

# EXPLORING THE STRUCTURE AND TRENDS OF RESEARCH ON SINGLE MOTHER: A BIBLIOMETRICS ANALYSIS

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**Abstract:** *This research aims to review the literature on single mothers in the Scopus database due to its reputable publications among academics. The review was conducted on 19 April 2021. Using the keyword “single mother” in the “title” field of the Scopus search function returned 836 scientific publications. The search resulted in 836 publications in the Scopus database, covering numerous disciplines on the topic of single mother. This study included research published from 1967 to 19 April 2021. The analysis examined the document citation rate and journal impact factor, as both are direct, quantitative, and objective indicators of published science. Following the screening process, Biblioshiny application was used to analyse the gathered publications. Results from the bibliometric analysis included main information, annual scientific production, most relevant authors, average citations per year, most productive countries, most productive affiliations, most global cited documents, most frequent keywords, co-citation analysis, and collaboration analysis.*

**Keywords:** *Single mothers, Bibliometric analysis, Biblioshiny*

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## 1 Introduction

Idris & Selvaratnam, 2012, defined single mothers as women who carry the responsibility of raising their children after the death of their husband or a divorce. According to Yahaya (2005), a binuclear family is formed as a result of a divorce; the family is divided into two, namely the maternal nuclear family led by the mother and the paternal counterpart led by the father. Single mothers typically have one of the following characteristics:

- i. A woman whose husband has deceased and has to bear the responsibility of raising their children.
- ii. A divorced woman who has been given the custody of her children by the court.
- iii. A woman who does not receive any financial support from her husband for her and the children.
- iv. A woman who is in the process of divorce.
- v. A woman whose husband is impaired and unable to provide financial support and requires intensive care from others.
- vi. A woman who raises a child of another without the assistance of her husband.

Rapid economic growth in a region may lead to prosperity and good for the surrounding region. At the same time, it could also bring economic downturn and crisis to other regions. The global economic crisis will worsen poverty and increase poverty gap, causing certain groups to be unable to fulfil their basic needs (Diyana & Doris 2009). One such group, thus far receiving little attention from the authorities, is single mothers (Mohd, 2021). Statistics from the Population and Housing Census of Malaysia recorded 13.9 million female citizens, 235,240 of whom are single mothers. Among the challenges faced by single mothers in raising their children alone are economics, health, and social economics. These challenges can jeopardize their wellbeing and adversely affect their children.

Single mothers are a vulnerable social group, especially in terms of economics, since they are unable to earn a living. According to Hamid & Salleh (2013), the loss of a husband as the breadwinner of the family forces single mothers to shoulder greater responsibilities. Zakaria et al., (2018) explained that the role of single mothers expands, as they have to focus on family management, financially support the family, and monitor the growth of their children in terms of physical, education, and children's activities. Single mothers are also economically vulnerable in the event of a crisis. For example, single mothers from Selangor were the most affected group when the Movement Control Order (MCO) was implemented to curb the Covid-19 outbreak (Ramlan, 2020). Most of these single mothers lost their source of income as they were laid off and given unpaid leave or shorter working hours. Additionally, most of them did not have enough savings to support their children and themselves.

According to Yunus (2021), single mothers experience health problems, especially mental disorders, on a regular basis, and that this year's cases were 20 percent higher than the previous year's. They are under a lot of tension, which can lead to violent behaviour. Because of their inability to control their emotions as a result of family conflict and financial difficulties, they may abuse their children. Clearly, the environment is important. Diyana and Doris (2009) discussed the factors that contribute to the psychological problems of single mothers. Emotional stress can contribute to emotional instability among single mothers and their children. Therefore, emotional stability is very important for single mothers, especially for the upbringing of children and readiness to deal with changes. For single mothers who lost a husband to death, they have to adjust to new circumstances as they lost a place to depend on. Meanwhile, for those who are divorced, they have to live without a husband. They may be experience additional pressure if the ex-husband does not pay alimony to support the children.

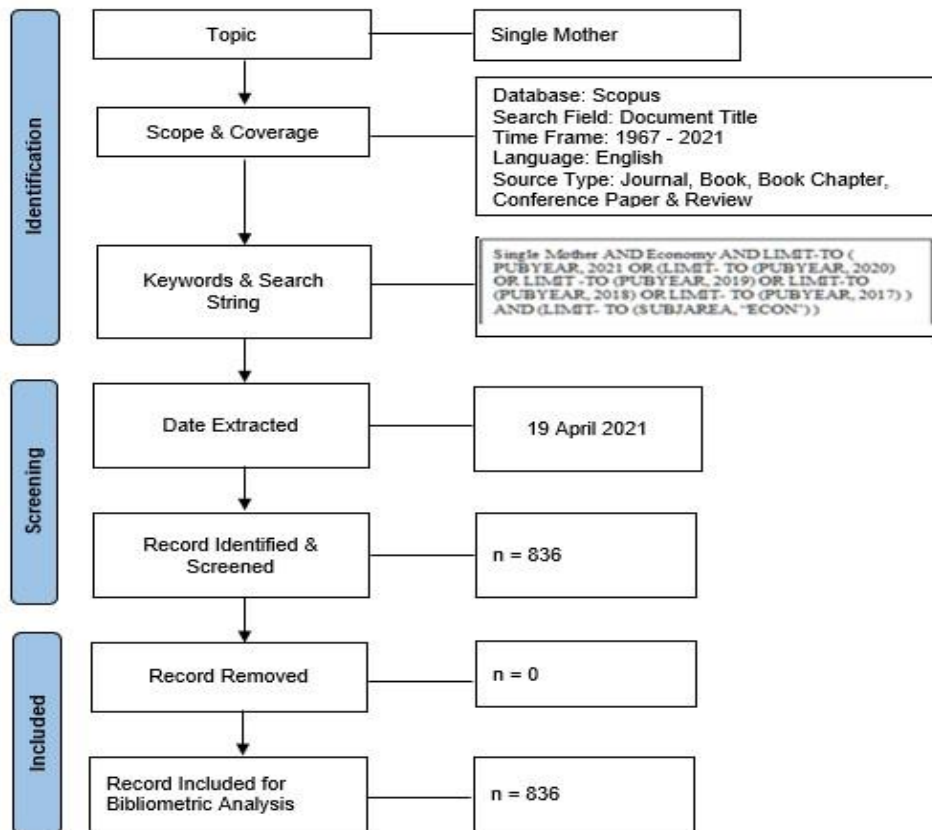
According to Thanal & Yusuf (2016), these mental health problems occur because they have to bear large burdens and responsibilities towards their children. They have to use all available financial resources to raise their children. The lack of finances results in stress. According to Rahman (2000), some single mothers abuse their children because of the stress from impoverishment. All of this will have a detrimental effect on the children, and the relationship between single mothers and their children will become strained. The psychological wellbeing of single mothers should not be taken lightly. Single mothers also contribute to the increasing number of deprived people and need help and support to continue living.

According to Zulkefli (2019), children from families facing parental divorce will experience a variety of emotions and feelings due to the absence of parents who can ensure proper family function. Common emotions associated with children who experience parental divorce are sadness, depression, shame, anger, hatred, and guilt. According to Hafizah (2014), the children will show a clear change in behavior. For example, their academic achievement may be lower than children from a normal family. In addition, they are less independent, exhibit bad behaviors, and more aggressive than children from a normal family. Thus, the objective of this article is to provide a thorough review on this pertinent matter. This article is intended to be a reference for future studies concerning single mothers and for public knowledge.

## 2 MATERIALS AND METHOD

Bibliometric analysis is the statistical evaluation of published scientific articles, books, or chapters in books. This analysis was employed to extract data from Scopus. According to Rocio & Juan (2007), the biblioshiny R-Studio package provides a comprehensive bibliometrics analysis with the use of quantitative bibliometrics and scientometrics tools. R-Studio is one of the most powerful and flexible open-source statistical software. It is one of the best software to manipulate and compute data and display graphs. To conduct a bibliometrics analysis, the first step is to collect data, followed by a descriptive analysis and bibliometrics analysis in stages.

Bibliometrics analysis provides an overall picture on published works on single mothers. The analysis employed the bibliometric R package using data from 1967 to 2021.



**Figure 1:** Flow diagram of the search strategy  
 Source: Zakaria et al. (2020)

As shown in Figure 1, data were collected from the Scopus database. The time frame was from 1967 to 2021. The keyword “single mother” was used to search the documents. With the

filters in place, the query returned 836 different types of references. No articles were excluded from the analysis. The analysis was carried out on 19 April 2021.

### 3 ANALYSIS AND RESULT

#### 3.1 Descriptive Analysis

The search resulted in 836 publications in the Scopus database, covering numerous disciplines on the topic of single mother. Following the screening process, Biblioshiny application was used to analyse the gathered publications.

##### 3.1.1. Main Information

The main information is shown in Table 1. Main information consists of data, document types, document contents, authors, and authors collaboration. There is a considerable amount of information in the data, but only time frame, journal sources, documents, and citations were considered.

The document types included in this research were articles, books, chapters in books, conference paper, and review. Information about authors included authors who published a scientific output, which indirectly indicates the level of collaboration among authors. The collected author collaboration information was authors per document and collaboration index.

| Description                        | Results   |
|------------------------------------|-----------|
| <b>MAIN INFORMATION ABOUT DATA</b> |           |
| Timespan                           | 1967:2021 |
| Sources (Journals, Books, etc)     | 509       |
| Documents                          | 836       |
| Average years from publication     | 13.4      |
| Average citations per documents    | 17.06     |
| Average citations per year per doc | 1.12      |
| References                         | 33380     |
| <b>DOCUMENT TYPES</b>              |           |
| article                            | 688       |
| book                               | 10        |
| book chapter                       | 59        |
| conference paper                   | 14        |
| editorial                          | 2         |
| erratum                            | 7         |

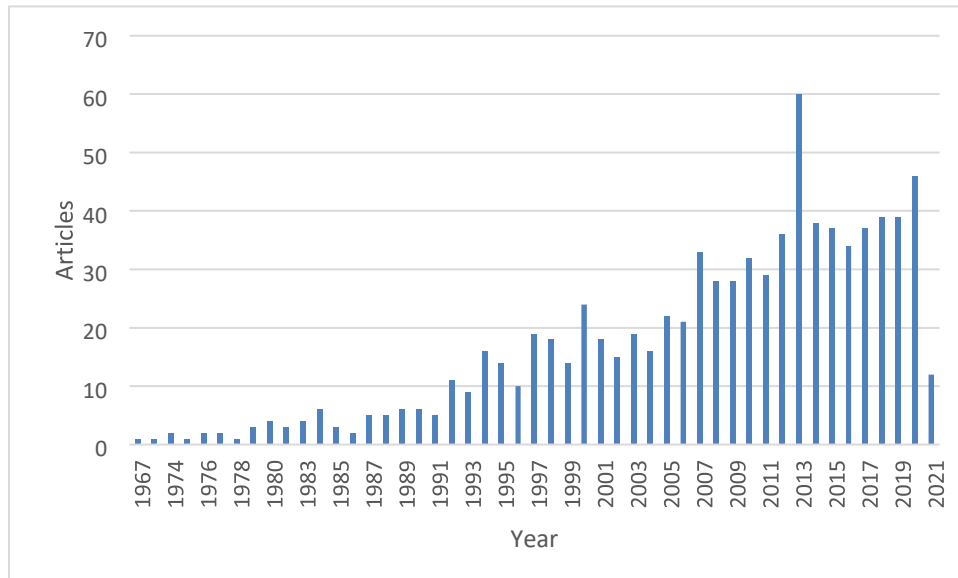
|                                      |       |
|--------------------------------------|-------|
| letter                               | 2     |
| note                                 | 6     |
| review                               | 46    |
| short survey                         | 2     |
| <b>DOCUMENT CONTENTS</b>             |       |
| Keywords Plus (ID)                   | 1510  |
| Author's Keywords (DE)               | 1269  |
| <b>AUTHORS</b>                       |       |
| Authors                              | 1432  |
| Author Appearances                   | 1857  |
| Authors of single-authored documents | 279   |
| Authors of multi-authored documents  | 1153  |
| <b>AUTHORS COLLABORATION</b>         |       |
| Single-authored documents            | 336   |
| Documents per Author                 | 0.584 |
| Authors per Document                 | 1.71  |
| Co-Authors per Documents             | 2.22  |
| Collaboration Index                  | 2.31  |

**Table 1:** Main information regarding selected documents

The researchers collected 836 documents from 1967 to 2021. A total of 1,432 authors were involved in preparing the documents. The average documents per author was 0.584; the probability of an author to produce a document was 1.71, and the collaboration index was 1.71.

The collected documents consisted of 688 articles, 10 books, 59 chapters, 14 conference papers, 2 authors, 7 erratum, 2 letters, 6 notes, 46 views, and short reviews. There were only 279 single authors, indirectly indicating the level of collaboration between the authors.

### 3.1.2. Annual Scientific Production

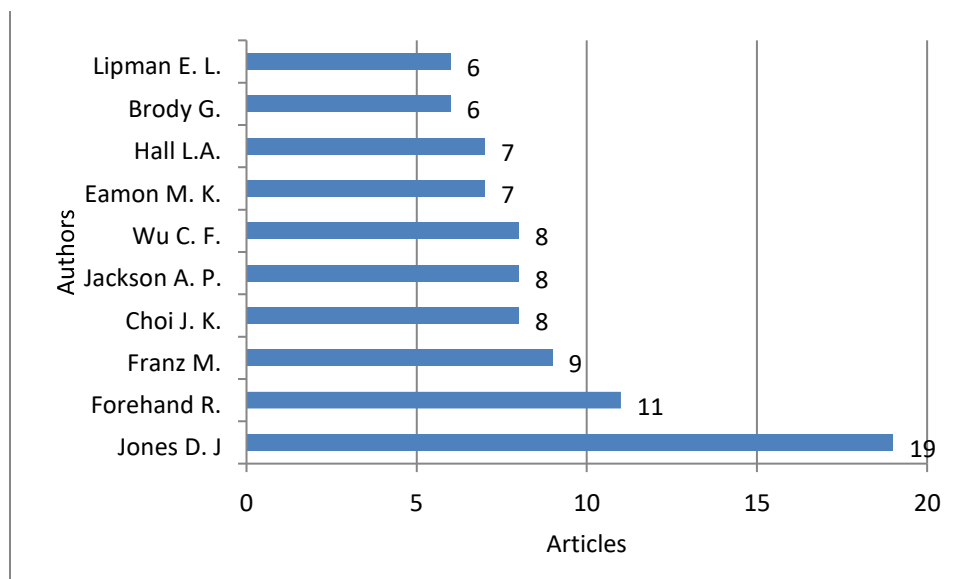


**Figure 2:** Annual Scientific Production

The highest number of papers was registered between 2013 and 2020 (Figure 2). The largest number of publications was 2013 with 60 documents. There were several years that saw the publication of only a document: 1967, 1973, 1975, and 1978.

### 3.1.3. Most Relevant Authors

Using the keyword “single mothers”, we collected 836 documents written by numerous authors. However, only 10 authors were included in the list of most productive authors.



**Figure 3: Most Relevant Authors**

Figure 3 above shows the ten most relevant authors. This graph illustrates the collaboration and combination of ideas of authors from different university, as shown in Table 1.

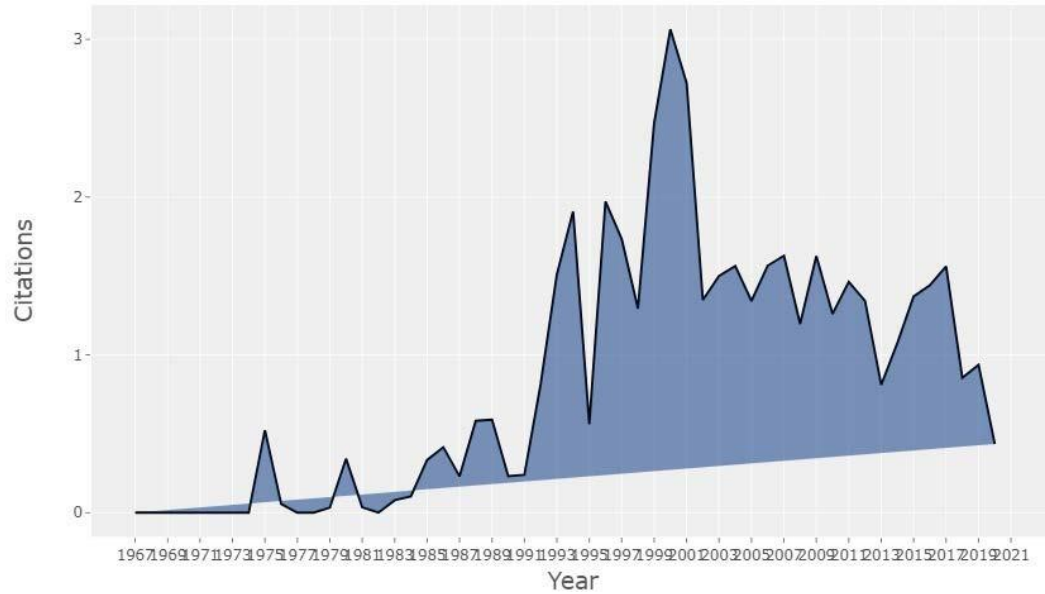
This section identifies the most relevant authors. The graph above shows the 10 authors who produced the most publications. The graph shows the h-index of the top 10 authors. It can be seen that the most productive author with the highest h-index was Jones DJ. The second position was held by Forehand R with 11h.

The third position, recording an h-index value of 9h, was Franz M. Meanwhile, the fourth position was shared by three authors with 8h: Choi JK, Jackson AP, and Wu CF. The fifth position was shared by two authors with 7h, namely Eamon MK and Hall LA. The sixth rank was shared by two authors with an h-index value of 6h, namely Brody G and Lipman EL.

#### **3.1.4. Average Citation Per Year**

Figure 4 show the average number of document citations per year based on the information provided by biblioshiny.



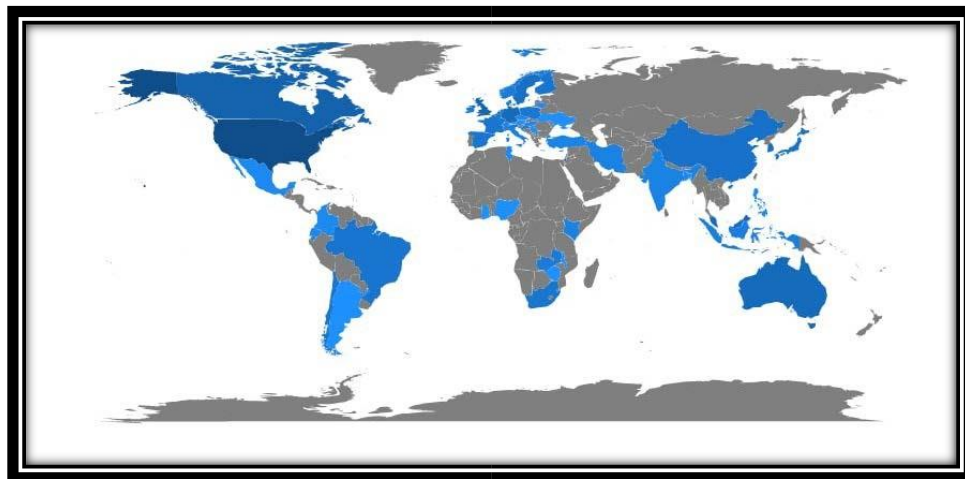


**Figure 4:** Average document citations per year

The year with most average annual document citations was 2013 (0.808), followed by 2020 (0.434). The graph has declined in recent years.

### 3.1.5. Most Productive Countries

According Thomson & Elsevier (as cited in Waast & Rossi, 2010), scientific production is measured by indicators based on two types of data: the number of publications in refereed international scientific journals and books and the number of citations of the published documents. This study only included citations in the Scopus database.



### Figure 5: Country Scientific Production

The blue countries in Figure 5 are those that contribute scientific publications on single mothers. The United States of America (USA) was the most productive contributor with 775 documents. It was followed by Canada with 88 documents and the United Kingdom (UK) with 72. They were followed by several countries with small variations in total publications or recorded 30 to 40 documents. Australia recorded 40 documents, followed by Germany with 39, Malaysia with 37, and Israel with 31. Countries below 30 publications were Sweden with 23, South Korea with 20, and China with 18.

#### 3.1.6. Most Productive Affiliation

Productive collaboration refers to the cooperation between authors from different universities to produce the best document. This can form good relationships between universities and enable sharing and exchanging of different information or opinions when producing a document.

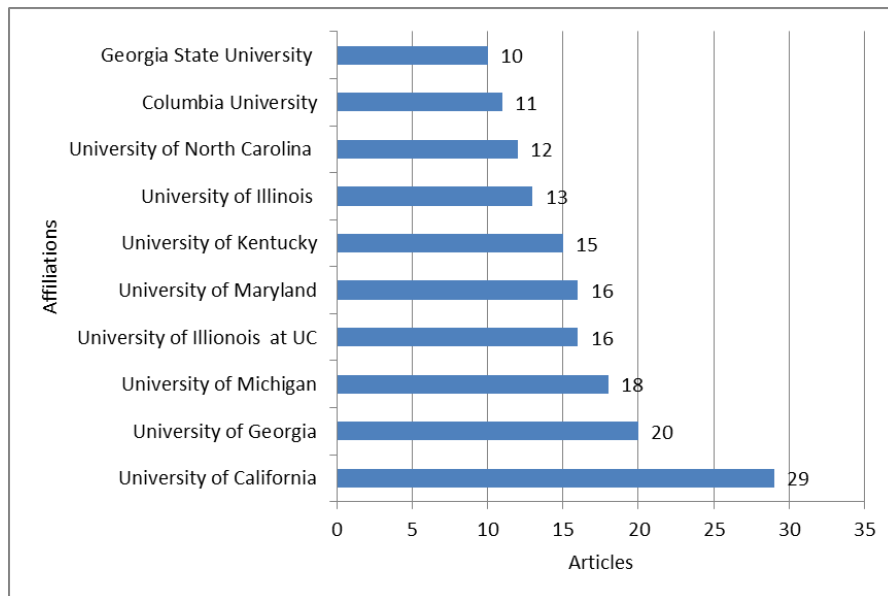
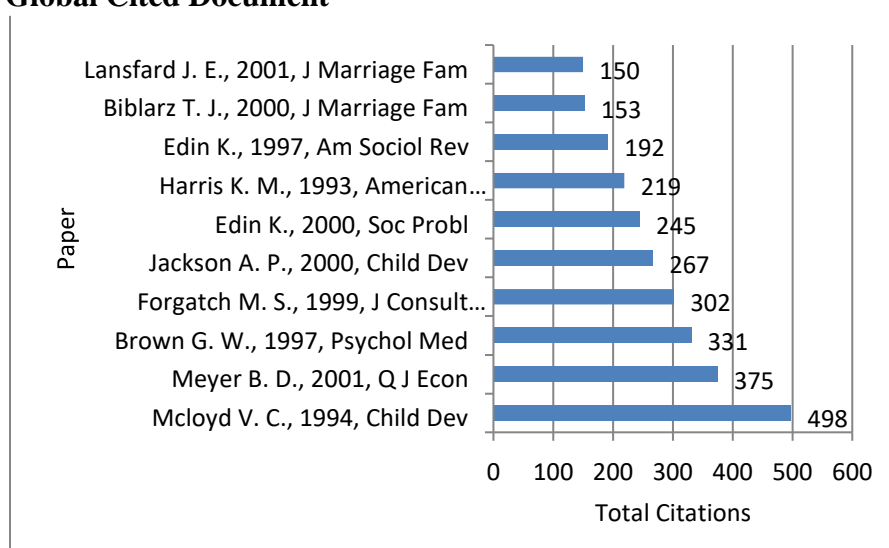


Figure 6: Most Productive Affiliation

Figure 6 above shows the 10 most productive affiliations. This graph indicates the collaboration and combination of ideas of authors from different universities, as shown in Table 1.

The top affiliation was University of California (USA). The second position was University of Georgia (USA), indicating that author(s) from the university was involved in the production of a document. Meanwhile, the third rank was occupied by University of Michigan (USA). Next was University of Illinois at Urbana-Champaign (USA). It was followed by University of Maryland (USA). At the sixth position was University of Kentucky (USA), while the seventh was University of Illinois (USA). Ranks eight, nine, and ten were University of North Carolina (USA), Columbia University (USA), and Georgia State University (USA).

### 3.1.7. Most Global Cited Document



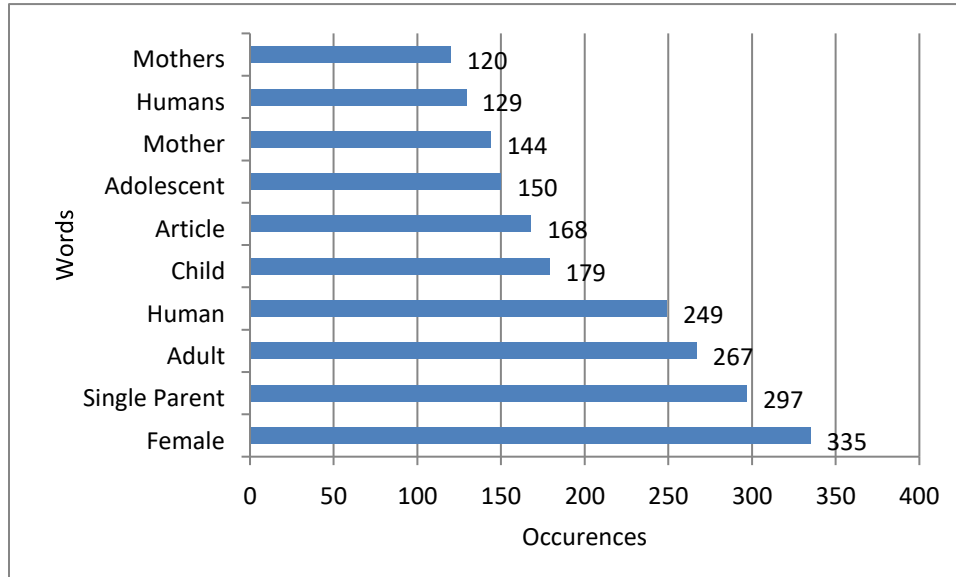
**Figure 7:** Most Global Cited Document

Figure 7 shows the 10 most cited documents from the collected data. With 498 citations, the most cited document on single mothers in the Scopus database was Child Dev by Mcloyd V. C. (1994). The second place with 375 citations was Q J Econ by Meyer B. D (2001). Psychol Med by Brown G. W (1997) ranked third with 331 citations.

The subsequent positions were occupied by J Consult by Forgatch M. S (1999) with 302 citations; Child Dev by Jackson A.P (2000) with 267 citations; Soc Probl by Edin K (2000) with 245 citations; American by Harris K. M. (1993) with 219 citations; and Am Social Rev by Edin K. (1997) with 192 citations. The chart also includes J Marriage Fam by Biblarz T. J. (2000). The tenth most cited document was J Marriage Fam by Lansfard with 150 citations.

### 3.1.8. Most Frequent Keywords

Figure 8 illustrates the most common keywords from the abstracts of each of the documents gathered.



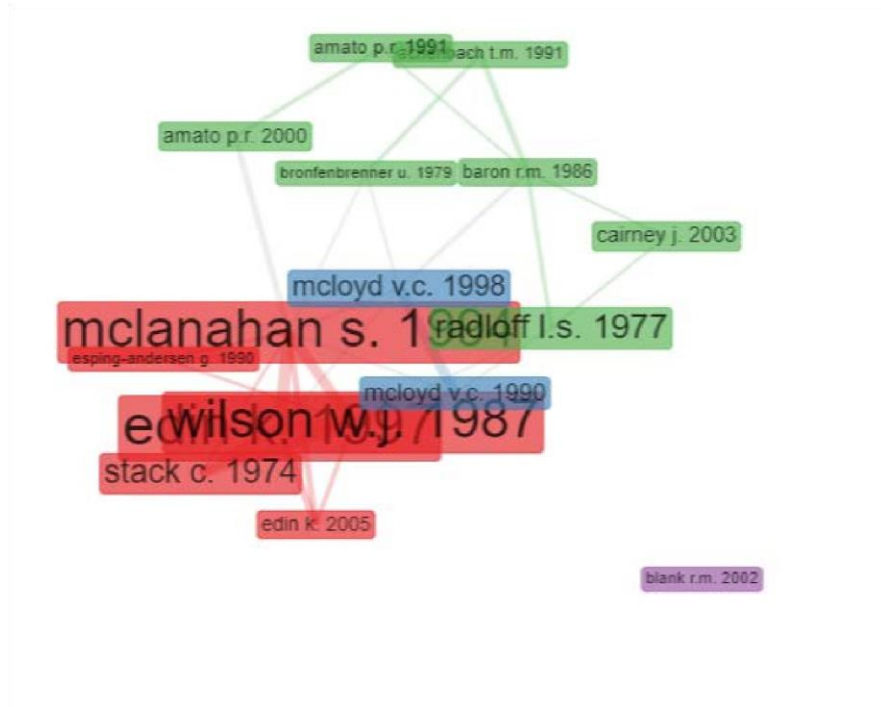
**Figure 8:** Most Frequent Keywords

Figure 8 shows that “female” is the most frequently used word with 335 occurrences. “Single parent” recorded the second highest use with 297 occurrences. It was followed by “adult”, which recorded a total of 267 occurrences. The word “human” was recorded 249 times. Words that were below 200 occurrences were “child” (179), “article” (168), “adolescent” (150), “mother” (144), and “humans” (129). “Mothers” recorded the lowest occurrences of only 120.

## 3.2 Network Analysis

### 3.2.1. Co-Citation Analysis

Figure 9 show the most common keywords from the abstracts of each documents gathered based on papers.

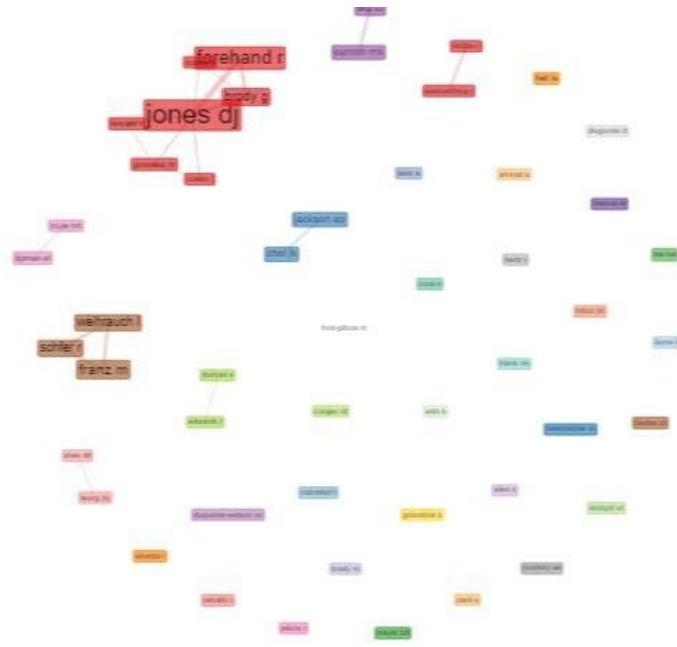


**Figure 9:** Co-Citation Network

Figure 9 shows the co-citation network based on the collected documents. The most frequent network is red. The authors in this network were Mclanahan S. 1991, Wilson W.J 1987, Edin K. 1997, Stack C. 1974, Edin K 2005, Esping-andersen G. 1990. The least common network is purple. The author was Blank R. M. 2002.

### 3.2.2. Collaboration Analysis

Figure 10 shows the most common keywords from the abstracts of each documents gathered on the authors. According to Simon (2017), collaboration network (CN) refers to the partnership of autonomous people and organizations to share resources such as data and connectivity through a computer network.



**Figure 10:** Collaboration Analysis

Based on Figure 10, the first clusters were Jones D. J, Forehand R, Brody G, Gonzalez, Kincaid C, Cuellar J and Dorsey S. Meanwhile, other authors worked independently, for example Choi J.K and Jackson A.P.

## Conclusion

The purpose of this paper is to review the extant literature on single mothers. Among the outputs of R-studio were main information, annual scientific production, most relevant authors, average citations per year, most productive countries, most productive affiliations, most cited documents, most frequent keywords, co-citation analysis, and collaboration analysis. The goal of this research is to create a bibliometric profile of single mother research. In terms of future research, we recognize that data analysis by discipline or area would yield more meaningful results.

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