

# Female Leadership: A Bibliometric Networks Visualising of Academic Publication over the Past 42 Years

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Female leadership has become a trend in the last few decades. It has been researched but there is as yet no publication in the field of female leadership that shows the big picture, using data from all countries. This study aims to map the status of international female leadership publications indexed by Scopus, using bibliometric visualisation. The bibliometric method and analysed research data were implemented using the analytical search results service from the VOS viewer and Scopus applications. The research data of 392 documents, published from 1977 to 2019, were obtained from the Scopus database. The results of this study indicate the status of maps published internationally and research trends in the field of female leadership, which are increasing every year. America is the most productive country in publications in female leadership publication. The most productive research institutes and individual researchers in female leadership publication are the University of North Carolina at Chapel Hill and Barnett, B, respectively. The largest subject and field of publication sources in the female leadership publication are social sciences and gender in management. The most quoted is by Eagly, Johannesen-Schmidt, and Van Engen, entitled "Transformational, Transactional and Laissez-Faire Leadership Styles: A Meta-Analysis Comparing Women and Men". There is one collaborative pattern of researchers in publications in the female leadership publication. With regard to the implications for knowledge, this study proposes a convergence axis classification, consisting of publications in the field of female leadership to characterise the pool of knowledge generated from five decades of literature: female, human, organisation, leadership, abbreviated as FHOL Themes.

**Key words:** *Female Leadership, Female, Leadership, Bibliometric, VOS Viewer.*

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## Introduction

Currently, gender has become a driving force behind research on the importance of determining a leader (Samo, Qazi, and Buriro 2019), although it is true that so far most international organisations have been led by men (Barraza Vargas 2019). This is because so far, women have been considered and expected to be only responsible for housework and child care without having to pursue careers (Eagly and Carli 2007). Women are seen as having less rights to positions of power than men (Vial, Napier, and Brescoll 2016). Therefore, the business world still lacks the numbers in female leaders (Bierema 2017). But in recent decades there has been an increasing trend in the number of women leaders, although their percentage remains lower than that of men (Barraza Vargas 2019).

Leadership itself is a catalyst that provides direction for many important functions in an organisation (Girma 2016, and Zagoršek, Dimovski and Škerlavaj 2009). Eagly, Johannesen-Schmidt and van Engen (2003) suggest that women leaders tend to focus on the softer side of leadership. Women's leadership behaviour tends to be loving (receptive and sensitive to feelings), supportive (focusing on balanced professional and personal relationships) and leaning towards transformational leadership (Eagly, 2005 and Hoyt, Simon, and Reid, 2009). Sometimes, women leaders face the dilemma of choosing between what they deem appropriate and what others deem appropriate (Nelson and Levesque 2007). Therefore, most women leaders tend to assume leadership roles in accordance with social and organisational expectations, rather than encouraging their own beliefs (Sharif 2019). The main obstacle for women themselves in achieving leadership roles is men's reluctance to recognise their own privileges, and their unwillingness to change them (Noble and Pease 2011). This is because the literature on women's leadership in international organisations is still rare (Haack 2014).

In general, previous research relating to female leadership has been limited to researching only one research topic, such as one country (Newsome 2017) and one field (Blumenau 2019; Yildirim, Kocapınar, and Ecevit 2019). There has not been much research on female leadership that provides a big picture visualised from year to year with data from all publications of affiliated researchers at the international level. Also, no research has specifically addressed the relationship between authors, affiliation and the impact of their research. This study aims to study research positions in the field of female leadership by researchers at the global level published internationally, indexed by Scopus, using a bibliometric perspective. We monitor the growth in the number of academic documents related to the topic of female leadership by researchers at the global level that have been published and indexed by Scopus from 1977 to December 2019.

## Research Methods

This research measures the status of the research map in the field of female leadership published at the international level in the last 42 years. Research data were obtained from the Scopus database using a document search service in September 2020. The study was conducted using the Scient metric method, and data analysis and visualisation using the search results analysis feature on Scopus and the VOS Viewer application. The VOS Viewer application is used to build and visualize Scientometric networks. This Scientometric network visualisation consists of author, academic affiliation, country, growth in number of studies, field, author collaboration and research keywords .

This study identified research keywords related to female leadership to identify and search for articles in the Scopus database, with 392 academic documents published from 1977 to 2019 at the international level, regardless of 2020, because the annual data obtained must reflect the complete research conditions for that year, from January to December.

## Result and Discussion

This section will explain increasing data yield by affiliation, country, subject area, field type, documents per year from sources, documents per year from fields and documents cited, and co-occurrences and author networks on publications in the field of female leadership.

### *1.1. Documents based on higher education affiliations from female leadership publications*

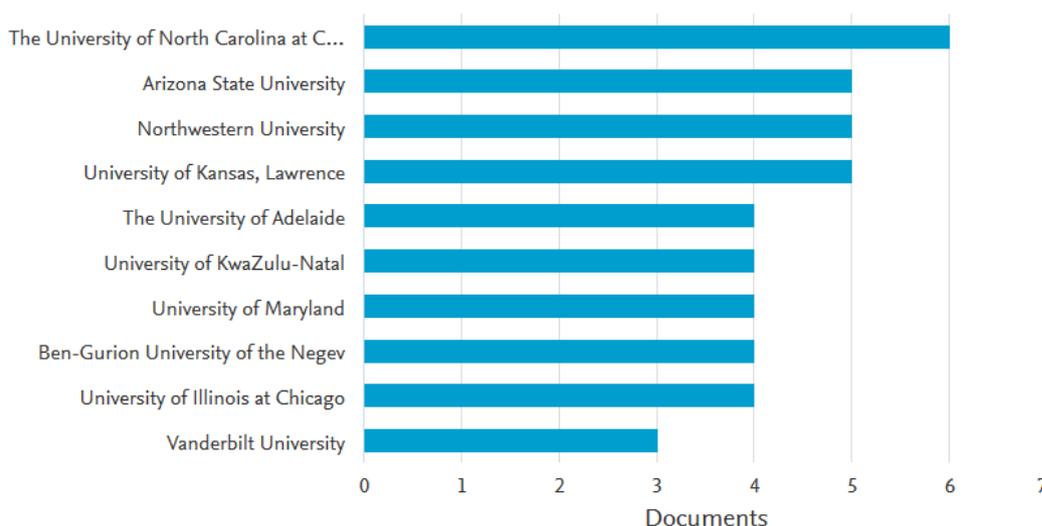


Figure 1. Number of documents based on higher education affiliation from female leadership publications

The most productive research institute in female leadership publication is the University of North Carolina at Chapel Hill, with six (6) documents, followed by Arizona State University with five (5) documents, North-western University with five (5) documents, the University of Kansas, Lawrence, with five (5) documents, the University of Adelaide with four (4) documents, the University of KwaZulu-Natal with four (4) documents, the University of Maryland with four (4) documents, Ben-Gurion University of the Negev with four (4) documents, the University of Illinois at Chicago with four (4) documents and Vanderbilt University with three(3)documents, as seen in Figure 1.

### 1.2. Documents based on authors from *female leadership publications*

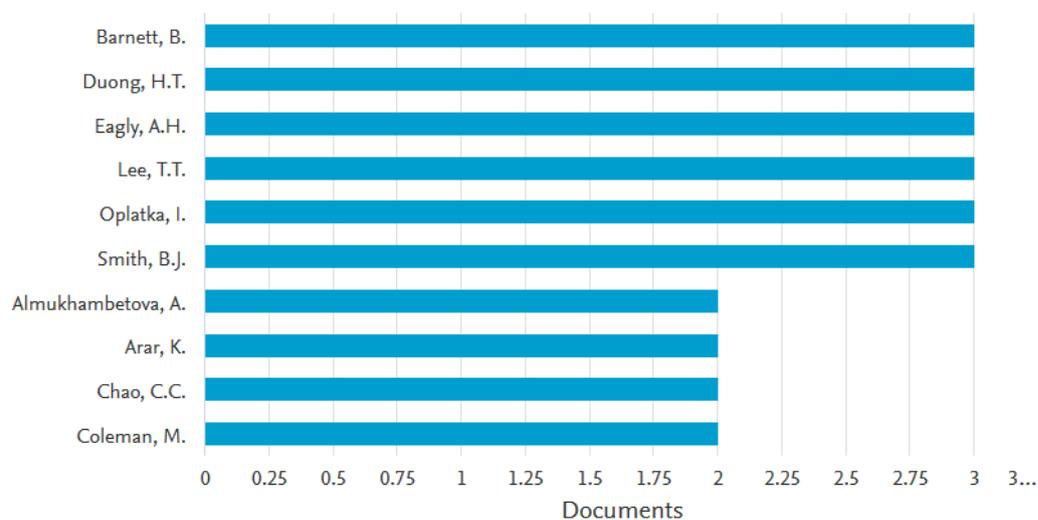


Figure 2. Number of documents by author from female leadership publications

Figure 2 shows the top ten authors with the most female leadership publications, namely Barnett, B., with three (3) documents, followed by Duong, H.T. with three (3) documents, Eagly, A.H. with three (3) documents, Lee, T.T. with three (3) documents, Oplatka, I. with three (3) documents, Smith, B.J. with three (3) documents, Almkhambetova, A. with two (2) documents, Arar, K. with two (2) documents, Chao, C.C. with two (2) documents, Coleman, M. with two (2) documents.

*1.3 Documents by country from female leadership publications*

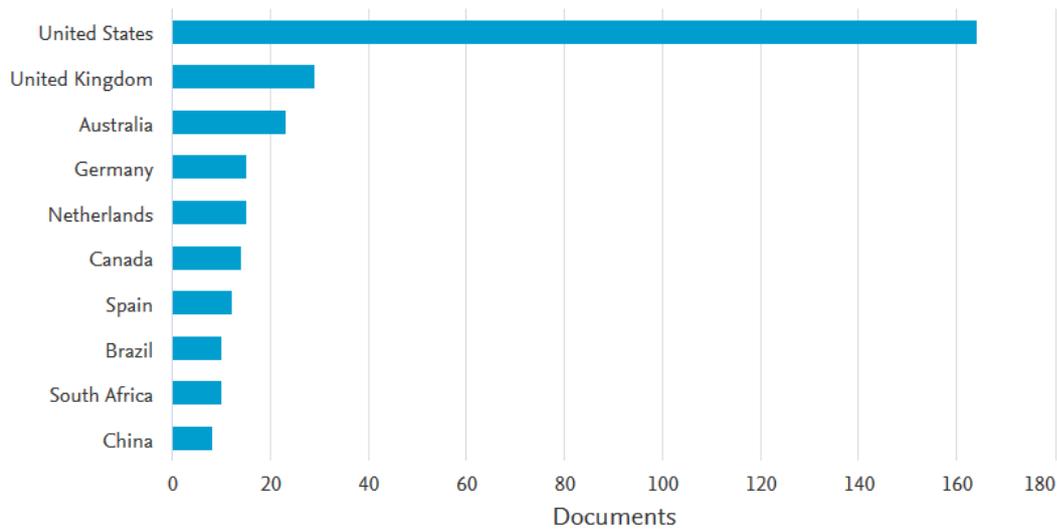


Figure 3. Number of documents by country from female leadership publications

From Figure 3 it can be explained that the countries that contributed the most in female leadership publication were America, with 164 documents, followed by the United Kingdom with 29 documents, Australia with 23 documents, Germany with fifteen (15) documents, the Netherlands with fifteen (15) documents, Canada with fourteen (14) documents, Spain with twelve (12) documents, Brazil with ten (10) documents, South Africa with ten (10) documents and China with eight (8) documents.

*1.4 Documents based on subject area from female leadership publications*

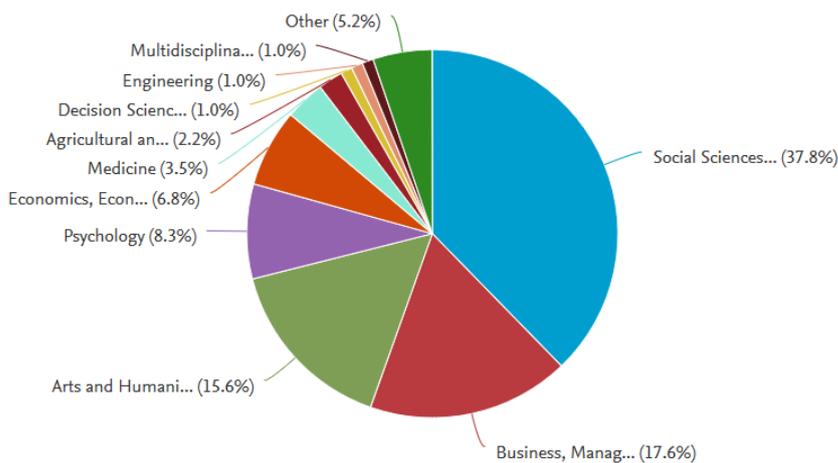


Figure 4. Number of documents by subject area from female leadership publications

The most subject areas in international academic publications from female leadership publication are: the social sciences with 227 documents; followed by business, management and accounting with 227 documents; arts and humanities with 227 documents; psychology with

227 documents; economics, econometrics and finance with 227 documents; medicine with 227 documents; agricultural and biological sciences with 227 documents; decision sciences with 227 documents; engineering with 227 documents, and; multidisciplinary with 227 documents.

### 1.5 Organisation per year based on sources from female leadership publications



Figure 5. Number of documents per year based on sources from female leadership publications

The number of documents per year based on sources in international publications from female leadership publications are recorded as: Gender in Management with eight (8) documents; Leadership Quarterly with six (6) documents, Sex Roles with six (6) documents, Leadership And Organisation Development Journal with four (4) documents, and Women In Management Review with four (4) documents.

### 1.6 Documents per year from female leadership publications

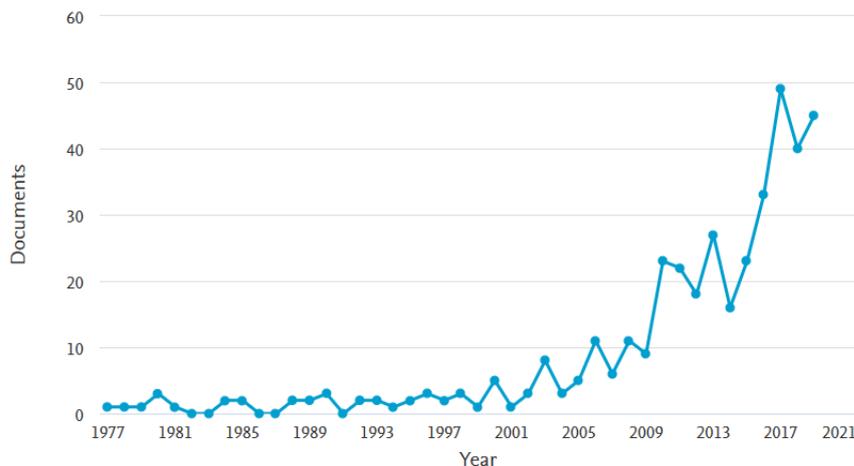


Figure 6. Number of documents per year from female leadership publications

From Figure 6, it can be seen that the number of international academic documents in female leadership publication has increased every year. The peak of the publication of international academic documents in female leadership publication was the highest in 2017 with 45 documents; it is also possible that in 2020 there will be an increase in research on female leadership publication.

### 1.7 Map of study organisation

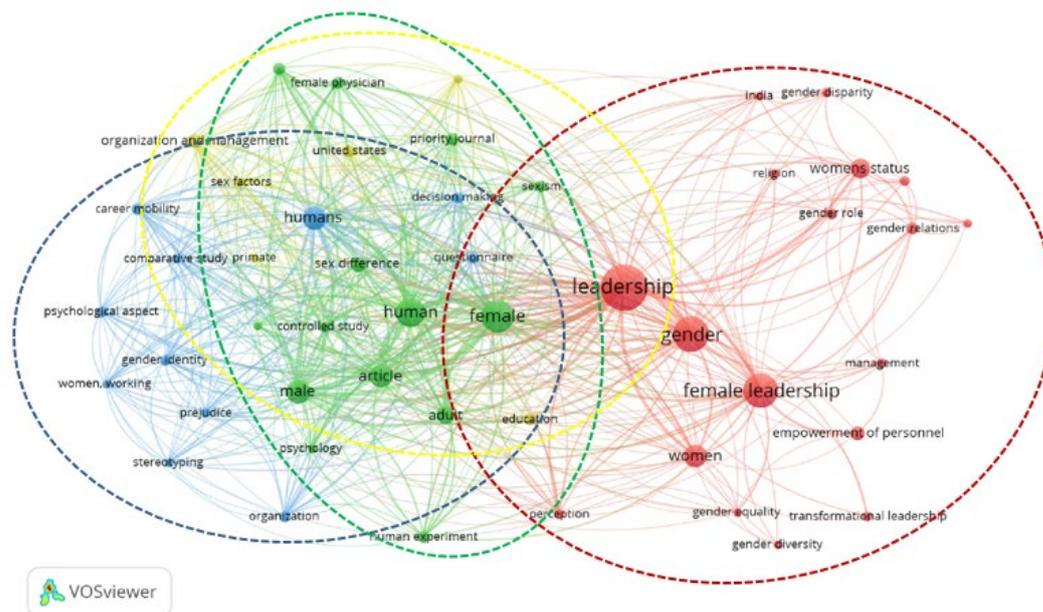


Figure 7. Map of study themes

Construction on the female leadership keyword network for the study theme map was built with the VOS Viewer application. The criterion for the minimum number of documents associated with a keyword is five repetitions. Therefore, out of 1569 keywords there are only 49 keywords that meet the threshold. From Figure 7. there are four groups of study themes based on research keywords related to female leadership, abbreviated as FHOL themes.

1. Female Cluster (green). Within this cluster, we can find female themes. This cluster is associated with the keywords: adult, psychology, female physician and controlled study, and others related to female themes.
2. Human Cluster (blue). This cluster is dominated by the keywords: comparative study, gender identity and career mobility, and others related to human.
3. Organisation Cluster (yellow). This cluster is dominated by the keywords: organisation and management, primates, and education, and others related to organisation.

4. Leadership Cluster (red). Within this cluster, we can find leadership themes. This cluster is related to the key words: of gender, female leadership, women and women's status, and others related to leadership themes.

### 1.8 Author collaboration network

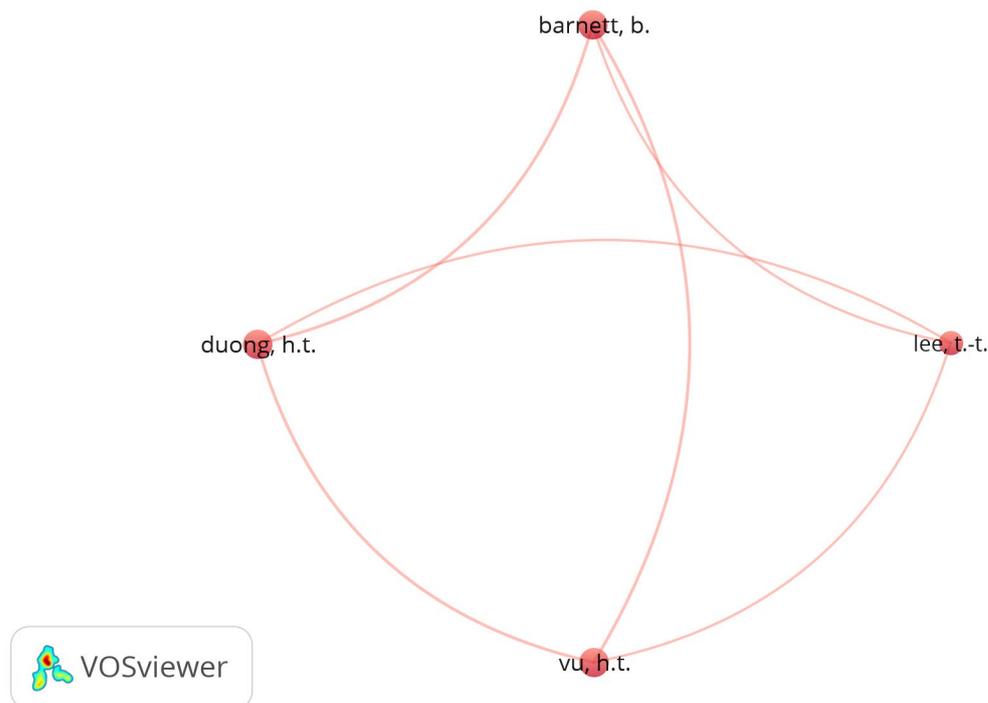


Figure 8. Author collaboration network

The criterion for the minimum number of documents per author is two (2) documents. Thus, out of 788 authors, 28 authors were found to meet the threshold. There is one group of patterns of collaboration between researchers in the field of female leadership, as shown in Figure. 8

There was a collaboration between Vu H.T., Barnett B., Duong H.T., Lee T.T.(2019), with the publication “Delicate and Durable: An analysis of women’s leadership and media practices in Vietnam”.

## Conclusion

The results of this study indicate the status of maps published internationally and research trends in the field of female leadership, which are increasing every year. America, with 164 documents, is the most productive country in publications in female leadership publication. The most productive research institutes and individual researchers in female leadership, publication are the University of North Carolina at Chapel Hill with six (6) documents and Barnett, B. with



three (3) documents, respectively. The largest subject and field of publication sources in female leadership publication are the social sciences, with a proportion of 37.8 percent, and Gender in Management with eight (8) documents. The most quoted is Eagly, Johannesen-Schmidt and Van Engen, entitled "Transformational, Transactional, and Laissez-Faire Leadership Styles: A Meta- Analysis Comparing Women and Men", with 1000 documents having cited it. There is one collaborative pattern of researchers in publications in female leadership publication.

With regard to the implications for knowledge, this study proposes a convergence axis classification consisting of publications in the field of female leadership to characterise the pool of knowledge generated from five decades of literature: female, human, organisation and leadership, abbreviated as FHOL themes. As a practical implication, identifying the main themes in female leadership leads to understanding the development of studies to understand the topic and context in general, as well as research gaps. With all that, new studies can be directed to overcome the lack of studies and to advance knowledge in that field. The most researched themes also demonstrate the contribution of female leadership to organisation.

Researchers expect further researchers to analyse contributions and explain female leadership by measuring citations based on a combination of data obtained from Scopus and Web of Science.

### **Original Contribution**

This study proposes a convergence axis classification consisting of publications in the field of female leadership.

### **Acknowledgment**

We would like to thank our friends, teachers, parents, family and Indonesia.



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