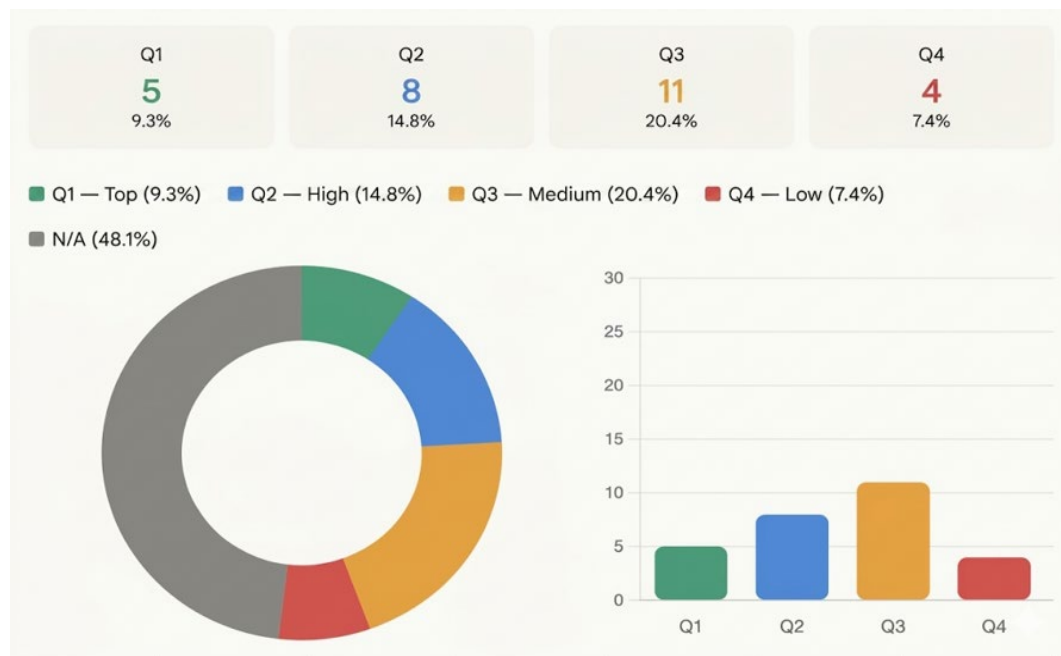


Figure 3: Distribution and volume of entries by quartile (Q1-Q4). Source: Authors, 2026.

3.4 Citation analysis

The total number of citations found in all of the articles used in this study stands at 631 citations. On average, each article contained 11.27 citations. As far as the number of citations found in the most highly cited articles is concerned, there was significant variation among the citations received, where the top five highly cited papers received 152, 107, 61, 49, and 37 citations, respectively, while other papers had relatively lower citations. This variation in citations found in different articles is shown in (Figure 4) below.

In addition to total citation counts, the h-index of the included publication set was calculated. To account partially for differences in publication age, an annual citation rate was also calculated for each article by dividing its total Google Scholar citation count by the number of years from publication to the end of the study period, inclusive. Citation patterns were additionally examined according to publication year.

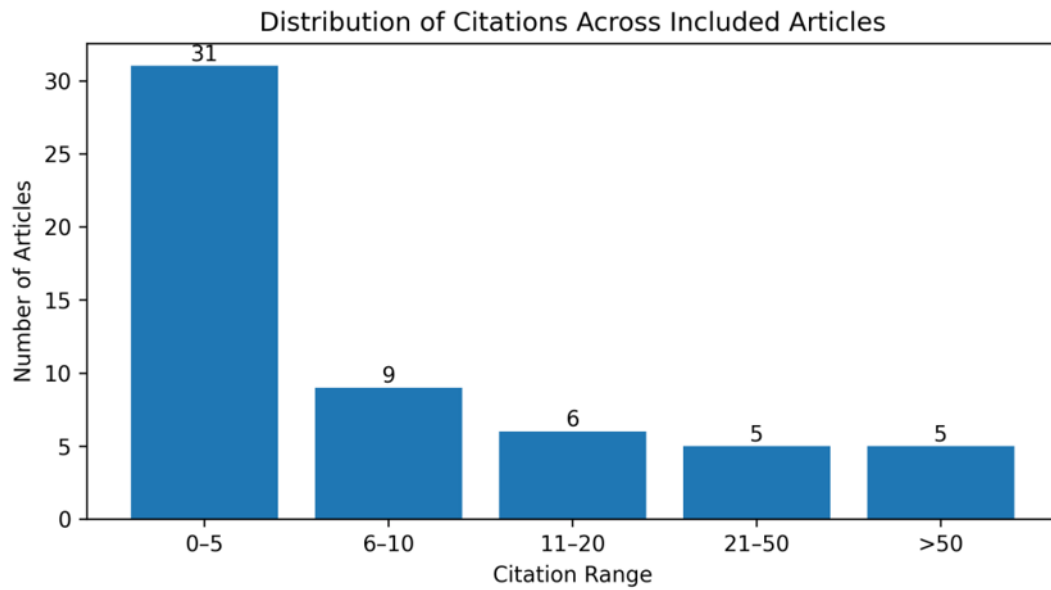


Figure 4. Distribution of citations across the included articles, categorized by citation range, highlights the concentration of papers with 0–5 citations and the small number of highly cited studies. Source: Authors, 2026.

Table 1. Main studies on the concept of occupation, home-based digital rehabilitation, caregiver burden, and health-related quality of life, including publication year, journal, study design, number of citations, and DOI.

Authors	Year	Title	Journal	Study design	Citations*	DOI
Kantartzis, S.; Molineux, M.	2011	The Influence of Western Society's Construction of a Healthy Daily Life on the Conceptualisation of Occupation	<i>Journal of Occupational Science</i>	Conceptual/theoretical paper	152	10.1080/14427591.2011.566917
Arntz, A.; Weber, F.; Handgraaf, M.; Lällä, K.; Korniloff, K.; Murtonen, K.-P.; Chichaeva, J.; Kidritsch, A.; Heller, M.; Sakellari, E.; et al.	2023	Technologies in Home-Based Digital Rehabilitation: Scoping Review	<i>JMIR Rehabilitation and Assistive Technologies</i>	Scoping review with bibliometric and co-occurrence analysis	107	10.2196/43615
Tziaka, E.; Tsiakiri, A.; Vlotinou, P.; Christidi, F.; Tsiptsios, D.; Aggelousis, N.; Vadikolias, K.; Serdari, A.	2024	A Holistic Approach to Expressing the Burden of Caregivers for Stroke Survivors: A Systematic Review	<i>Healthcare</i>	Systematic review	61	10.3390/healthcare12050565
Katsiana, A.; Strimpakos, N.; Ventoulis, I.; Kapreli, E.; Sofologi, M.; Bonti, E.; Kotrotsiou, S.; Stalikas, A.	2020	Health-Related Quality of Life in Children with Autism Spectrum Disorder and Children with Down Syndrome	<i>Materia Socio-Medica</i>	Comparative cross-sectional study	49	10.5455/msm.2020.32.93-98
Ventoulis, I.; Kamperidis, V.; Abraham, M.R.; Abraham, T.; Boulதாகis, A.; Tsioukras, E.; Katsiana, A.; Georgiou, K.; Parissis, J.; Polyzogopoulou, E.	2024	Differences in Health-Related Quality of Life among Patients with Heart Failure	<i>Medicina</i>	Narrative review	37	10.3390/medicina60010109

Note. Citation counts were retrieved from Google Scholar at the time of data extraction and may change over time. DOI, digital object identifier. Source: Authors, 2026.

3.5 Thematic analysis

The keyword co-occurrence analysis conducted using VOSviewer identified the conceptual structure of the included literature. A total of 58 keywords met the predefined inclusion threshold and were included in the network. The terms “humans” and “quality of life” emerged as the most frequently occurring and strongly connected keywords. In the VOSviewer network, occurrence refers to the number of publications in which a keyword appeared, while total link strength represents the overall strength of its co-occurrence relationships with other keywords. The keyword network is presented in Figure 5, and the most frequent terms are summarized in Table 2.

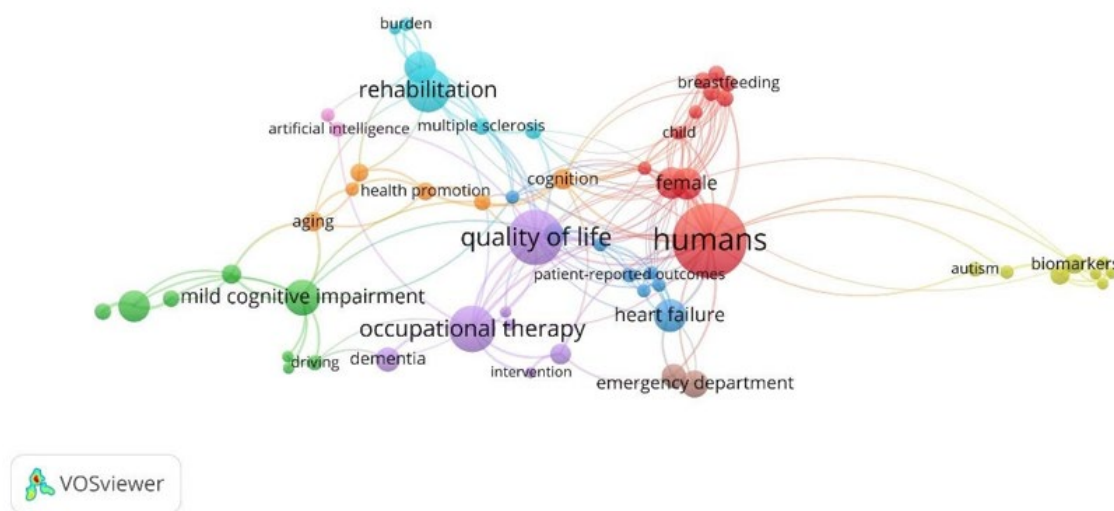


Figure 5. Keyword co-occurrence network generated using VOSviewer (version 1.6.20), illustrating the conceptual structure of the research field. Source: Authors, 2026.

“Humans” had the highest occurrence and total link strength ($n = 50$; $TLS = 46$), followed by “quality of life” ($n = 36$; $TLS = 32$), “occupational therapy” ($n = 30$; $TLS = 26$), and “rehabilitation” ($n = 29$; $TLS = 26$). These findings indicate that the literature was primarily organized around broad clinical populations, rehabilitation, participation-related outcomes, and quality of life. However, the prominence of general terms such as “humans,” “female,” and “male” should be interpreted cautiously, as these terms may partly reflect database indexing practices rather than author-defined research themes.

Table 2. Most frequent keywords and their corresponding occurrence and total link strength.

Keyword	Occurrences	Total link strength
humans	50	46
quality of life	36	32
occupational therapy	30	26
rehabilitation	29	26
mild cognitive impairment	23	23
executive functions	20	20
stroke	20	20
female	20	20

male	20	20
heart failure	21	15

Source: Authors, 2026.

The clustering analysis identified nine thematic clusters, presented in (Table 3). The clusters reflected the main conceptual groupings within the literature, including population and developmental characteristics, cognitive functioning and daily performance, mental health and clinical outcomes, neurodevelopmental disorders, rehabilitation, neurological disease burden, ageing, acute clinical care, and emerging technologies. Cluster labels were assigned by the research team following examination of the keywords grouped within each cluster and were intended to provide an interpretive summary of the underlying thematic content. The next 3 clusters embody an equal quantity of items (8). Cluster 2, entitled “cognitive functioning and performance,” focuses on the impact of cognitive deficits on everyday functioning. Cluster 3, representing the reflection of mental health status in clinical outcomes, is demonstrated as “mental health issues”. Cluster 4, entitled “neurodevelopmental disorders and interventions,” emphasizes neurodevelopmental disorders and early intervention in childhood.

Cluster 5, “therapeutic intervention and quality of life,” emerged with 7 items that mention the role of intervention in improving the quality of life. Cluster 6 and 7 include 6 items. Cluster 6 highlights the challenges of caregiving in neurological rehabilitation. Cluster 7 is entitled “aging and cognitive deficits,” presenting the significant role of preventive strategies in healthy aging.

Table 3. Presents the thematic clusters identified through the keyword co-occurrence analysis.

Clusters	Themes	Items	Keywords
Red	Population and developmental characteristics	11	breastfeeding, child, child development, cognitive functioning, female, humans, intelligence, male, preterm, vulnerability, Greece
Green	Cognitive functioning and daily performance	8	Alzheimer’s disease, driving, executive functions, metacognition, mild cognitive impairment, self-regulation, sleep, sleep disturbances
Blue	Mental health and clinical outcomes	8	anxiety, depression, health status, health-related quality of life, heart failure, patient-reported outcomes, risk factors
light green	Neurodevelopmental disorders and interventions	8	autism, autism spectrum disorder, biomarkers, children, functionality, music therapy, neonates, neurodevelopment
Purple	Rehabilitation and therapeutic interventions	7	cognitive impairment, dementia, frontotemporal dementia, intervention, interventions, occupational therapy, quality of life
light blue	Neurological rehabilitation and disease burden	6	burden, care, multiple sclerosis, rehabilitation, stroke, validity
Orange	Aging and cognitive decline	6	aging, cognition, cognitive decline, health promotion, neurocognitive disorder, neuroplasticity
dark purple	Acute clinical care	2	acute heart failure, emergency department
Pink	Emerging technologies	2	artificial intelligence, machine learning

Source: Authors, 2026.

The last 2 clusters include only 2 items. Cluster 8 “acute clinical care” describes a low interest of occupational therapy research in short-term rehabilitation. Finally, Cluster 9 describes an emerging area of research interest in technologies, even if this interest is not currently integrated into the core research focus.

3.6 Co-authorship network

The co-authorship analysis by VOSviewer revealed a network with clustered collaboration and a high level of centralization (Figure 6). The most significant node appears to be Vlotinou Pinelopi, indicating that this author has a major coordinating role in the research network. Several collaboration clusters emerged, including clusters closely, weakly, or moderately connected.

Clusters that are closely connected appeared with dense internal connections and high integration (e.g., those involving Tsolaki, Magda & Christidi Foteini). These clusters are indicative of an established and highly productive research team. In contrast, other clusters (e.g., those centred around Tzonichaki & Ioanna) display a high internal cohesiveness, but their peripheral position implies semi-isolated groups. Finally, there are intermediate clusters (e.g., Katsiana & Aikaterini) demonstrating moderate connectivity, which suggests partial integration into the main collaboration structure.

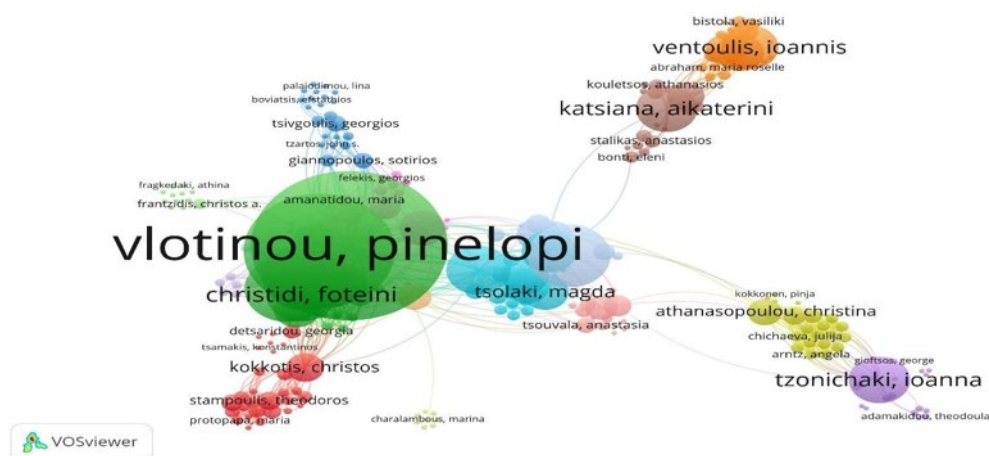


Figure 6. Co-authorship network generated using VOSviewer (version 1.6.20), illustrating collaboration patterns among authors in the field. Source: Authors, 2026.

4. Discussion

This bibliometric analysis is the first to provide a detailed exploration of occupational therapy research output from Greek higher education institutions. Results show that while the area is expanding rapidly, it still has issues both at the structural and qualitative levels.

The key highlight is the lack of research work before 2009, even though the first OT department in Greece was set up in 1977. Such a long freeze in research output probably points to the fact that there were very few research facilities and faculty members available in those early years. A growth pattern was shown in 2022, with yearly publications almost tripling from 2022 to 2025 (5 to 16 articles). This growth may be a result of hiring more academic staff, having more postgraduates, and basing research productivity more on the institutional side. Even though these patterns are typically in line with worldwide OT research development (Espinosa-Sempere et al., 2021), Greece is still way behind the top countries like Spain, the U.S., and the U.K. in terms of total publications.

The recent acceleration of Greek research output is consistent with the broader expansion of occupational therapy and rehabilitation research reported internationally. Global bibliometric analyses have demonstrated a long-term increase in occupational therapy publications, although research productivity remains concentrated in established academic systems such as the United States, the United Kingdom, Australia, Canada, and Spain (Brown et al., 2018; Man et al., 2019; Espinosa-Sempere et al., 2021). In comparison, the Greek pattern is characterized by a later and considerably smaller increase in publication activity. This difference should be interpreted in relation to the smaller size and more recent development of the national academic infrastructure rather than through direct comparison of absolute publication counts.

The high proportion of publications in non-indexed journals may reflect several contextual factors, including limited access to publication funding, differences in institutional publication strategies, the orientation of some

studies toward national or regional audiences, and the developing research experience of the academic community. However, these explanations were not directly examined in the present study and should therefore be interpreted cautiously. Importantly, indexing status and journal quartile indicate journal-level visibility and citation positioning rather than the methodological quality of individual articles.

The quartile distribution shows mixed results. A big percentage of total articles (48.1%) were published in non-indexed journals. In terms of indexed publications, the number was higher for the lesser-ranked journals (Q3, Q4: 53.6%). The high proportion of publications in non-indexed journals may reflect several contextual factors, including limited access to publication funding, differences in institutional publication strategies, the orientation of some studies toward national or regional audiences, and the developing research experience of the academic community. However, these factors were not directly examined in the present study and should therefore be interpreted as possible explanations rather than established causes. Importantly, journal indexing and quartile ranking primarily reflect visibility and citation positioning at the journal level and should not be interpreted as direct indicators of the methodological quality of individual studies. Statistics about citations also reflect inequality. The articles included in this study received a mean of 11.27 citations. The majority of them (31 articles) received fewer than 5 citations, while the most cited article accumulated 152 citations.

The marked increase in publication output after 2022 is consistent with the broader expansion of occupational therapy and rehabilitation research reported internationally. Previous bibliometric studies have shown a sustained increase in occupational therapy publications, although research productivity remains concentrated in well-established academic systems such as the United States, the United Kingdom, Australia, Canada, and Spain. In comparison, the Greek research profile is characterized by a later and smaller increase in output, which should be interpreted in relation to the size, historical development, and institutional capacity of the national academic system rather than through direct comparison of absolute publication counts.

The marked concentration of citations among a small number of publications indicates that the overall citation impact of the dataset was not evenly distributed. Moreover, total citation counts naturally favour older publications because they have had more time to accumulate citations. The inclusion of annual citation rates therefore provides a complementary, although still imperfect, indicator of the relative influence of more recent studies.

The thematic analysis of keyword co-occurrence showed that quality of life was the main theme, which is in line with the client-centered emphasis of occupational therapy (OT). There were nine different clusters identified, which showed the wide range of OT topics. However, there were only very limited, even marginal, amounts of new technologies and transnational research between, for example, cognitive science and rehabilitation. By analyzing the network of co-authored papers, the picture is quite clear that the research community is so split that it almost revolves only around a few highly connected researchers who are the central hubs. The rest of the author groups are clustering around them.

The observed network structure indicates that Greek occupational therapy research is organized around several established collaboration groups, with comparatively fewer connections between clusters. Although highly connected researchers may facilitate coordination and knowledge exchange, limited inter-cluster collaboration may restrict the wider diffusion of expertise and the development of broader interinstitutional networks. These interpretations should remain cautious, as co-authorship maps reflect publication relationships and do not directly measure leadership, research quality, or the informal exchange of knowledge.

Taken together, the findings indicate that research associated with Greek university occupational therapy departments is moving from a period of limited and fragmented activity toward a more visible, although still developing, scientific profile. The recent increase in publication output is encouraging; however, the concentration of publications in a limited number of journals, the uneven distribution of citations, the peripheral position of emerging technologies, and the restricted connectivity between research clusters suggest that quantitative growth has not yet been fully accompanied by broader scientific consolidation.

Future development may therefore depend not only on increasing publication volume, but also on strengthening research methodology training, supporting interinstitutional and international collaboration, diversifying research themes, and adopting publication strategies that enhance international visibility while remaining responsive to national occupational therapy priorities.

4.1 Limitations

This study has several limitations. First, the search was restricted to PubMed, Scopus, and Google Scholar, and

relevant publications indexed exclusively in other databases may therefore have been missed. Second, the analysis focused on peer-reviewed journal articles produced by academic staff affiliated with the three identified university occupational therapy departments. Consequently, the findings do not represent all occupational therapy research conducted in Greece and may exclude research produced by clinicians, independent researchers, former academic staff, or Greek occupational therapists affiliated with institutions outside the country.

Third, the identification of academic staff through departmental websites reflects the institutional composition available at the time of data collection and may not fully capture historical changes in departmental staffing. Fourth, Google Scholar was used for citation counts because of its broad coverage; however, its indexing is less transparent than that of curated databases, and citation values may change over time or include citations from non-peer-reviewed sources. Finally, bibliometric indicators, journal quartiles, and co-authorship networks provide information about research productivity, visibility, and collaboration patterns but do not directly assess the methodological quality or clinical relevance of individual studies. Despite these limitations, the systematic search, duplicate screening, independent eligibility assessment, and use of established bibliometric and science-mapping procedures support the value of the findings as an initial national overview.

5. Conclusions

This study establishes the first bibliometric baseline of occupational therapy research in Greece and provides evidence that may guide future research policies, international collaboration, research funding, and strategic development of the profession. The findings demonstrate a clear increase in publication activity after 2022, indicating a transition toward a more active and visible research profile. However, the field remains characterized by limited international indexing, uneven citation impact, restricted inter-cluster collaboration, and comparatively low engagement with emerging areas such as digital health and artificial intelligence.

These findings suggest that the future development of occupational therapy research in Greece should focus not only on increasing publication volume, but also on strengthening methodological training, supporting interinstitutional and international collaboration, broadening thematic priorities, and promoting publication strategies that enhance visibility and scientific impact. As an initial national bibliometric baseline, this study may support universities, occupational therapy departments, researchers, professional bodies, and policymakers in planning future research development and strengthening the international presence of Greek occupational therapy scholarship.

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7. Authors' Contributions

Conceptualization, A.O. and P.P.; methodology, A.O., P.P. and K.G.; investigation, A.O., I.K., P.S., P.P., K.G. and G.K.; data curation, A.O., I.K., P.S. and P.P.; formal analysis, A.O., P.P. and K.G.; writing—original draft preparation, A.O. and P.P.; writing—review and editing, P.P., A.O., K.G. and G.K.; visualization, A.O. and P.P.; supervision, P.P. and K.G.; project administration, A.O. and P.P. All authors have read and agreed to the published version of the manuscript.

8. Conflicts of Interest

No conflicts of interest.

9. Ethics Approval

Not applicable.

10. Artificial Intelligence Statement: Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

Not applicable. Generative artificial intelligence was used solely for language editing, improvement of linguistic

clarity and readability, and translation of the title and abstract into Portuguese. The authors critically reviewed and verified all AI-assisted output and remain fully responsible for the accuracy, integrity, and final content of the manuscript. No generative AI was used in the study design, data collection, data analysis, interpretation of the findings, or generation of scientific conclusions.

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Supplementary Material

Supplementary Table S1. Database-specific search strategies used to identify eligible publications (1977–2025).

Database	Search phase	Search string
PubMed	Author-based search	("[FULL AUTHOR NAME]"[Author] OR "[SURNAME INITIALS]"[Author]) AND ("1977/01/01"[Date - Publication] : "2025/12/31"[Date - Publication])
PubMed	Institutional search	((("Department of Occupational Therapy"[Affiliation] OR "Occupational Therapy Department"[Affiliation]) AND ("University of West Attica"[Affiliation] OR "University of Western Macedonia"[Affiliation] OR "Democritus University of Thrace"[Affiliation])) AND ("1977/01/01"[Date - Publication] : "2025/12/31"[Date - Publication])
Scopus	Author-based search	(AUTHLASTNAME([SURNAME]) AND AUTHFIRST([FIRST NAME OR INITIAL])) AND PUBYEAR > 1976 AND PUBYEAR < 2026
Scopus	Institutional search	AFFIL("Occupational Therapy") AND (AFFILORG("University of West Attica") OR AFFILORG("University of Western Macedonia") OR AFFILORG("Democritus University of Thrace")) AND PUBYEAR > 1976 AND PUBYEAR < 2026
Google Scholar	Author-based search	"[FULL AUTHOR NAME]" OR "[SURNAME INITIALS]"
Google Scholar	Institutional search — University of	"Department of Occupational Therapy" "University of West Attica"

	West Attica	
Google Scholar	Institutional search — University of Western Macedonia	"Department of Occupational Therapy" "University of Western Macedonia"
Google Scholar	Institutional search — Democritus University of Thrace	"Department of Occupational Therapy" "Democritus University of Thrace"

Note. Author-based searches were conducted separately for each academic staff member using the full name, surname, and initials, and known spelling variants, where applicable. Institutional searches were conducted using the official English names of the three occupational therapy departments and their respective universities. All searches covered the period 1977–2025 and were conducted between October and December 2025. Google Scholar results were manually screened to verify author identity, institutional affiliation, and eligibility. Source: Authors, 2026.

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