

A Bibliometric Analysis on Informal Education Research Developments

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ARTICLE INFO

ABSTRACT

Received: 30 Dec 2024

Revised: 12 Feb 2025

Accepted: 26 Feb 2025

This study analyses the trend in informal and family education research from 2013-2023. The study aims to explore: (1) the development of the number of international publications derived from the Scopus database in 2013-2023; (2) core journals in international publications; (3) researchers' productivity; (4) the development of publications based on the subject/field; (5) the development of research publications based on keywords (*Co-word*) and based on authors (*Co-author*). The data were collected by browsing through Scopus using the following keywords; *informal*, *education*, and *family*. The search explores categories, article titles, abstracts, and keywords within the time frame of 2013-2023. The data of the number of publications per year, authors, and subjects were analysed using Microsoft Excel 2019. Meanwhile, the development of publications was analysed using the VosViewer application. The results showed that (1) the highest publication was found in 2022, with 197 publications (16.58%); (2) PLOS One Journal was the most productive publication (19 publications); (3) the institution with the miNost affiliations was the University of Toronto with 23 publications; (4) the United States (US) contributed the most with 397 publications; (5) the most productive author was Zimmerman, H.T. (10 publications); (6) the most frequent subject was social science (546 publications); (7) the research development in this field is categorized into 8 clusters based on co-word analysis.

Keywords: Bibliometric; Non-Formal; Informal Education, Family; Learning

INTRODUCTION

Family education is the primary form of education provided by families and it serves as the foundational environment where children initially learn and develop. It holds a crucial role in instilling character and fostering positive values in children (Wahy, 2012). Furthermore, family education is instrumental in aiding children's emotional, social and life skill development, which are important to navigate adulthood life (Maleki et al., 2018, 2019; Zhu, 2021).

This article aims to explore the progression of research in the field of family education by focusing on contemporary issues. The first issue is related to the impact of technology on children's education. In the digital era, technology has become an integral aspect of children's daily routines. This raises discussions about its influence on child development and family-based education. Some studies suggest that excessive technology usage may adversely affect children's mental and physical well-being. Hence, there is a growing need for further research to delve into the effects of technology on family education and to identify strategies for families to effectively harness technology for positive learning outcomes (Rizquna Nabela & Rianto, 2020; Stephen et al., 2013).

The second issue addresses the pivotal role of parents in shaping children's positive character and values. Parents serve as crucial guides in nurturing children's social and emotional development and fostering their independence in facing life's challenges (Marlina, 2017). Recent studies highlight that adopting a positive and responsive parenting approach significantly contributes to instilling positive character traits and values in children. Furthermore, fostering

open communication and providing emotional support are essential in helping children navigate and overcome obstacles and setbacks (Diana et al., 2021).

The third issue is the importance of family education in supporting lifelong learning. Lifelong learning is becoming increasingly important in the face of global competition (Višnjić-Jevtić, 2021). Families have an important role in helping children build lifelong learning skills. One way to do this is by providing access and support for learning outside formal environments such as museums, libraries, or extracurricular activities (Aqmar et al., 2021). Additionally, family education contributes to cultivating positive learning habits and mindsets in children, thereby enhancing their readiness for lifelong learning endeavours (Hatimah, 2017).

The fourth issue deals with the importance of children's social and emotional skills development in family education. Social and emotional skills are essential in helping children interact with others and cope with daily life problems. Recent studies show that family education develops social and emotional skills in children through emotional support, regulating emotions, and providing opportunities to interact with others. In addition, family education also helps children make good decisions, resolve conflicts, and empathize with others (Maleki et al., 2019).

The fifth issue highlights the importance of family education in helping children develop independence and responsibility. Independence and responsibility are important skills for children so that they can be self-reliant and successful in life. Recent research has shown that family education develops independence and responsibility through providing decision-making opportunities, assigning responsibility tasks, and rewarding children when they successfully complete these tasks (McCoy, E. Cole, 2011).

In conclusion, family education plays a crucial role in aiding children's learning and growth. The advancements in technology and changes in society also impact family education. Therefore, ongoing research in this field is essential to help families in supporting children's development. Positive and responsive family education can help shape children's character, and positive values, as well as assist them in developing social and emotional skills, independence, and responsibility, which will contribute to their success in life.

METHOD

This research is based on international publication data in the field of informal and family education from the SCOPUS database. The search was conducted using keywords related to informal education and family across article titles, abstracts, and keywords, spanning from 2013 to 2023. The data collection process involved retrieving information on (1) the number of publications annually, (2) journals that published articles about informal education and family, (3) authors, and (4) author affiliations. Analysis of the subjects was performed using Microsoft Excel 2019, while the research development was assessed using the VOSViewer 1.6.19 application.

RESULT AND DISCUSSION

Development of Research Publications in Informal and Family Education

The growth of research publications in the field of informal and family education has shown an upward trend from 2013 to 2023. The peak of publication growth was observed in 2022 with 197 publications (16.58%). A detailed overview of the international publication growth in this field is presented in Table 1.

Table 1: Publication in Informal and Family Education in Scopus by year

Tahun Publikasi	Jumlah	Persentase
2023	48	4,04%
2022	197	16,58%
2021	149	12,54%
2020	134	11,28%
2019	124	10,44%
2018	117	9,85%
2017	85	7,15%
2016	88	7,41%
2015	91	7,66%
2014	73	6,14%

2013	82	6,90%
Total	1.188	

The analysis of international publication growth in informal and family education, based on Table 1 and Figure 1, illustrates a consistent increase throughout 2013 to 2023. The highest growth was recorded in 2022, with 197 publications (16.58%). This was followed by 2021 (149 publications or 12.54%), 2020 (134 publications or 11.28%), and 2019 (124 publications or 10.44%).

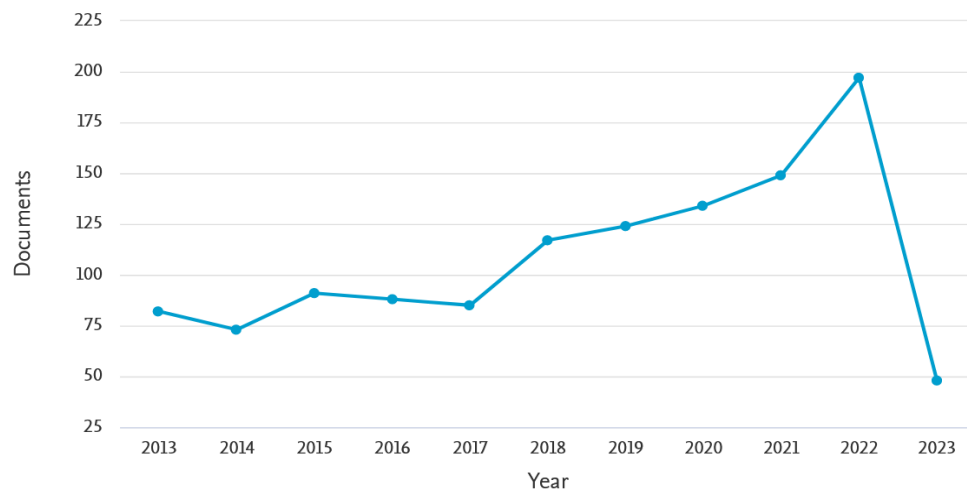


Figure 1: Publication in Informal and Family Education in Scopus by year

Core Journals in Informal and Family Education

Based on the search results with the keywords informal, education, and family on Scopus, 1,188 publications were obtained. Of the publications, PLOS One journal was the most productive (19 publications). The top 10 (Ten) core journals that publish the field of informal and family education are shown in Table 2.

Table 2. Core Journals in Informal and Family Education indexed by Scopus

Jurnal Inti	Jumlah
Plos One	19
BMC Public Health	14
Frontiers In Psychology	12
International Journal of Environmental Research and Public Health	11
Social Science and Medicine	10
Gerontologist	9
International Journal of Science Education Part B Communication and Public Engagement	9
Science Education	9
BMC Health Services Research	8
BMJ Open	7

Table 2 and Figure 2 show that besides PLOS One, several other journals publish articles in the field of informal and family education. These journals include BMC Public Health, Frontiers in Psychology, International Journal of Environmental Research and Public Health, Social Science and Medicine, Gerontologist, International Journal of Science Education Part B Communication And Public Engagement, Science Education, and BMC Health Services Research, and BMJ Open.

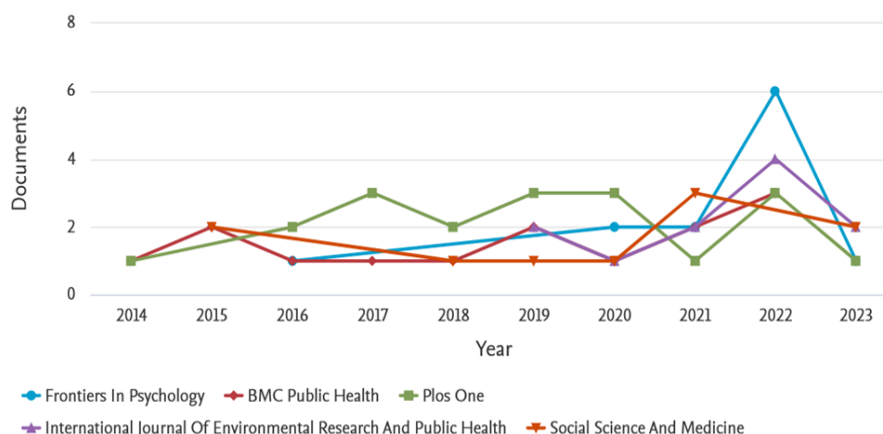


Figure 2: Core Journals in Informal and Family Education indexed by Scopus

Publisher in Informal and Family Education

Based on the data analysis, UNICEF is the institution that publishes the most research in the field of informal and family education. This is followed by Johns Hopkins Bloomberg School of Public Health, International Institute for Population Sciences, and University of Washington. The following are the top 10 (Ten) institutional affiliations that publish research in the field of informal and family education, as described in Table 3.

Table 3. Publishers in Informal and Family Education

Afiliasi	Jumlah
University of Toronto	23
Pennsylvania State University	17
McMaster University	17
The University of Sydney	15
King's College London	14
UNSW Sydney	14
Vrije Universiteit Amsterdam	13
The University of British Columbia	13
Universiteit van Amsterdam	12
Karolinska Institutet	12

Table 3 and Figure 3 show that the University of Toronto is the institution with the most research publications in the field of informal and family education. This is followed by Pennsylvania State University, McMaster University, The University of Sydney, King's College London, UNSW Sydney, Vrije Universiteit Amsterdam, The University of British Columbia, and Universiteit van Amsterdam and Karolinska Institutet.

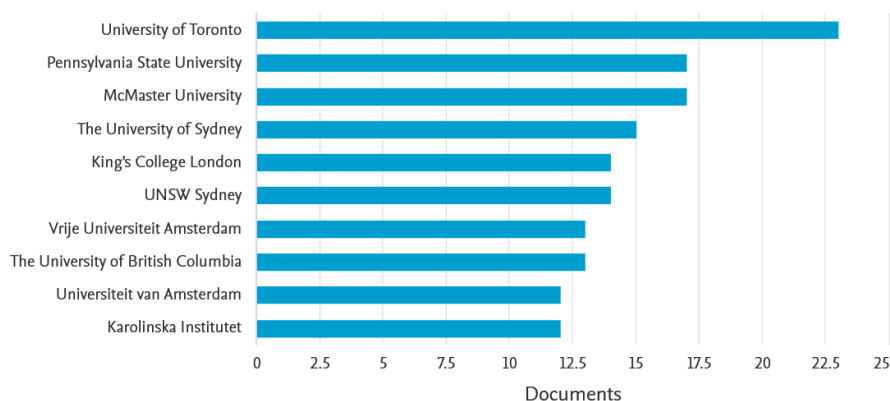


Figure 3. Publishers in the Field of Informal and Family Education

Publication in Informal and Family Education by the Researchers' Productivity

The productivity of the top 10 researchers in informal and family education from 2013 to 2023 indexed by Scopus shows that their productivity is almost the same. There are four authors with 4 articles published, three authors with 3 publications each. However, there is one author each for 10, 6, and 5 publications, as shown in Table 4.

Table 4. Publication in Informal and Family Education by the Researchers' Productivity

Penulis	Jumlah
Zimmerman, H.T.	10
McClain, L.R.	6
Van Houtven, C.H.	5
Ansari, A.	4
Francke, A.L.	4
Lamura, G.	4
Massarani, L.	4
Aregbeshola, B.S.	3
Blom, M.M.	3
Brazil, K.	3

Table 4 and Figure 4 show that Zimmerman, H.T. with 10 (ten) publications is the most productive author in informal and family education from 2013 to 2023. Then, the next productive authors are McClain, L.R. with 6 publications, and Van Houtven, C.H. with 5 publications. While Ansari, A., Francke, A.L., Lamura, G., and Massarani, L. have 4 publications, Aregbeshola, B.S., Blom, M.M., and Brazil, K. have 3 publications each.

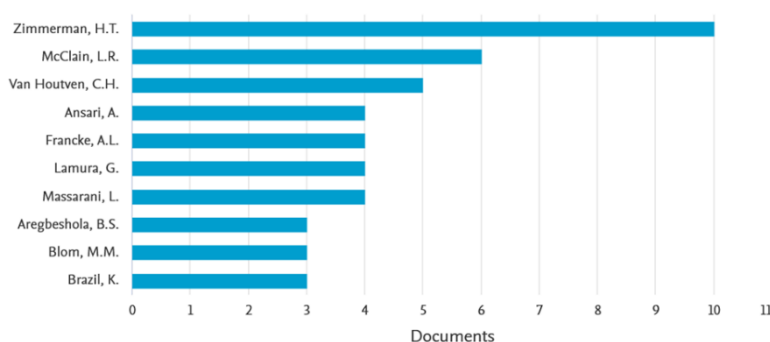


Figure 4: Publication in Informal and Family Education by the Researchers' Productivity

Scopus Indexed Publications in Informal Education and Family by Countries

The country with the highest number of publications in informal education and family is the United States (397 publications). Other top 10 contributors are the United Kingdom, Australia, Canada, China, the Netherlands, Germany, Spain, Sweden, and Brazil. This information is illustrated in Table 5.

Table 5. Publications in Informal Education and Family by Countries

Negara	Jumlah
United States	397
United Kingdom	147
Australia	98
Canada	97
China	48
Netherlands	48
Germany	40
Spain	37
Sweden	31
Brazil	30

Table 5 presents that the United States leads the number of the research publications in informal education and family (397 publications). Other countries are the United Kingdom (147 publications), Australia (98 publications), Canada (97 publications), China and the Netherlands (48 publications), Germany (40 publications), Spain (37 publications), Sweden (31 publications), and finally, Brazil with 30 publications. Based on VosViewer analysis, it appears that the areas shaded in increasingly intense yellow represent countries with the highest publication output.

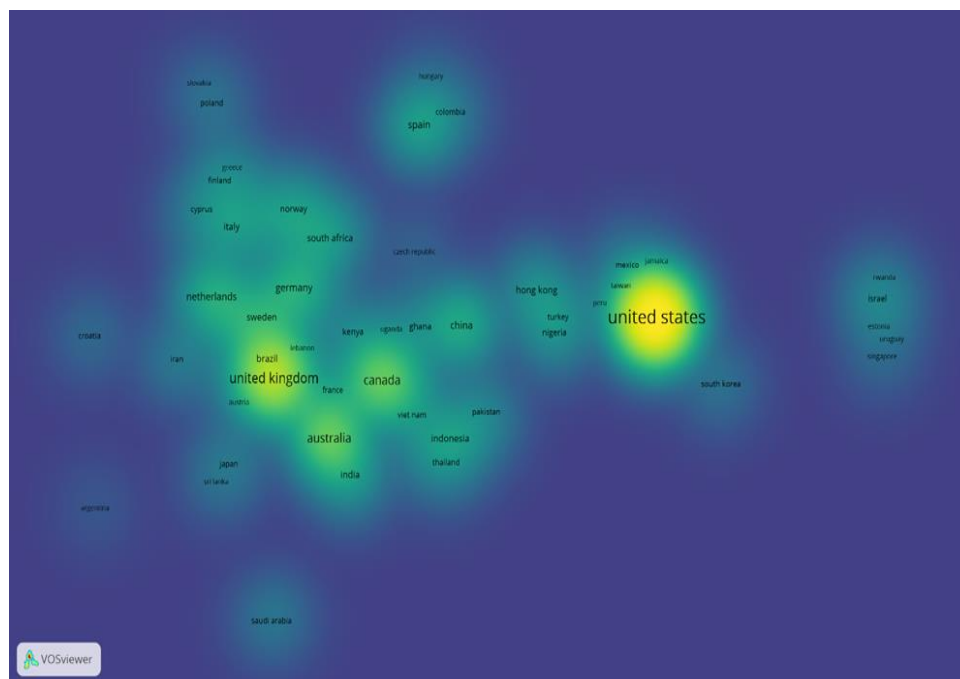


Figure 5. Publication in Informal Education and Family by Countries

Publication in Informal and Family Education by Subjects

The number of research publications in the field of informal and family education based on the subject indexed by Scopus in 2013-2023 shows that the social science subject is the highest subject. Then, followed by medicine, nursing, psychology, arts and humanities, health professions, economics, econometrics and finance, business, management and accounting, environmental science, and computer science. The number of research publications in the field of informal and family education can be seen in Table 6.

Table 6. Publication in Informal and Family Education by Subjects

Subjek	Jumlah
Social Sciences	546
Medicine	520
Nursing	157
Psychology	150
Arts and Humanities	107
Health Professions	56
Economics, Econometrics and Finance	49
Business, Management and Accounting	47
Environmental Science	40
Computer Science	31

Figure 6 shows that the publications in the field of informal and family education by subjects in 2013-2023 are social science (29.1%) and medicine (27.7%), which are the two largest dominant subjects, as shown in the following figure.

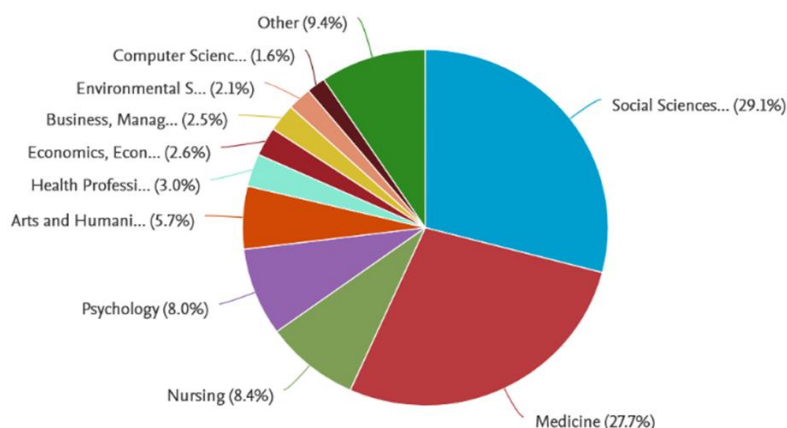


Figure 6. Publication in Informal and Family Education by Subjects

Publication Development Map by Keywords

Figure 7 shows that based on Co-Occurance analysis with all keywords, it appears that the development map of research publications in the field of informal and family education indexed by Scopus in 2013-2023 forms 8 (eight) clusters.

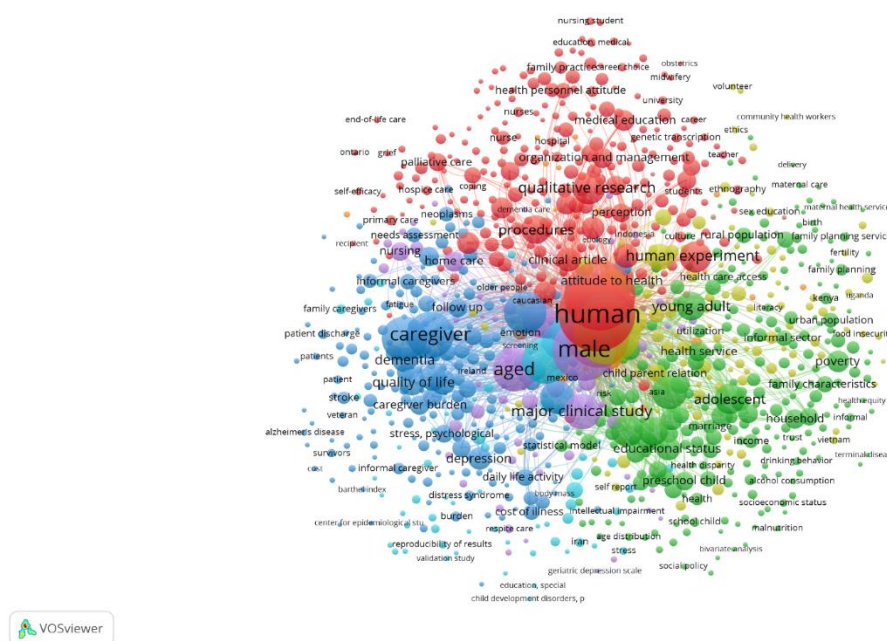


Figure 7. Co-Occurance Map of Publications in the Field of Informal and Family Education

Cluster 1 (red) is related to human, patient care, human experiment, education, family care, family study, ethnic group, and young adults. Cluster 2 (green) deals with informal learning, family size, household, socio economic factors, adolescents, marriage, mother, child, demography and poverty. Furthermore, cluster 3 (blue) contains adaptation, psychological, very elderly, mental stress, anxiety, quality life, caregiver burden, and dementia, as well as mental health. Cluster 4 (yellow) consists of female, health education, religion, child parent relation, parenting, attitude, and childhood, and knowledge. Furthermore, cluster 5 (purple) is family, male, age, informal care, nursing, home care, and mental disease. Cluster 6 (light blue) is about adult, behaviour, emotional stability, parent, satisfaction, intellectual disability, and ethnology. Cluster 7 (orange) is about job market, social insurance, social security, unemployment, and married person. Finally, cluster 8 (brown) is about emotion, health worker, access to information, and self-help.

CONCLUSION

Based on the results and discussion in the field of informal and family education indexed by Scopus from 2013 to 2023, several conclusions can be drawn 1) The highest number of publications in 2022 was 197 publications, accounting for 16.58%; 2) The journal with the most publications is PLOS One, with 19 publications; 3) The institution with the most publications is the University of Toronto, with 23 publications; 4) The United States (US) contributed the most, with 397 publications; 5) The most prolific author is Zimmerman, H.T., with 10 publications; 6) The predominant subject area is social science, with 546 publications; 6) Research development in this field is categorized into 8 clusters based on co-word analysis; 7) The predominant subject area is social science, with 546 publications; 8) Research development in this field is categorized into 8 clusters based on co-word analysis.

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