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Original Article

Encontros Bibli

# What are gender studies: characterization of scientific output self-named gender studies in a multidisciplinary and international database

## O que são estudos de gênero: caracterização da produção científica autodenominada estudos de gênero em uma base de dados multidisciplinar e internacional

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## ABSTRACT:

**Objective**: The research objective is to describe the research that entitles itself as “gender studies” in a multidisciplinary and international database, pointing out possibilities and limitations for this kind of source.
**Method**: Exploratory study with bibliometric analysis of the scientific output self-named gender studies indexed at Web of Science and published before 2017.
**Results**: The results mirror the area’s history, with documents identified in the base since 1981 and growing until recent years. It points out the diversity of areas that research gender studies, especially knowledge areas connected to the humanities and social sciences, but also from areas such as health and medical sciences. The number of publications has increased since the 90’s as well as it's interdisciplinarity since the number of areas that publish gender studies has also increased. The analysis comparing different periods demonstrates the following: an increase of co-authored publications; different areas “joining” gender studies; more general and multidisciplinary journals publishing self-named gender studies, and the increase of journals devoted specifically to the area. It also identifies the important impact of proceeding papers and dispersion of publication vehicles. The USA and European countries are the most productive ones, however, Brazil, Argentina, and Australia stand out by having some of the most productive institutions and publication sources. The terms analysis point to researches related to education and teaching, and the importance of post-structuralism influenced topics. Masculinity and sexuality-related research have increased their frequency in the publications over the years, however, sexuality papers are much rarer, while words such as male and masculinity appear within the most frequent terms and in the publications with more citations. Subjects and terms of the publications also suggest that gender studies, as it could be expected, are following the matters of the feminist movements.
**Conclusions**: The gender studies' scientific output at Web of Science demonstrates the area’s consolidation over the years and its recognition among knowledge fields as different disciplines have joined it. Despite many interesting and pertinent characteristics were raised, the database coverage for this kind of research is limited. The data quality is also a limitation as many data fields were missing, especially for documents of the humanities and social sciences. Lastly, we suggest the usage of additional terms for future research.
**Keywords:** Gender studies. Scientific output. Bibliometrics. Web of Science. Gender. Scientometrics.

## RESUMO

**Objetivo**: Caracterizar qual é a pesquisa que se intitula como “estudos de gênero” em uma base de dados multidisciplinar e internacional, apontando também as possibilidades e as limitações no uso desse tipo de base de dados.
**Método**: A pesquisa apresenta um estudo exploratório com análise bibliométrica da produção científica autodenominada estudos de gênero, indexada na Web of Science e publicada até o ano de 2017.
**Resultados**: Os resultados refletem a história da área, com documentos identificados na base desde 1981 e crescendo até os últimos anos. Aponta a diversidade de disciplinas que pesquisam estudos de gênero, especialmente as ligadas às ciências humanas e sociais, mas também áreas como ciências da saúde e medicina. O número de publicações aumentou desde os anos 90, bem como a interdisciplinaridade, visto que houve aumento de disciplinas passando a publicar sobre (ou com abordagem de) estudos de gênero. A análise comparando diferentes períodos demonstra o seguinte: um aumento

de publicações em coautoria; diferentes disciplinas e áreas do conhecimento ingressando nos estudos de gênero; periódicos mais gerais e multidisciplinares publicando estudos da área e também aumento de periódicos especializados em estudos de gênero. Também identifica impacto importante de trabalhos de evento e dispersão de veículos de publicação. Os EUA e países europeus são os mais produtivos, no entanto, Brasil, Argentina e Austrália se destacam por possuir algumas das instituições e fontes de publicação mais produtivas. A análise de termos aponta para pesquisas relacionadas à educação e ensino, assim como a importância de tópicos de influência pós-estruturalista. Pesquisas relacionadas à masculinidade e à sexualidade parecem ser emergentes na área, no entanto, os artigos sobre sexualidade são mais raros, enquanto palavras como masculino e masculinidade aparecem nos termos mais frequentes e nas publicações com mais citações. Os assuntos e termos das publicações também sugerem que os estudos de gênero, como seria de esperar, estão acompanhando as temáticas dos movimentos feministas.
**Conclusões**: A produção científica de estudos de gênero indexada na Web of Science demonstra a consolidação da área ao longo dos anos e seu reconhecimento entre os campos do conhecimento científico à medida que diferentes disciplinas passaram a publicar na área. Apesar de muitas características interessantes e pertinentes terem sido levantadas, a cobertura da base de dados para esse tipo de pesquisa é limitada. A qualidade dos dados também é uma limitação, visto que campos dos registros de dados estavam ausentes, especialmente ema documentos das ciências humanas e sociais. Por fim, sugerimos o uso de termos adicionais em pesquisas futuras.
**Palavras-chave**: Estudos de gênero. Produção científica. Bibliometria. Web of Science. Gênero. Cientometria.

# 1 INTRODUCTION

The main objective of this study is to explore the scientific output self-named gender studies indexed at the Web of Science and published before 2017. We intend to characterize what is the research that entitles itself as gender studies in a multidisciplinary and international database exploring the possibilities and the limits of this kind of database for research topics and fields mainly related to the humanities and social sciences. *Gender studies* topics are naturally interdisciplinary and multidisciplinary, spanning and encompassing areas in all fields.

However, the subjects that first adopted the gender perspective (or that started to be a part of this new field of study) belong to the so-called social sciences or humanities. Recently, the hard sciences and the scientific community have turned to the discussion, even as the study object – see Nielsen (2016), Barbosa and Lima (2013) and Larivière et al. (2013). They analyze the feminine participation in science and gender bias for the scientific career. In scholarly communication, specifically in the adoption of bibliometrics as a form of analysis, some examples of studies are those that intend to verify how gender affects the scientific career, by analyzing women's participation in scientific output and its performances when compared to the other researchers (PAN; KALINAKI, 2015; MOZAFFARIAN; JAMALI, 2008; WEBSTER, 2001). Other studies, also using bibliometric methodology, have as study object not the female researches, but the research *in* gender studies, for instance, based on journals from the area (MATOS, 2018; VIEIRA et al., 1999), linked to certain subjects (BUFREM; NASCIMENTO, 2012), or yet, produced in a specific country (SÖDERLUND; MADISON, 2015; MADISON; SÖDERLUND, 2016). On the other hand, the present study intends to analyze the research self-named gender studies through

the scientific output indexed at the Web of Science (WoS) database, using bibliometric perspective and methodology.

We assume in this research that certain words make significant statements to comprehend specific historical, political and social contexts (FOUCAULT, 1976; SCOTT, 1986). Therefore, “gender” and “gender studies” is part of the researchers’ scientific discourse and of researches that comprise a relatively recent field of knowledge (HARAWAY, 2001). The area had its origins on social movements, which called attention to the oppression suffered by women and to the inequalities inherent to the parts assigned to men and women in gender roles (PISCITELLI, 2009). Gender studies can be primarily defined as a field of knowledge that studies the deconstruction of the idea of gender as something “natural” or “biological” (CONWAY; BOURQUE; SCOTT, 1987), it reflects upon what gender actually is, or yet, it sees gender itself as its research subject. The concept of “gender” is defined (differs) according to the schools of thought that back the researches, or according to the areas to which the researchers have ties. Thus, gender studies are a research field, a field of studies or a “new” area made up of several independent areas that focus on this subject. Therefore, it is interdisciplinary.

As an interdisciplinary field, it is composed of discourses from diverse and distinct areas, areas that are already consolidated. In other words, the choosing of “gender studies” is what defines researches (from several areas) that use the object “gender” in its non-fixed significance (because it consists of different discourses from different areas), but outside the biological or grammatical concept of “gender”. Besides, “gender studies” designate the studies and researches which assume that gender “issues” are not linked only to feminine, femininity and women’s studies, but gender as a social construction. For instance, in a society in which prevails a heterosexist and dialectic view of the bodies, it simultaneously designates feminine and masculine, male and female, on implicit social and cultural negotiations. Since they are social, they have an enormous variation (BUTLER, 1996; 2013; SCOTT, 2013).

Before the use of the expression “gender studies”, the pioneer researches were related to “women” or “feminists” – such as “women's history” (SCOTT, 1986; SÖDERLUND; MADISON, 2015). Gender studies may have started with the third wave of the feminist movement in the 1970’s, which, in the United States of America (USA), for instance, was later taken to the Academy by academic activists and critics to the “dominant scientific and professional organization” (HEILBORN; SORJ, 1999). By the name *women’s studies*, it starts to look at the fields and researches from the feminine gender bias (at first). Due to the

area consolidation and the inclusion of other themes not exclusively linked to the feminine gender, it starts to use the term originally coined in English speaking countries, gender studies. In Brazil, for example, the terms “women” and “feminists” are gradually replaced by the female Brazilian researchers, intending to bring scientific legitimacy to the area (HEILBORN; SORJ, 1999) – differently from what happened in other countries, on a compliance movement to the Academy over their criticism, like happened in the USA.

Joan Scott, in a paper published originally in 1986 which has, since then, had significant impact to the area, argues about the different uses and meanings of the word “gender”. As an historian, Scott was first dedicated to French history and, in the 1980s, she turns to the subject from a new category of analysis: the women. This movement reestablishes and expands the traditional idea of what is important for history as a subject. It is the historical analysis under a new perspective, the gender perspective: “‘Gender’ as a substitute for 'women' is also used to suggest that information about women is necessarily information about men, that one implies the study of the other.” (SCOTT, 1986, p. 1056).

Similar movements in other subjects use the feminine perspective and (afterwards or as consequence) utilize “gender” primarily as a way to obtain scientific legitimacy (HEILBORN; SORJ, 1999). At first, the use indicates distancing from the biological explanations and the understanding of gender as a social category imposed over sexualized bodies. Different uses and theories of the term are discussed by Scott (she proposes a “new” concept), yet, the use of the term implies the accession to this field of study discourse: the gender studies.

We intend to verify the status of this field, for instance: which are the areas that make up this interdisciplinary field of knowledge and if it has changed over the years; which are the publications that use this expression that have more impact through the scientific community (measured through number of citations); what kind of work and where are they published (articles, books, proceedings papers, etc.); what kind of subject are they concerned about (terms and/or keywords of the papers). With this research, we intend to illustrate a landscape of what are *gender studies* in the perspective of papers self-named this way and which are indexed in an “international” and multidisciplinary database. We intend to understand the development and the current design of the area and to serve as basis and context for following studies, as well as to explore the database options and limitations for this kind of research.

## 2 METHODOLOGICAL PROCEDURES

Based on a corpus extracted from the multidisciplinary database Web of Science, the objective of the present study is to analyze the research self-named “gender studies”, therefore not including to the search strategy other denominations and common terms that could be related to the area, such as “gender” used alone, or femininity, masculinity, feminist studies, gender violence, etc. The intention is to not influence the results once our main goal is the characterization of self-named gender studies, so we want to let the data tell us what it is.

The software Bibexcel, Microsoft Excel and Vosviewer were used to perform the analysis. Bibexcel was used to transform the data retrieved from Web of Science to a readable type for the other software and to make an accounting analysis of each field of analysis correspondent to the variables, such as number of publications, number of authors, number of journals, etc. Microsoft Excel was used for statistical analysis, such as $R^2$, authors’ average, etc., and to organize tables and some graphics. The Vosviewer software was used for terminology analysis, as well as analysis by countries and their clusters. The WordArt.com portal was used just to show the terminology across different years.

One of the bibliometric studies main stages, that influences and configures the whole research corpus, is the search strategy elaboration (GLÄNZEL; SCHUBERT, 2003). For this research, many tests were performed to check the database recovery and records. First, it searched the research areas and WoS Categories that could encompass the gender studies. Three areas containing the expression “gender studies” in its syllabus were found: Social Issues, Sociology and Women’s Studies. Despite including the area’s output, according to their syllabus they also cover other fields of study (CLARIVATE ANALYTICS, 2017a), hence, it was not possible to perform the search using WoS Categories or areas in the search sentence.

Therefore, it was opted to use the TS field in the search sentence, which searches for expressions in tittles, abstracts, authors' keywords and keywords plus (CLARIVATE ANALYTICS, 2017b, 2018). Subsequently it was surveyed the translations for the expression that characterized the research field of this study object: gender studies. It was opted for the core collection (Web of Science Core Collection), since the other collections have less research fields, which would limit the analysis possibilities.

Once WoS only allows searching the TS field with English terms, the search tests were performed with the expression “gender studies” and its singular form. The tests

showed: the need of using quotation marks to retrieve only occurrences with the terms together, and the need to exclude the expression “gender students” to avoid records not relevant to the area.

The following search expression was performed in 2018: *ts=("gender stud*") NOT ts=("gender students")*, researching all the Core Collection indexes and delimiting time until 2017.

Among the research fields from the WoS records, the field Z9, Total Times Cited Count in all WoS indexes, was chosen for citation analysis because it is the most wide-ranging database field for citing documents (it encompasses the citation counting from all WoS collections). As for the research areas analysis, the WC field, Web of Science Categories was chosen, for it is the most wide-ranging field (containing more tags) and the most utilized in bibliometric studies for this type of analysis.

In terms of study limitations, the first concerns are to the fact that the coverage of the recent years is never complete. Databases take time to include recent publications and publications may also be delayed. All bibliometric analyzes with scientific output should consider this limitation in their analysis. The second concerns to the use of a multidisciplinary database to analyze a knowledge field originated from the human and social sciences, which is also one of the study objectives (characterizing the type of gender studies indexed by this kind of database). Databases such as WoS bring many resources for bibliometric analysis, but they do not index a very extensive percentage of publications from areas less traditional in the publication of scientific articles that follow the standards required by this type of database. Areas like Education and Arts, for instance, have different scholarly communication patterns to those from the hard sciences: while in hard sciences the scientific article in English is the most common publication vehicle, in Education the monographs are a vehicle of great importance, the paper formats are not so strict and the favorite language is usually the local one, etc.

Due to the flexibilization in the format and in the data supplied for the recovered registers, part of the analyses based their calculation on the total number of recovered works (1626 records), while others considered a smaller number (1625 for research areas and categories, 1501 for countries, 1473 for institutions, 1053 for author's keywords). This can be considered a limitation in the analysis, but, on the other hand, it is also a “significant” characteristic revealed by the research: the field of knowledge self-named gender studies, even in an “international” database which indexes mostly hard-science papers (MONGEON; PAUL-HUS, 2016), gender studies papers still constitute those with a larger variation and

flexibility in the publishing format, which do not have the same “strict” pattern from the hard-science publications. On other words, while in the hard sciences the papers are mostly articles in journals, in Social Sciences and Humanities, the scientific publications do not follow such a strict pattern (MEADOWS, 1999; HUANG; CHANG, 2008), therefore, many research fields from the searched papers were “blank”. For example: if the publication was a chapter in a book, the field “journal” could not be filled up and, therefore, it could not be part of the journal analysis.

## 3 RESULTS AND DISCUSSION

Our search retrieved 1626 paper records self-named “gender studies” at WoS, having the search and download performed in 2018. In the following sections we present the bibliometric analysis results, divided in the research corpus main characteristics, authorship, research areas, terms and citations.

### 3.1 Basic characteristics of “gender studies”

Even including all the WoS indexes, that encompass publications since 1945 (Science Citation Index Expanded), the first research self-named gender studies published by a document indexed at WoS was only in 1981. Until 1989 there were just 9 published papers, what agrees with the literature, which observes the use of the term “gender studies” from the 1980’s and also follows the area's institutionalization period (SCOTT, 1986; HEILBORN; SORJ, 1999). It is possible that there are studies covering the thematic of the area from previous years, however, they are not self-named gender studies. The analysis of publication date indicates exponential growth of gender studies, with $R^2 = 0.9217$.

From the 1990's, the number of works consolidated at WoS does not always grow in relation to the previous year (growth rate of 18.57% per year since 1991). Silva (2000) claims that the 1990’s were marked by a tendency for institutionalization of social movements in all countries, and with the women’s movements it was not different. The intellectual production about gender studies may be a reflection of these movements.

When it comes to the languages of publication, there is diversity, including non-western languages (it is an interesting configuration, considering that WoS main collection prioritizes publications in English). Overall, there are 23 distinct languages: English (corresponding to 1224 publications, 74.66% of the total), Spanish (119 publications, 7.32%), German (103, frequency of 6.33%), Portuguese (60 publications, 3.69%), French (38, or 2.34%) and Russian (19 publications, 1.17%), mainly, followed by other languages that account for less than 1% of the publications – such as Polish, Italian, Czech, Swedish,

Slovak and others. This big diversity demonstrates the participation of many countries in the discussions and research about gender studies.

The publications plurality is seen also in the types of documents, which include even poetry, despite most publications being constituted of scientific articles (75.4% of it). Söderlund and Madison (2015), researching the scientific output about gender studies from Sweden, noticed the scientific article as the most frequent type of publication, even though in much smaller proportion, 26%, besides, they also found diversity in the publication's typology.

There are 42 possible publication types at WoS, from articles to musical concerts reviews. Among those, 16 types constitute the corpus of the present research. Beyond the standard scientific article, there are reviews, which include the review articles (CLARIVATE ANALYTICS, 2017c), articles that are proceedings papers (designated in the database as "article; proceedings paper") and articles that are book chapters ("article; book chapter"), which together constitute 81.37% of the publications.

Another characteristic of gender studies publications is linked to their publication vehicles. Large diversity in the source's characteristics and in publications titles were also found; nevertheless, the most frequent vehicles are all scientific journals. The 1626 works were published in 1031 distinct vehicles, between journals and proceedings (the only book chapter was also published as an article). The vehicle with more publications comprehends only 3.36% from the gender studies total, and the second has little more than the half of this percentage – 1.85% (59 and 30 publications, respectively). Table 1 shows the 20 vehicles with higher number of publications, all of them journals.

**Table 1** - 20 journals with higher number of publications about gender studies indexed at WoS, published before 2017, n=1626

| Journals | N. of publications | Country | Language | Impact Factor (2016) | Bigger quartile |
|---|---|---|---|---|---|
| Computers; Education | 59 (3.63%) | England | English | 3.819 | Q1 |
| European Journal of Women's Studies | 30 (1.85%) | England | English | 1.132 | Q2 |
| Feministische Studien | 23 (1.41%) | Germany | German | 0.107 | Q4 |
| Women's Studies International Forum | 18 (1.11%) | England | English | 0.686 | Q3 |
| Journal of Gender Studies | 14 (0.86%) | England | English | 0.676 | Q3 |
| Nouvelles Questions Feministes | 12 (0.74%) | Switzerland | Multi | -- | Q4* |
| Gender and Education | 12 (0.74%) | England | English | 0.639 | Q4 |
| Sex Roles | 12 (0.74%) | USA | English | 1.954 | Q1 |
| Gerontologist | 10 (0.62%) | USA | English | 3.505 | Q1 |
| Scientometrics | 10 (0.62%) | Netherlands | English | 2.147 | Q2 |
| Plos One | 8 (0.49%) | USA | English | 2.806 | Q1 |
| Atlantis-Critical Studies in Gender Culture; Social Justice | 8 (0.49%) | Canada | English / French | -- | -- |
| Gender Place and Culture | 8 (0.49%) | England | English | 1.605 | Q1 |
| Teksty Drugie | 7 (0.43%) | Poland | Polish | -- | -- |

| Journals | N. of publications | Country | Language | Impact Factor (2016) | Bigger quartile |
|---|---|---|---|---|---|
| Men and Masculinities | 7 (0.43%) | USA | English | 1.308 | Q2 |
| Psychology of Women Quarterly | 7 (0.43%) | England | English | 2.432 | Q1 |
| Zeitschrift Fur Germanistik | 7 (0.43%) | Germany | German | -- | -- |
| Movimento | 6 (0.37%) | Brazil | Portuguese | 0.247 | Q4 |
| International Journal of Inclusive Education | 6 (0.37%) | England | English | 0.844 | Q3 |
| Gender; Society | 6 (0.37%) | USA | English | 2.765 | Q1 |

Source: Research data.
* Referring to the last quartile in which the journal has been indexed: 2011.

Among the 20 sources with higher number of publications, there are journals from all the quartiles of the Journal Citation Reports (CLARIVATE ANALYTICS, 2017d), in different research areas, such as Computer Sciences, Education, Women's Studies, Gerontology and Literature. One of the journals is no longer indexed by WoS (Nouvelles Questions Feministes, from Switzerland), one is stemming from the newer WoS index, the Emerging Sources Citation Index (Atlantis-Critical Studies in Gender Culture; Social Justice, from Canada) and three do not have Impact Factor (beyond Atlantis, the *Teksty Drugie* and *Zeitschrift Fur Germanistik*, Polish and German journals, respectively). All this demonstrates that self-named gender studies indexed at WoS are published in spread journals with different characteristics, demonstrating its interdisciplinarity.

**Table 2** - Main journals (with higher number of publications) about gender studies over the years (until 2017, n=1626)

| Until 1999 (n=159) | | Years 2000 (n=442) | | After 2010 (n=1026) | |
|---|---|---|---|---|---|
| % | Journal | % | Journal | % | Journal |
| 5 (3.14%) | Zeitschrift Fur Germanistik | 25 (5.64%) | Computers; Education | 34 (3.31%) | Computers; Education |
| 5 (3.14%) | J. of Narrative and Life History | 11 (2.48%) | Nouvelles Questions Feministes | 20 (1.95%) | Feministische Studien |
| 4 (2.52%) | Osiris | 9 (2.03%) | European J. of Women's Studies | 18 (1.75%) | European J. of Women's Studies |
| 4 (2.52%) | Economic and Political Weekly | 7 (1.58%) | Women's Studies Int. Forum | 10 (0.97%) | Women's Studies Int. Forum |
| 3 (1.89%) | European J. of Women's Studies | 5 (1.13%) | Gender and Education | 9 (0.88%) | Scientometrics |
| 2 (1.26%) | Plains Anthropologist | 5 (1.13%) | Studies in East European Thought | 9 (0.88%) | Gerontologist |
| 2 (1.26%) | Int. Journal of Science Education | 5 (1.13%) | Psychology of Women Quarterly | 8 (0.78%) | Atlantis: critical studies in gender… |
| 2 (1.26%) | Journal of Popular Culture | 5 (1.13%) | Journal of Gender Studies | 8 (0.78%) | Journal of Gender Studies |
| 2 (1.26%) | Oster. Zeitschrift Politikwissenschaft | 4 (0.9%) | Gender; Society | 8 (0.78%) | Plos One |

Source: Research data.

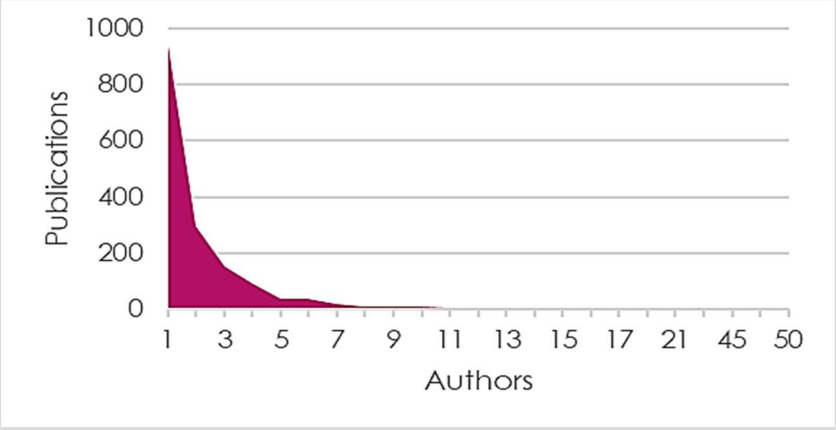
If compared, the evolution from the journals with the largest number of papers through time, it shows: (1) the dispersion of the publications in many journals is constant through time, occurring in all three periods of analysis; (2) up to 1999, the main publications are in the areas of sociology, anthropology and education, only one journal among them has its main focus on gender studies (European Journal of Women Studies); (3) from 2000 to 2010,

journals whose main focus is gender studies are more frequent (not only among the main journals, but also on the list in general); (4) starting in 2010 the number of gender studies journals grows and gender studies also begin being published in multidisciplinary vehicles and in other areas of knowledge, which demonstrates the consolidation of the area and the recognition from other areas.

### 3.2 Characteristics of authorship (authors, institutions and countries) that publish about gender studies

More than 3300 authors signed gender study papers published until 2017 indexed at WoS. Each publication has an average of 2.26 authors, with a median and mode equal to 1 author. The single authorship is prevalent and makes up 57.44% of the cases (934 publications). The largest part of publications concentrates in a small number of authors, which is common for the areas of humanities and social sciences (see graphic 1) – 75.58% have one or two authors, almost 85% have up until 3 authors (84.93%) and 9 in each 10 publications have up until 4 authors (90.71%). The outliers are two publications, with 50 and 48 authors.

**Figure 1** - Publications distribution by number of authors, gender studies published before 2017 indexed at WoS, n=6326




Source: Research data.

This scenario was even stronger in the first years of the analysis. If we compare the evolution of authorship over the years, we can recognize that single authorship took up an even larger percentage in gender studies – making up more than 75% of publications (75.47%) before 1999. In the 2000's (including the year 2000) the numbers of single authorship went down to less than 60% (59.82%) and looking after 2010 the number reaches

53,51%. The median of authors remains the same throughout the periods, equal to one, but the average goes from 1.53% before 1999, to 2.28% in the 2000's and 2.38% after 2010.

The prevalence of single authorship is a recognized characteristic in the humanities field, as well as in the more theoretical areas of science, both hard and exact (MEADOWS, 1999; VANZ, 2009), such as theoretical mathematics and physics in comparison with applied statistics or high energy physics. While theoretical mathematics allows an individual reflection, the empirical data collection from applied statistics, for example, demands a team of scientists. Therefore, the prevalence of single authorship indicates an area with great theoretical reflection, which agrees with what was found by Diniz and Foltran (2004) who analyzed papers published in a Brazilian journal specialized in gender studies. According to the authors, 92% of the papers published from 1992 to 2002 in "Revista Estudos Feministas" were theoretical discussion works, without any reference to empirical data, or with exclusively qualitative data, and from these, 88% had single authorships.

The shift to a larger number of papers with multiple authors in gender studies published at WoS follows a trend in international science for collaboration (WUCHTY, JONES; UZZI, 2007), however the data from areas and institutions (shown next) suggest that this trend also reflects new areas entering the gender studies, such as social sciences and health sciences.

The authors of gender studies are associated to 967 institutions. The dispersion is also significant, since the most productive institution holds only 2.24% of the total output (33 works). However, the USA's hegemony in science (historic, even though nowadays they have been slightly surpassed by China) appears also in this productivity list, since the majority of institutions are from USA. Such issue may arise from the database coverage, but it is also interesting to notice that another country appears among the institutions with higher production: Netherlands, with the universities of Amsterdam, Utrecht, Leiden, Groningen and University Medical Center from Utrecht.

European and North American institutions are the only ones to appear among the 24 institutions with higher number of publications. Two institutions from Latin America (Federal University of Rio Grande do Sul and University of Buenos Aires) and one from Oceania (University of Melbourne) appear in the 25$^{th}$ productivity position of self-named gender studies publications, position shared with ten more institutions from USA and Europe.

**Table 3** - Institutions with higher volume of publications self-named gender studies indexed at WoS, published until 2017, n = 1473

| Position | Institution | N. papers | Country | Continent |
|---|---|---|---|---|
| 1$^{st}$ | University of California System | 33 (2.24%) | USA | North Am. |
| 2$^{nd}$ | University of London | 28 (1.90%) | England | Europe |

| Position | Institution | N. papers | Country | Continent |
|---|---|---|---|---|
| 3rd | University of Washington | 20 (1.36%) | USA | North Am. |
| 3rd | University of Washington Seattle | 20 (1.36%) | USA | North Am. |
| 5th | Harvard University | 19 (1.29%) | USA | North Am. |
| 6th | University of Amsterdam | 17 (1.15%) | Netherlands | Europe |
| 6th | University of North Carolina | 17 (1.15%) | USA | North Am. |
| 6th | University of Toronto | 17 (1.15%) | Canada | North Am. |
| 6th | Utrecht University | 17 (1.15%) | Netherlands | Europe |
| 10th | Pennsylvania Commonwealth System of Higher Education | 16 (1.09%) | USA | North Am. |
| 11th | Leiden University | 15 (1.02%) | Netherlands | Europe |
| 12th | State University of New York Suny System | 14 (0.95%) | USA | North Am. |
| 13th | State University System of Florida | 12 (0.81%) | USA | North Am. |
| 13th | Universite Sorbonne Paris Cite Uspc Comue | 12 (0.81%) | France | Europa |
| 13th | University of California Berkeley | 12 (0.81%) | USA | North Am. |
| 13th | University of Granada | 12 (0.81%) | Spain | Europe |
| 17th | Centre National De La Recherche Scientifique CNRS | 11 (0.75%) | France | Europe |
| 17th | University of California Los Angeles | 11 (0.75%) | USA | North Am. |
| 17th | University of Groningen | 11 (0.75%) | Netherlands | Europa |
| 20th | Columbia University | 10 (0.68%) | USA | North Am. |
| 20th | Humboldt University of Berlin | 10 (0.68%) | Germany | Europe |
| 20th | Umea University | 10 (0.68%) | Sweden | Europe |
| 20th | University of Wisconsin System | 10 (0.68%) | USA | North Am. |
| 20th | Utrecht University Medical Center | 10 (0.68%) | Netherlands | Europe |
| 25th | Autonomous University of Barcelona | 9 (0.61%) | Spain | Europe |
| 25th | California State University System | 9 (0.61%) | USA | North Am. |
| 25th | City University of New York Cuny System | 9 (0.61%) | USA | North Am. |
| 25th | Complutense University of Madrid | 9 (0.61%) | Spain | Europe |
| 25th | Erasmus University Rotterdam | 9 (0.61%) | Netherlands | Europe |
| 25th | National Institutes of Health NIH USA | 9 (0.61%) | USA | North Am. |
| 25th | Federal University of Rio Grande do Sul | 9 (0.61%) | Brazil | South Am. |
| 25th | University of Basque Country | 9 (0.61%) | Spain | Europe |
| 25th | University of Buenos Aires | 9 (0.61%) | Argentina | South Am. |
| 25th | University of Cologne | 9 (0.61%) | Germany | Europe |
| 25th | University of Helsinki | 9 (0.61%) | Finland | Europe |
| 25th | University of Melbourne | 9 (0.61%) | Australia | Oceania |
| 25th | University of Texas System | 9 (0.61%) | USA | North Am. |
| 25th | University of Warwick | 9 (0.61%) | England | Europe |

Source: Research data.

Subtitle: North America, South America, Europe, Oceania.

It is interesting to note that the self-named gender studies' output concentrates mainly in institutions from USA and England, Anglo-Saxon countries, which are pointed as the origin place of the term "gender" to express the social construction of the relations that differentiate men and women – as it is possible to check at Rubin Gayle (1993), for example, in the article pointed as one of the first to use the term in this sense, and Joan Scott (1986), who proposes the term as an analysis category. Only two French institutions appear among the gender studies most productive organizations, which may be related to the difference of terms and theories that coined this type of study in the country: French theories first identified researches about dynamics of the sex/gender system by another expression: sex social relations ("rapports sociaux de sexe") – which demonstrates the Marxist influence on the first researches in the country (HARAWAY, 1991; HEILBORN; SORJ, 1999). "This way of coining the expression has an unequivocal Marxist ascendance, deriving from the term *social relations of production*." (HEILBORN; SORJ, 1999, emphasis added).

Eighty-two distinct countries or regions[1] have signed gender studies indexed by WoS until 2017. The output is very dispersed worldwide, since only one country appears in more than 10% of the publications – the USA.

Table 4 - Countries that published (> 1% of gender studies indexed at WoS before 2017, n = 1501)

| Country / Region | N. papers | Total % of publications |
|---|---|---|
| USA | 427 | 28.45% |
| England | 128 | 8.53% |
| Germany | 125 | 8.33% |
| Spain | 124 | 8.26% |
| Brazil | 68 | 4.53% |
| Canada | 64 | 4.26% |
| Australia | 59 | 3.93% |
| Netherlands | 57 | 3.80% |
| France | 54 | 3.60% |
| Sweden | 50 | 3.33% |
| Italy | 49 | 3.26% |
| China | 37 | 2.47% |
| Russia | 30 | 2.00% |
| Taiwan | 27 | 1.80% |
| Switzerland | 24 | 1.60% |
| Poland | 21 | 1.40% |
| Argentina | 20 | 1.33% |
| Finland | 20 | 1.33% |
| South Africa | 20 | 1.33% |
| Peru | 20 | 1.33% |
| Portugal | 19 | 1.27% |
| Mexico | 17 | 1.13% |

Source: Research data.

Brazil shows up in 5$^{th}$ position in the general ranking, also being represented in the institutions with a higher publication volume table by the Federal University of Rio Grande do Sul (Universidade Federal do Rio Grande do Sul, UFRGS). It is, along with Argentina and Australia, the country with higher production outside the North America/Europe axis (regions historically more traditional in scientific research). Argentina and Australia, as well as Brazil, have institutions tied in the 25$^{th}$ position of the institutions ranking, represented by the University of Buenos Aires (Universidad de Buenos Aires, UBA) and University of Melbourne, respectively. Australia, however, shows up two positions below Brazil in the country list, and Argentina is in the 17$^{th}$ position.

The good positioning of Brazil in gender studies is surprising, considering that it is in the 13$^{th}$ position in the ranking of countries by publication when all knowledge areas are taken into consideration (CROSS; THOMSON; SINCLAIR, 2018). The history of this research type in the country started in the 70's[2], being funded by the Ford Foundation later,

[1] For this variable the publication number frequency by country according to WoS was used (which allows download of txt file with some automatic analysis types), since it retrieved this information for a higher number of records (1501, against 1421 records for manual download). The same was done for the institution's frequency, also with a higher number of information than the data manually collected.

[2] "The academic interest in researching the women situation in the country [Brazil] had already manifested in the beginning of the 70's. Zahidé Machado Neto taught a course about family and relations between sexes at the Federal University of Bahia in 1973; various female Brazilian researchers participated at the Conference about Feminine Perspectives in the

as stated in Miceli (1995), and Heilborn and Sorj (1999). According to Heilborn and Sorj (1999), the Ford Foundation considered the funding of gender studies in Brazil correspondent to its funding and thematic priorities: as priority, the articulation between academic work and social intervention through public policies; and thematic, as the institution saw a crucial role for the women in the modernization of Latin American societies,

> [...] specially concerning the population control [...]. Feminism, in general, and the one that started to appear in Latin America, were perceived as strong allies in the building of a femininity model that put in perspective the maternity as women exclusive and encompassed ideal. (HEILBORN; SORJ, 1999, p. 190).

According to Cecília Souza (2002), in the 1950s the Ford Foundation was a pioneer investing in research that sought to understand the determining factors for accelerated demographic growth. The lines of research financed by the Foundation develop over the years from population studies, then topics of sexuality and reproductive health, and finally studies on women and gender relations (SOUZA, 2002). Ford's investments included research in the United States of America and worldwide, including developing countries since the 1970s. In this scenario, Brazil was considered strategic for its region. The relationship between Ford Foundation funding and the development of research in gender studies in Brazil may explain the country's prominence in the present study. This hypothesis underlies a research underway, which aims to understand how the area is configured and how it developed in Brazil through its scientific production.

In order to visually analyze the research activity among the countries, a cluster map was made with the Vosviewer software. In this map (Figure 2) it is possible to visualize the countries that published works in co-authorship, with the frequency of collaboration indicated by the edges thickness, and the countries productivity indicated by the dots size. Besides, the clusters colors indicate collaboration groups.

There is no center in the map and many countries have similar weight and collaboration with others. The USA and United Kingdom have the higher number of collaborations. The USA is strongly linked to countries from diverse clusters and also to countries isolated from the others (Turkey, Taiwan, Iceland, South Korea and Japan, belonging to the yellow cluster). United Kingdom is also strongly linked to countries from diverse groups and to isolated countries (Jamaica, Cameroon, Iran and Botswana, all from the light blue cluster).

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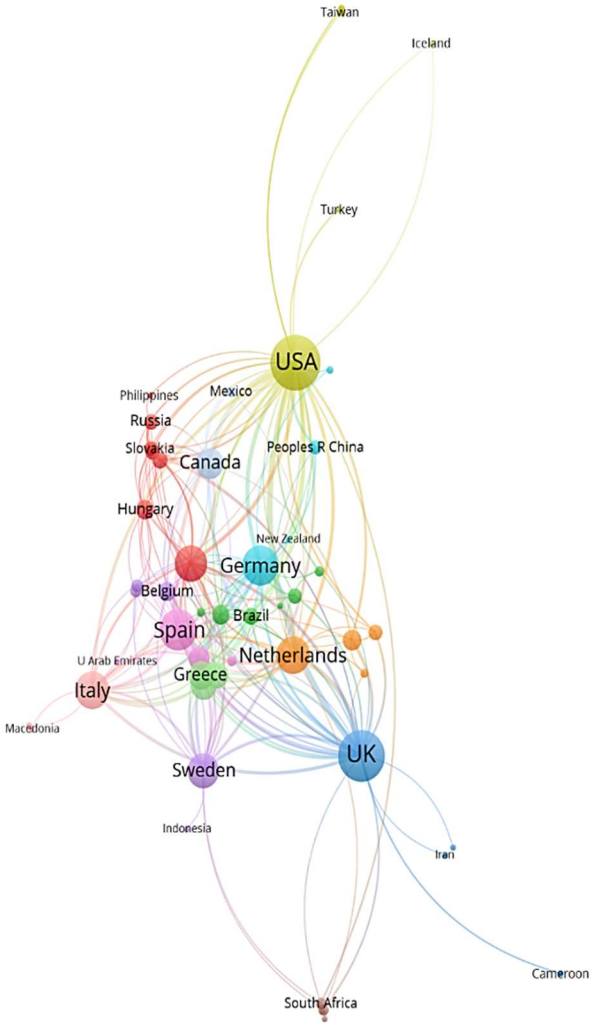
Latin American Social Sciences that took place in Buenos Aires in 1974; female Brazilian academics were also present at the Welsley Conference on Women and Development in June of 1976; the Woman Research Collective from the Carlos Chagas Foundation organized the seminar 'The Human Sciences contribution for the Women's Role Comprehension' at the Brazilian Society for Advancement of Science in 1975 [...].” (HEILBORN & SORJ, 1999, p. 186).

**Figure 2** - Countries and their collaborations in gender studies output indexed at WoS before 2017




Source: Research data.
Note: for the collaboration analysis the data extracted manually from the database was used and analyzed with Bibexcel. Map created with Vosviewer.

Germany, Netherlands, France, Spain and Sweden are countries that centralize their clusters and are strongly linked to the others; therefore, they do not link to isolated countries as what happens with the USA and the United Kingdom. As for Brazil, it is located in the dark green cluster, same as Colombia, Portugal, Argentina, Switzerland, Norway and Ghana, besides having strong links with the USA, United Kingdom, France, Spain, Australia and Italy. Two countries are totally isolated on the map because they do not have international collaboration publications: Kenya and Mozambique.

### 3.3 Areas that develop gender studies

While search sentence tests were being performed, it was possible to check that, for most languages available for research at WoS, the term “authorized” for the area is in its plural form. That may indicate the research’s plurality, since it is the reunion of many areas towards the same object – the gender. It means the gender studies area is interdisciplinary, therefore not having a specific typology of gender study, but *studies.* The same occurs in another equally interdisciplinary area, the neurosciences, whose term is defended as plural by many researchers – in spite of there being uses in singular (HOPPEN; SOUZA; DE FILIPPO; VANZ; SANZ-CASADO, 2016).

The gender studies interdisciplinarity is evidenced by the number of research areas associated to it, the same fact verified by Söderlund and Madison (2015) in research about gender studies in Sweden.

**Table 5 -** Most frequent research areas (more than 1% of the 1625 publications) of the self-named gender studies output published at WoS, before 2017

| Research Areas (WC) | N. Papers |
|---|---|
| Women's Studies | 221 (13.60%) |
| Education; Educational Research | 207 (12.74%) |
| Social Sciences, Interdisciplinary | 95 (5.48%) |
| Sociology | 95 (5.48%) |
| Literature | 89 (5.48%) |
| Computer Science, Interdisciplinary Applications | 85 (5.23%) |
| History | 80 (4.92%) |
| Humanities, Multidisciplinary | 66 (4.06%) |
| Language; Linguistics | 60 (3.69%) |
| Public, Environmental; Occupational Health | 54 (3.32%) |
| Political Science | 44 (2.71%) |
| Social Issues | 41 (2.52%) |
| Communication | 40 (2.46%) |
| Psychology, Multidisciplinary | 38 (2.34%) |
| Psychology, Social | 36 (2.22%) |
| Linguistics | 35 (2.15%) |
| Management | 34 (2.09%) |
| Anthropology | 33 (2.03%) |
| Religion | 31 (1.91%) |
| Information Science; Library Science | 29 (1.78%) |
| Philosophy | 29 (1.78%) |
| Literature, Romance | 25 (1.54%) |

| | |
|---|---|
| Geography | 24 (1.48%) |
| Clinical Neurology | 23 (1.42%) |
| Psychiatry | 20 (1.23%) |
| Psychology, Clinical | 19 (1.17%) |
| Literature, German, Dutch, Scandinavian | 18 (1.11%) |
| Gerontology | 18 (1.11%) |
| Neurosciences | 18 (1.11%) |
| Cultural Studies | 17 (1.05%) |
| Economics | 17 (1.05%) |
| Psychology, Developmental | 17 (1.05%) |
| Area Studies | 17 (1.05%) |

Source: Research data.

If we sort the data over time, we can also comprehend that interdisciplinarity increased a little bit through the development of gender studies. Until the year 1999, 159 publications of 77 areas were retrieved in the database. In the 2000's, 442 papers of 118 areas, and from 2010 until 2017, 1,026 of 141 areas. This means more knowledge areas started to publish in gender studies, even though this increase is not as distinguished as the increase in number of publications.

**Table 6** - The 10 most frequent research areas of self-named gender studies through the decades

| **Areas until 1999 (159 publications)** | | | **Areas of 2000's (442 publications)** | | | **Areas after 2010 (1026 publications)** | | |
|---|---|---|---|---|---|---|---|---|
| **N. pub.** | **%** | **Areas** | **N. pub.** | **%** | **Areas** | **N. pub.** | **%** | **Areas** |
| **18** | 11.32% | Literature | 66 | 14.93% | Women's Studies | 148 | 14.42% | Education; Educational Research |
| **17** | 10.69% | Women's Studies | 53 | 11.99% | Education; Educational Research | 138 | 13.45% | Women's Studies |
| **11** | 6.92% | Political Science | 38 | 8.60% | Sociology | 67 | 6.53% | Social Sciences, Interdisciplinary |
| **8** | 5.03% | Humanities, Multidisciplinary | 32 | 7.24% | Computer Science, Interdiscip. Applications | 52 | 5.07% | History |
| **7** | 4.40% | Literature, German, Dutch, Scandinavian | 26 | 5.88% | Literature | 52 | 5.07% | Computer Science, Interdiscip. Applications |
| **7** | 4.40% | Anthropology | 24 | 5.43% | Social Sciences, Interdisciplinary | 51 | 4.97% | Sociology |
| **6** | 3.77% | Education; Educational Research | 23 | 5.20% | History | 47 | 4.58% | Humanities, Multidisciplinary |
| **6** | 3.77% | Language; Linguistics | 20 | 4.52% | Public, Environmental; Occupational Health | 45 | 4.39% | Literature |
| **6** | 3.77% | Sociology | 16 | 3.62% | Psychology, Multidisciplinary | 38 | 3.70% | Language; Linguistics |
| **6** | 3.77% | Music | 16 | 3.62% | Language; Linguistics | 32 | 3.12% | Communication |
| 77 areas | | | 118 areas | | | 141 areas | | |

Source: Research data.

The only areas that show up among the ten most frequent ones in all three decades are literature, women's studies, education/educational research. Even with the interdisciplinary aspects of the social sciences (social sciences, interdisciplinary) being on the third position among areas with more papers in gender studies, this position was only reached after 2000, while the interdisciplinary application of computer science (computer science, interdisciplinary applications) is only featured there after 2010.

Most areas and categories, as expected, belong to the social sciences and/or humanities, such as sociology, education and educational research – the last two also found by Dehdarirad et al. (2015), in scientific output analysis about women in science –literature, history, linguistics, communication, information science and library science, philosophy, anthropology, etc. Others have aspects from the medical sciences and the social sciences, such as women's studies, psychology (social, multidisciplinary, developmental), gerontology and public, environmental/occupational health.

Areas that could be considered "strategic" are present too: management, economics, engineering and area studies[3]. The works from the computer science area are usually directed towards its education and technologies facet, such as the articles "Development of a game-design workshop girls' interest towards computing through exploration to promote young identity" and "The relationship between gender and mobile technology use in collaborative learning settings: an empirical investigation", both published at the *computers/education* journal.

Lastly, there are also many clinical areas, whose facets with the gender studies may constitute an interesting topic for deeper investigation: clinical neurology, psychiatry, clinical psychology and neurosciences (the latter very multidisciplinary as well as women's studies[4], area studies and cultural studies, that also have self-named "gender studies" research). The psychology and psychiatry clinical areas, for instance, treated homosexuality (historically a topic of gender studies) as a mental disorder, until the mid-70's, when practices influenced by Freud theories considered that sexual orientation was defined by family dynamics, traumas and gender identity (ZIJLSTRA, 2014; DRESCHER, 2015). Do these areas continue to study sexuality after the gender studies? Do they keep remnants from the heteronormative bias? Or do they focus in other issues sometimes approached in other areas, such as maternity, etc.? An approach of possible answers is present in the analysis of the most frequent terms, but in the context of all areas. For a more precise answer, it would be necessary to make a deep investigation focused only in gender studies originated from clinical health related areas, maybe with the help of an expert in health sciences for a content analysis.

[3] "'Area studies' covers resources concerned with the social, economic, political, and military character of a geographical area or region, such as Africa, Asia, Latin America, the Middle East, Pacific Rim, etc. The resources in this category tend to be historical and interdisciplinary in nature. (CLARIVATE ANALYTICS, 2017a, doc. not paged).

[4] That is one of the three analyzed areas during the definition of search strategy. Despite the name seeming the most adequate area for this research, its scope is, in fact, wider, exacerbating the gender studies. The same was found at the research of Therese Söderlund and Guy Madison (2015).

### 3.4 Terms used in the gender studies

In order to verify changes of the most frequent topics addressed by the gender studies the most frequent terms within the authors' keywords of the gender studies through the years were analyzed using the same periods as the areas analysis (until 1999, the 2000's and after 2010). The most frequent terms of all the years together were also analyzed in two different groups: the most frequent in author's keywords and the most frequent in titles (at least 10 occurrences, and the 60% more relevant among these, with the Vosviewer software). Table 7, and figure 3 show the results.

**Table 7** - Terms with at least 10 occurrences in the authors' keywords among self-named gender studies research indexed at WoS, n=1051

| Author's keywords | Frequency |
|---|---|
| *Gender Studies* | 378 (35.97%) |
| *gender* | 205 (19.51%) |
| *feminism* | 50 (4.76%) |
| *women* | 44 (4.19%) |
| *masculinity* | 39 (3.71%) |
| *intersectionality* | 27 (2.57%) |
| *secondary education* | 24 (2.28%) |
| *women's studies* | 23 (2.19%) |
| *identity* | 20 (1.90%) |
| *Teaching/learning strategies* | 20 (1.90%) |
| *sexuality* | 17 (1.62%) |
| *Gender differences* | 16 (1.52%) |
| *higher education* | 15 (1.43%) |
| *education* | 15 (1.43%) |
| *Feminist theory* | 14 (1.33%) |
| *Masculinities* | 14 (1.33%) |
| *Pedagogical issues* | 14 (1.33%) |
| *Cultural studies* | 14 (1.33%) |
| *violence* | 14 (1.33%) |
| *Gender identity* | 13 (1.24%) |
| *sex* | 13 (1.24%) |
| *Interactive learning environments* | 12 (1.14%) |
| *improving classroom teaching* | 12 (1.14%) |
| *country-specific developments* | 11 (1.05%) |
| *representation* | 11 (1.05%) |
| *Meta-analysis* | 11 (1.05%) |
| *discourse* | 10 (0.95%) |
| *hegemonic masculinity* | 10 (0.95%) |
| *Psychoanalysis* | 10 (0.95%) |

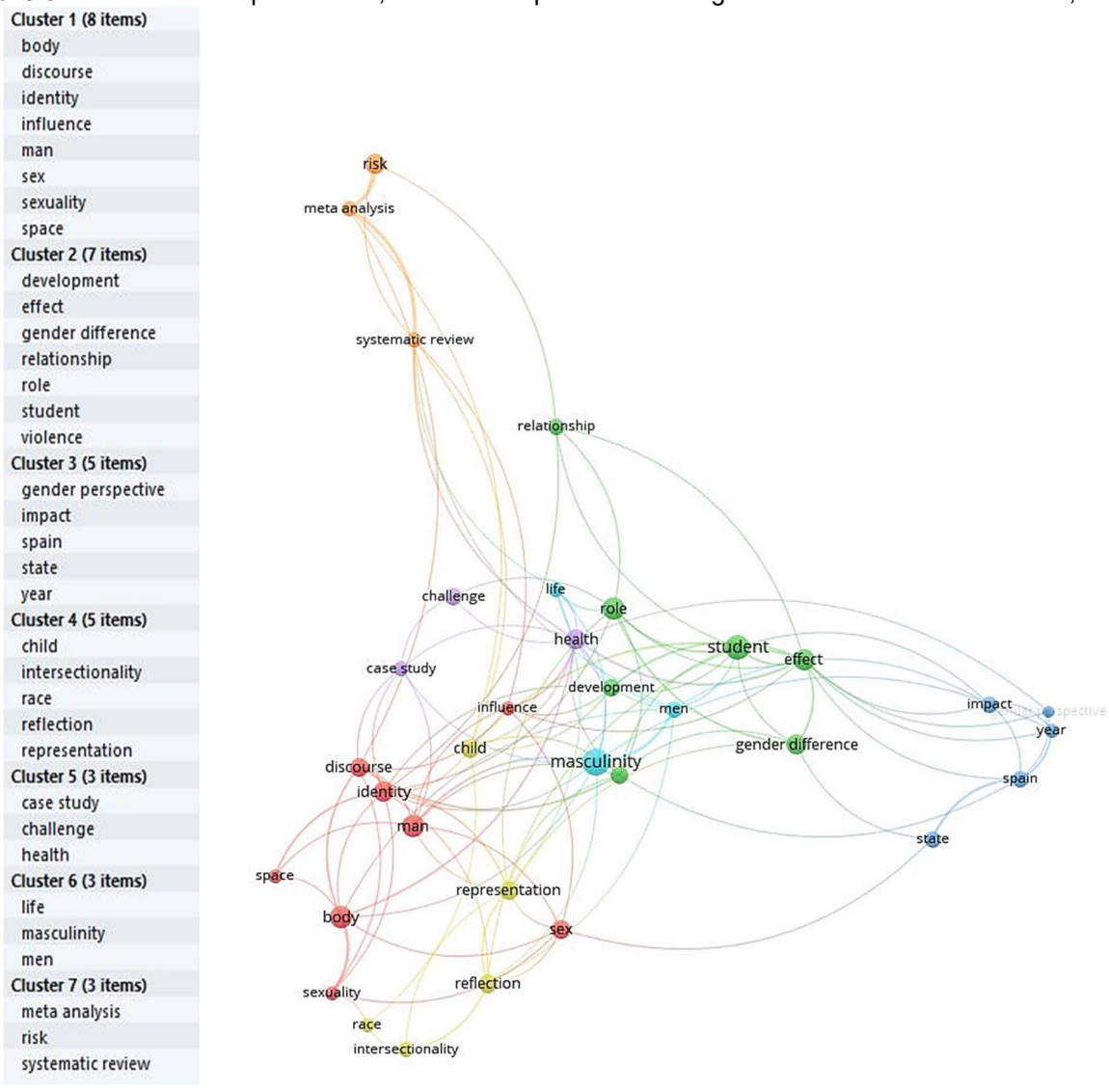
Source: Research data.

The occurrence of many terms related to the masculine gender is very interesting since, at first, gender studies were related to studies about/within the category "women". Joan Scott, one of the pioneers in gender studies, argues that "gender" has been used as

synonym for “women” in researches in order to seek scientific neutrality and bring legitimacy to the area (SCOTT, 1986).

What is seen is *masculinity*, its plural, *masculinities* and the expression *hegemonic masculinity* among the most frequent terms in the author's keywords (table 5); *masculinity, man* e *men* among the titles’ most frequent words (figure 2); moreover, the most cited work about all these topics is about *hegemonic masculinity*, addressed next. The most frequent word of theses aspects, masculinity, appeared in 0.63% (only once) in all publications until 1999, in 2.49% of the 2000’s (11 times), and 2.63% (27 times) in the publications after 2010.

**Figure 3** - Titles most frequent terms, scientific output self-named gender studies indexed at WoS, n=1626




Source: Research data.

Since the first studies, that could be considered gender studies, emerged from the feminist movement, whose agenda was the emancipation of the feminine gender, the appearance of so many terms frequently related to the masculine gender raises several questions. Firstly: do the studies that select the masculine gender for analysis have a bigger need for self-naming gender studies than those that emphasize the feminine gender? Or: do the researches focused on the feminine gender not use the expression “gender studies”, because it assumes that the hegemony is always related to the masculine and so analyses that emphasize (in terms of analysis) the feminine gender are evidently from the area (of gender studies), therefore not needing to be named? Is *gender* still a synonym of “women”, as Scott mentioned in one of her most known papers about the concept of “gender” (SCOTT, 1986)?

We cannot exhaust the answers for these questions, but it seems that the epistemology of gender studies leads to an area that is going further than research topics related to women. It seems that, even though we cannot know if a lot of “gender studies” related to feminine aspects or to women do not think it is necessary to self-name themselves as “gender studies” (and if it’s true they were not retrieved in our search), on the other hand, masculine aspects that are related to gender studies are recurring in the area, as well as in researches related to sex and sexuality, as seen with the occurrence of these terms and its increased frequency over the years.

Only one term related to sexuality was found among the keywords during the first years of the analysis: sexuality, in only one paper (corresponding to 0.63%). In the 2000’s, the same term appears in 1.36% of the papers (six papers), followed by other related terms, with less frequency, such as *same-sex relationships*, *male sexuality*, *sex scandals*, *sex selection* and *sexual harassment*. In the last few years of the analysis, starting in 2010, the frequency of the words *sexuality* and *sex* increases (0.97% and 0.88% of publications, corresponding to 10 and 9 papers respectively) and other terms that can be connected to it, such as *heteronormativity*, *transgender*, and *LGBT*.

Also, as discussed by authors who question sex as being “natural” or “intrinsic” to the body, aligned to the cultural/social aspects of gender studies (see, for example, BUTLER, 1993; 2013; WEEKS, 2015; RUBIN, 1999), this research seems to demonstrate that sex- and sexuality-related topics are equally part of gender studies. Even though “sexology” and scientific research related to sexuality emerged as an area related to the body and its biology, or to aspects related to the psychic health (FOUCAULT, 1976; LOURO, 2007),

researches/papers with these terms are found within self-denominated gender studies publications. It shows it constitutes epistemologically (also?) as a facet of the area that, as was seen during this research, is very connected to social sciences and humanities (and not just to areas of health, where “sexology” appeared, according to FOUCAULT, 1976, and LOURO, 2007).

Both analyzing the development of authors’ keywords thought the years and the total occurrence of the terms (whole data with all the years), it seems that *gender studies* subjects are also following the feminist movement concerns. The feminist movement guidelines, if seen from the waves analogy, developed from the demands for political rights (the first wave of the feminist movement), for equal rights, including the private sphere (second wave), and lastly, the questioning of micropolitical approaches and even femininity itself (third wave), according to Freedman (2003). The data suggests that gender studies researches are also directed towards questioning interpersonal relations, in public and private sphere, encompassing more frequently the reflections about the gender considered “oppressor” and “omnipresent” in the studies. Do researches tend to turn to a post-structuralism view, in which it seems necessary to reflect about the devices once considered consolidated, like masculinity? Other terms seen at cluster 1 in figure 5 (the red cluster) seem to answer yes to these questions, as “discourse”, “body”, “sexuality”, “identity” and “space”.

The term feminism itself increases its frequency among the keywords. While before the year of 1999 the term shows up in only three keywords, with one occurrence each (feminism, feminist and feminist and gender studies, with a total of 1.89% of occurrences), in the 2000’s the term alone (feminism) shows up in 3.14% of the papers, and in new terms, like *transnational feminism* and *poststructuralist feminism*. After 2010 the isolated term has an increased frequency (3.49% of publications) and many other related terms are found, such as: *feminist theory*, *post-feminism, black feminism*, *feminist criticism, feminist epistemology, feminist literary studies*, *feminist pedagogies*, *feminist debate*, *feminist translation theory*, *feminist research*, *feminist history*, *Feminist Philosophy*, etc.

In table 4 many expressions connect gender studies to the education thematic such as secondary education, interactive learning environments, improving classroom teaching, higher education, and pedagogical issues. In the cluster 7 from figure 2 (orange), the most isolated group and with words less connected to the others, there seems to be some common terms from the health area: *risk*, *meta-analysis* and *systematic review*. For checking, these terms were researched inside the corpus to check which documents are linked to them. In fact, there are works from the health area, published in Public Health

journals, besides Gerontology and Sociology works that use systematic review, meta-analysis or thematize “risk” in studies about gender issues. For some Public Health studies, in spite of the presence of these terms, it is not clear if they, in fact, address gender studies or not.

### 3.5 Citations

The 1626 papers received 15003 citations from 14162 documents. Disregarding the self-citations, the numbers are 14749 citations of 13993 citing papers. There is a big impact variation, with standard deviation of 54.54 citations. The papers had an average of 9.48 citations, being the mode 0 citations (782 papers were never cited, 48.09% of all publications). 168 papers had one citation (10.33%) and 93 had 3 (5.72%). The h-index equals 57.

A single papers had 1981 citations, corresponding to almost 13% of all citations referring to gender studies (12.85%). It is “Hegemonic masculinity: rethinking the concept”, by Robert W. Connelll and James W. Messerschmidt, researchers from Australia and the USA, respectively, published at the *Gender; Society* magazine in 2005. The other five papers most cited were also checked, in accordance to chart 2.

**Chart 2** – Most cited publications among gender studies published until 2017 by vehicles indexed at WoS

| | Title | Citations | Source | Year | Doc. Type | Language | Research areas (WoS category) |
|---|---|---|---|---|---|---|---|
| 1st | Hegemonic masculinity: rethinking the concept | 1981 | Gender; Society | 2005 | Review | English | Sociology; Women's Studies |
| 2nd | Digital Game-Based Learning in high school Computer Science education: impact on educational effectiveness and student motivation | 417 | Computers; Education | 2009 | Article | English | Computer Science, Interdisciplinary Applications; Education; Educational Research |
| 3rd | Knowledge in transit | 318 | 5th Joint Meeting of The British Society for the History of Science… | 2004 | Article, Proceedings Paper | English | History; Philosophy of Science |
| 4th | Marital status and mortality in the elderly: a systematic review and meta-analysis | 231 | Social Science; Medicine | 2007 | Article | English | Public, Environmental; Occupational Health; Social Sciences, Biomedical |
| 5th | Satisfaction, gender, and communication in medical visits | 215 | Medical Care | 1994 | Article | English | Health Care Sciences; Services; Health Policy; Services; Public, Environmental; Occupational Health |
| 6th | Personal and workgroup incivility: impact on work and health outcomes | 192 | 64th Annual Meeting of the Academy of Management | 2008 | Article, Proceedings Paper | English | Psychology, Applied; Management |

Source: Research data.

From the chart, the importance of including proceedings indexes in this study is seen, since two among the six most cited works are proceedings papers (republished later as

journals articles, according to their information at WoS). Besides, the chart also previews the publications thematic ascertained in the specific analysis. It is especially interesting to notice that the most cited paper include output from areas not usually covered in analysis related to science and gender studies (together, in researches that analyze the feminine participation in certain scientific areas, or qualitative/quantitative researches that analyze the output focused in gender studies from a certain knowledge field) – as in the cases of computer sciences (second most cited), health areas (fourth and fifth) and management (sixth publication).

## 4 FINAL CONSIDERATIONS

The present research's aim was to explore and raise characteristics of the gender studies scientific output, self-entitled, in order to characterize it for the coverage and basic indicators in an international multidisciplinary database. Researches focused on gender studies began in social movements and scholars linked to social sciences and humanities areas. On the other hand, databases of international coverage (as Web of Science intends to be) are not characterized by a wide coverage of areas linked to social sciences and humanities. That is why the objective was to characterize the studies on this type of database, by determining its particularities, themes and areas that are published on this field in internationally indexed output.

It was possible to explore resources and verify limitations of the data source for this knowledge field. The same limitations were not found in previous researches from the biological and health sciences. The verified resources deal with the search configurations, language coverage of the database and even of the data records on the WoS publications.

Some insights relating to the countries were already pressing in the search strategy investigation, when "gender studies" translations were tested in and outside the database. Through the researches outside WoS it was possible to assess that certain languages that do not have a translation for the area and retrieve the equivalent term of "gender" associated to deprecating and religious matters, associating the term and even the research to "ideology" and "indoctrination" – which has happened recently in Brazil, despite the existence of a translation and institutionalized research on the field. Brazil's presence in the countries with more output as much as in one of the most frequent vehicles also draws attention, as well as the dispersion of the publishing countries.

The most productive institutions' list, as well as the most productive countries' one, raises some interesting characteristics. On the one hand, it agrees and confirms the term

gender origins and its Anglo-Saxon influence and, consequently, the research area denomination as *gender studies*. France, despite being one of the cradles of the ideals that influenced the first wave of feminism (the French Revolution as influence for the feminine suffrage struggle) has only two institutions. In the countries ranking, France appears as one of the most productive countries, but such set still raises the possible necessity of using the French expression for this type of research (*sex and social relations*). Besides, Brazil, Australia and Argentina could be investigated about the database indexing as much as about the reasons for emerging in the list – like Brazil's case, in which it supposes the Ford Foundation influence in funding the area in the country.

Among the raised characteristics that build a landscape for gender studies field of knowledge and that will help to shape future researches are the diversity of the types of documents (with the prevalence of standard articles), the diversity of the languages, and the publication vehicles' flexibility (since data such as authors' institution, keywords and even the country are not fulfilled by all of them). The existence of important output, as two among the six most cited, published in proceedings papers is also a relevant characteristic to be considered in future researches. In addition it raises the possibility of using the French expression to identify this type of research and the assumption that its use could bring forward works more related to the Marxist influence, or if there would appear even more terms that seem to have post-structuralism influences and of investigation in a most private sphere of social relations.

The diversity (besides the dispersion) was also found in the research areas that publish documents self-named gender studies and its interdisciplinarity increased over the years. Areas that appear in the first until the last years of the research are related to humanities and social sciences issues (literature, women's studies, education/ educational research, sociology and language/linguistics) but in the total amount, there's high frequency of researches in the medical areas, including clinical subjects, and in management and technology areas, like management and computer sciences, respectively.

The comparative analysis between different periods show that self-named gender study publications changed and evolved along the years in the database. The first years of the sample, from the first paper indexed, in 1981, to the year of 1999, show characteristics of a field of knowledge connected to humanities, with a prevalence of single authorship and journals of anthropology, sociology of science and others, with very few papers with titles associated to gender studies. From 2000 to 2009 there is an increase in the number of publications, a significant decrease on papers without collaborations and several new areas

started to publish in gender studies, also, journals specific to the area start to become more normal. Starting in the year 2010 there is a consolidation of the new scenario, with more papers, more areas joining, more “general” or multidisciplinary journals publishing researches self-named gender studies. Besides that, the number of specific journals also increased, and single authorship papers reached almost half of the total number (53.51%, against the almost ¾ or 75.47% of the papers until 1999).

However, some characteristics remain: the variety of types of publications, the dispersion of journals with different characteristics, the single authorship trend (it decreased, but is still the most frequent). The self-named gender studies papers published at WoS seem to characterize an interdisciplinary field of studies, that crosses many areas, even though it has also consolidated itself as an independent area. The papers have prevalent characteristics of theoretical fields or of qualitative research (according to the fields of knowledge to which they are connected, type of authorship and terms), even though this scenario seems more flexible in the last few years and the area seems to be moving towards the recognition in other fields and even including its objects of study in other areas.

Important issues were raised in the term analysis of the publications too, issues that coincide in the two samples (author's keywords and titles terms) and in the two kind of analysis (all the terms for all the years and the change of the author’s keywords though the years). We cannot exhaust the answers to the questions arisen in this analysis, as well as those raised with the research areas as it would require a content analysis which was not the goal of the present investigation. But we risk some statements of what the data seems to show.

First, many researches that self-named themselves as *gender studies* comprehend studies involving matters of male gender. Related topics appear within the most frequent terms and their frequency have increased over the years. It also appears in the publications with more impact. It leads to the questioning that maybe research with the female aspect is not indexed under the *gender studies* keyword, as in the beginning of the area, when *gender* was used as a synonym for *woman*. Terms related to sexuality have also increased their frequency over the years, which seems to show that, even though it could be considered a different area, at least sexuality has an important matter within the gender studies.

Lastly, the feminist movement is considered the beginning of gender studies for many researchers of the area, and the data showed that feminist matters are followed by gender studies topics if we consider the development from political and “public” life issues to the private sphere and questioning of presumed fixed concepts (as femininity, masculinity, the

body and others). Even the feminist movement itself and the feminist perspective within areas of knowledge or types of research appears and increase its frequency over the years.

Future investigations of the *gender studies* scientific output must consider the flexibility of the publications of the area (as many fields are not available for analysis) and its interdisciplinarity (especially for choosing the data source). We suggest further investigations within specific countries (such as Argentina and Brazil, which are highlighted in our data) with a more comprehensive search strategy and researches with content analysis focused on health-related areas.

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