



The development of Brazilian women's and gender studies: a bibliometric diagnosis

Natascha Helena Franz Hoppen¹ · Samile Andréa de Souza Vanz¹

Received: 7 October 2021 / Accepted: 30 September 2022 / Published online: 21 November 2022
© Akadémiai Kiadó, Budapest, Hungary 2022

Abstract

This study analyzes the characteristics and development of Brazilian research on women's and gender studies using a new comprehensive data source that is still hardly explored in bibliometric studies called IFindr. The search expression forms a part of a methodological proposition for similar studies, based on the literature review of other analogous studies and on the historical and current characteristics of Brazil. We analyzed 31,609 Brazilian articles on women's and gender studies based on bibliometric indicators including activity, collaboration, and thematic association, with excerpts from the 1970s to 2019. Our results show that, initially, research was linked to the health sciences and was carried out in institutions in the Southeast and South of the country; however, this trend started changing since the 1990s, when two journals specialized in the area were first developed in Brazil and when researchers in the human and social sciences started working with this subject. Since then, the volume of articles, collaboration, and research has grown throughout the country, although production is still concentrated in the Southeast and South. Federal public universities are the main research actors, and researchers prioritize national journals and the Portuguese language. However, the main characteristic, which increases over time, is plurality: in relation to science in general and to other areas of Brazilian research, women's and gender studies present a greater plurality in terms of its publication characteristics, for example, in relation to the amount and percentage of languages. Plurality is also observed in the fact that, over the years, researchers from new disciplines have started to publish on gender studies, making the area more and more inter- and multidisciplinary, and also consolidating it scientifically, in the sense that it has become a subject of interest for all areas of research. Its presence in journals with the best ratings in the Brazilian research system supports the understanding that this is a scientifically consolidated area. In contrast, despite its continuous growth, collaboration is a rare phenomenon, and specific characteristics of studies carried out with foreign partners can be observed. Collaboration clusters among national institutions are characterized, among other factors, by their geographic proximity and the central role of major universities, such as Universidade de São Paulo, and others associated with the history of the area in the country, such as Universidade de Campinas, Universidade Federal de Santa Catarina and Universidade Federal do Rio Grande do Sul. The dataset obtained, prepared, and used in the present research is available for new studies.

Keywords Women's and gender studies · Brazilian science · Scientometrics · Bibliometrics · IFindr

Introduction

Gender studies is an area of research that addresses gender issues and other intersecting social markers of sources of inequities such as race and social class. In this research, gender studies is denoted as the area that has its origin in the social movements that seek to provide evidence regarding the oppression of women and the inequalities imposed by the gender roles delegated to women and men. It arose from (and now it encompasses) what some authors call “academic feminisms,” and from women's studies (Pinto, 2003; Schuck, 2018). It is also understood that, within this perspective, the term “gender studies” was (and for some it may still be) a term that hides or used to hide its first subject/object of study, women (Louro, 1995). Here, we adopt the term “gender studies” because we understand that it accommodates this type of research more comprehensively as today the area touches other subjects and other specificities that are not exclusive to “gender”. In any case, it is assumed that, as an academic area, it had its origin in feminist and women's studies and, therefore, in feminist and women's social movements.

Such specificities of the area, linked to social movements, demonstrate its importance, especially in a country like Brazil, which is a very rich and developed nation in several aspects; however, social inequalities are deeply imbedded within the country. It is considered that gender studies emerged in the early 1970s, when feminist movements visibly began to be part of Brazilian women groups. Among these women were researchers who took feminist agendas into the academy. From the 1980s onwards, these researchers began to replace the term woman with gender in their studies, in search of scientific legitimacy and also due to an epistemological change in the area (Heilborn & Sorj, 1999; Louro, 1995). Institutionalization began in the 1990s, when study groups and publications focused exclusively on the topic were founded (Grossi, 2004; Rago, 1998; Silva, 2000). Since then, the area has gained prominence in the country, through factors such as foreign financing (Correa & McIntyre, 2003; Grossi, 2004; Miceli, 1995; Pinto, 2003), emergence of new work groups and research centers (Correa, 2001; Grossi, 2004), the rise of prominent researchers (Correa, 2001; Hoppen, 2021; Rago, 1998), and the growing interest of new researchers who focus their studies on topics in the area (Diniz et al., 2004; Hoppen, 2021). For researchers like Schuck (2018), Sardenberg and Costa (2012), in Brazil, academic research on gender and feminist studies faced the challenge “of understanding and having answers to the profound inequalities of gender, race, class, generations and even the immense regional differences that define our country,” and of contributing to the struggle and implementation of public policies related to “considering the university as a space for the legitimization of discourses” (Schuck, 2018, p. 30).

Research in gender studies in Brazil is of paramount importance, and so far it has not been investigated in the dimension that we have adopted here. Previous papers that have investigated research on gender studies focused on specific areas (Bufrem & Nascimento, 2012; Devide et al., 2011; Espírito Santo, 2008) or were limited to certain topics (Brilhante et al., 2016; Minella, 2013; Resende et al., 2012) or to specialized journals in the area (Costa, 2008; Diniz & Foltran, 2004; Lopes & Piscitelli, 2004; Matos, 2018; Vieira et al., 2016). Thus, this study presents an unprecedented scope that is broader than other research carried out within gender studies: it aims to understand the research in this area in

Brazilian science under a broader perspective, through its scientific production, analyzing bibliometric indicators of activity and collaboration. For this purpose, articles written by researchers affiliated with Brazilian institutions and indexed in the 1Findr database were analyzed.

1Findr was chosen as the research source for the present study because of its novelty (and the need to explore its resources for bibliometric studies) and because of its broader coverage of journals in the field of social sciences and humanities in comparison to other indexing sources such as Web of Science or Scopus (Archambault & Larivière, 2010; Archambault et al., 2006), or even Scielo Brasil, a database specifically focused on Brazilian scientific production but with less coverage. These aspects also corroborate the importance and the justification of the present research.

The novelty of using this data source, added to the fact that gender studies are interdisciplinary (Aquino, 2006; Diniz & Foltran, 2004; Medeiros et al., 2020), required the development of an extensive methodology, which is described in the next section. The methodological proposition, especially in relation to the search expressions and exploration of the database, intends to be applicable to future bibliometric research both using 1Findr and to new research on Brazilian women's and gender studies.

Methodology

Several databases were tested as possible main data sources of this study. Plataforma de Currículos Lattes and Google Scholar were discarded for the following reasons: difficulty or impossibility of downloading data, impossibility of filtering results, and scarce and non-standard metadata. Web of Science, Directory of Open Access Journals (DOAJ), Bielefeld Academic Search Engine (BASE), Scielo Brasil and 1Findr were then considered. We checked and compared the results from all these databases. The database that returned the highest number of reliable results was 1Findr.¹ To access the metadata of the results, one of the creators of the database was contacted, and we obtained access to the institutional paid version for this research.

We paid special attention to the search expressions. According to Glänzel and Schubert (2003), the data search strategy is one of the most important steps in scientometric studies, as it directly affects research results. All keywords and terms collected for the search expression were translated and tested in Portuguese, Spanish, and English, the three main languages used in Brazilian scientific production, as observed in previous scientometric studies (Adams & King, 2009; Glänzel et al., 2006; Gomes et al., 2018; Leta & De Meis, 1996). The terms were collected from four main sources:

- (1) two Brazilian gender studies thesaurus—Tesauro para Estudos de Gênero e Sobre Mulheres (Bruschini et al., 1998), and Lista Ariadne (Universidade de São Paulo, 2008);
- (2) gender studies literature—classical authors/readings, Brazilian gender studies, and contemporary new discussions;
- (3) bibliometric gender studies—an extensive literature review of previous related works was carried out, with special attention given to studies on the Brazilian context

¹ A detailed description of the database tests and final choices can be found in Hoppen (2021), chapter 3.1 (pp. 94–99).

- (Andrade et al., 2019; Brilhante et al., 2016; Bufrem & Nascimento, 2012; Devede et al., 2011; Espírito Santo, 2008; Hoppen & Vanz, 2020; Medeiros et al., 2020; Narvaz, 2009; Söderlund & Madison, 2015; Tomaz, 2015);
- (4) the participation of an author of the present study—(a) in a postgraduate gender studies course held at Universidade Federal do Rio Grande do Sul in 2016, (b) participation in gender studies research, and (c) participation in gender studies social events, and (d) academic conferences.

The terms obtained from each of these sources were compiled, considered in relation to the Brazilian context, and then tested on the database used in this research (1Findr). Many adjustments and corrections were made during this process. It resulted in a new long list of terms that was broken into blocks according to the themes/subjects. After its creation, the list (the second version of the search expression) was validated by an expert researcher in the field of gender studies (who is also skilled in Library Sciences), who suggested the inclusion and exclusion of some terms. This new (third) version of the search expression was tested for two months on the database 1Findr and new adjustments were made. Finally, the fourth version was presented to a senior Brazilian gender studies expert who also made contributions (which were also tested and validated on 1Findr) resulting in the last version of the search expression.

As the database does not present a specific filter for the authors' country, filtering for country was performed based on the institution affiliation of authors. The complete search expression, including all terms and expressions used to identify the literature on gender studies and the Brazilian research institutions, which amounted to a long search expression, is available in the supplementary document (Supplementary file 1—Complete search strategy). Its main subject blocks are presented below:

- a. name of the area/field;
- b. the word gender, which excluded several disciplines in the health sciences;
- c. the terms female, male, sex etc., which also excluded some disciplines;
- d. the same for other terms related to sexuality and gender identity;
- e. feminism and related adjectives;
- f. expressions related to mother, maternity, paternity and others, excluding several disciplines that recovered research irrelevant to our study;
- g. terms related to queer studies;
- h. expressions related to gender violence;
- i. expressions related to work;
- j. and, finally, titles of Brazilian journals that only publish gender studies (retrieved and incorporated into the research corpus only if they met the other criteria, such as at least one author being affiliated with an institution in Brazil).

Because of the special attention given to make the search expression as relevant and exhaustive as possible (in relation to our research object), the complete expression turned too heavy and complex to be run in the user interface. Therefore, the full search strategy was sent to developers of the database, who ran it in January 2020, and it returned 32,105 documents in JSON (JavaScript Object Notation) format. After conversion to CSV (comma-separated values) format, 496 articles were excluded as they were not relevant to this study. Then, we started more detailed data analysis and cleaned and standardized the data. In areas where publication formats are flexible, this step is, in addition to being

fundamental, extensive. The cleansing of personal author names, institution names, and keywords was performed in Microsoft Excel.

To standardize the names of individuals, we consulted a second research source, Plataforma de Currículos Lattes [Lattes Platform] (Brasil, n.d.). Lattes is an official database maintained by the Brazilian government to reunite information about all research groups, projects, institutions, and people. Plataforma de Currículos Lattes registers the academic trajectory of all researchers affiliated with Brazilian institutions with information on recent and past academic publications; academic, educational, and professional background; academic and research projects; lectures and participation in conferences; participation in journal editorial boards, and other information pertinent to the academic world. The name standardization was applied to all spellings that had more than six occurrences, which reduced the number of spellings of authors' names from 60,396 to 59,311.

We also observed the need to correct and clean some names of institutions, as well as to group the names of university hospitals with their corresponding universities. In addition to cleaning and standardization, information that was missing in the original database was included for each of the institutions: their city, the official acronym, their state (these two added for Brazilian institutions), and country. To do so, information available on the official portals of each institution was used as a source, and all procedures were performed for all institutions that appeared in the search, and not just for the most frequent ones.

At the end of these preparatory analyses including cleaning, standardization, and data addition, a base file with the metadata of 31,609 articles on Brazilian gender studies (BGS) was created. This file will be made available in an open research data archive. The analyses were performed in relation to different aspects of the data, based on bibliometric indicators of scientific activity, collaboration, and thematic association. When pertinent, the analyses were performed with absolute data and with relative data.

Because of the large amount of data, we analyzed the data by breaking it down by decades from 1971: 1971–1980 (1970s), 1981–1990 (80 s), 1991–2000 (90 s), and 2001–2010 (2000s), reaching four full decades. The fifth and last one is incomplete (2011–2019) as the data were downloaded in January 2020. We call it the 2010s, but we must take this limitation into account when analyzing the results. For growth analysis (number of articles per year), we discarded the last two years, 2018 and 2019, which is a usual procedure in bibliometric analysis due to the possibility of delay in journal publications or in the indexing of the most recent articles. The analysis based on decades makes it possible to assess the evolution of the area.

Several software programs were used to manipulate and analyze the data, Microsoft Excel, BibExcel, VOSviewer Bibliometrix, and Biblioshiny, and were used for thematic association and keywords analyses and for some analyses with more than two variables. Finally, Philcarto, a cartographic software, was used to create maps of Brazil.

For collaboration analyses, *visualization of similarities* (VOS) was used, which is available in the software VOSviewer (van Eck & Waltman, 2007, 2010). It reports the similarities or differences between the objects analyzed through the proximity/distance between them. Thus, not only is the grouping of institutions relevant, but the distance between an institution and the others within its cluster is also relevant.

For geographic analyses, the size of the country or of the population was used to relativize the results. Luukkonen et al. (1993) proposed that collaboration strength measurement must be relativized by the number of articles of each research agent, for example, from each country. To do so, the numbers of individual production and joint production (in collaboration) of each location were used. IFindr, however, does not allow searching for the authors' address, which, consequently, does not allow us to observe the number of articles

in gender studies in each country in the database. To circumvent this limitation, we used other data collected from the same source: the presence/size of each country in gender studies, based on *publisher's country*, which is the country that edits/publishes the journal in which the article was published. It is a relative measurement that also indicates the scientific capacity of nations in the area studied.

Thus, to move forward in the analysis of the collaboration among countries performed with relative data, the same search strategy was used to retrieve articles on gender studies, considering the entire database (with no filter for Brazilian institutions), and each country's data were collected as the *publisher's country*. Subsequently, the number of places from which the total articles were retrieved based on the information available in the *publisher's country* and the total of articles with international coauthors from each country were equated. The number of Brazilian articles published in other countries does not exceed numbers in hundreds. Given that Brazil had 67,309 articles as the publishing country, a division by 100 is necessary to reach the same numerical place ($67,309/100=673.09$), and the same was done to obtain the value of each country.² In the following equation, as well as in Table 8, CBRy indicates the number of articles published in collaboration (C) between Brazil and each country (y); Py shows the number of *publisher's country* for each country that collaborated with Brazil; and FBRy shows the collaboration strength (F) between Brazil and each country in order of intensity. The final equation is given as follows:

$$\text{FBRy} = \text{CBRy} / \sqrt{(673.09 \cdot [\text{Py}/100])}$$

Results and discussion

Volume of publication, and articles' general characteristics

The academic literature on gender studies in Brazil considers the thesis defended by researcher Heleieth Saffioti in 1967 as the pioneering work in the area in the country (Pinto, 2003; Schuck, 2018). We did not filter the results according to an initial date during the search of the database as we tried to identify when the publication of articles in the area started, thus rectifying or ratifying Saffioti's pioneering title. Only two articles prior to 1967 were identified. The first is in neuropsychiatry, from 1959 (Uchoa, 1959), and uses the concept of gender connected to sexual identity and as a form to pathologize what it considers "deviant behavior" (something that is criticized within gender studies). The second is a work in the area of anthropology, from 1961 (Coelho, 1961), where gender is used to differentiate social behaviors of two shamans of a tribe; however, that is done very briefly, with gender not being discussed in detail in the work. In Saffioti's work (1976),³ on the other hand, questions surrounding gender are the main point of discussion, making it clear that the author's theoretical premises are constituted as gender studies. Thus, the research ratifies Saffioti's work as the first in the area in Brazil. The complete data corpus

² This adaptation of Luukonen et al.'s collaborative strength (1993) was endorsed in consultation with the Statistical Advisory Center of Universidade Federal do Rio Grande do Sul (NAE UFRGS).

³ Currently, we can access the book based on Saffioti's thesis. The second edition dates back to 1976 (Saffioti, 1976).

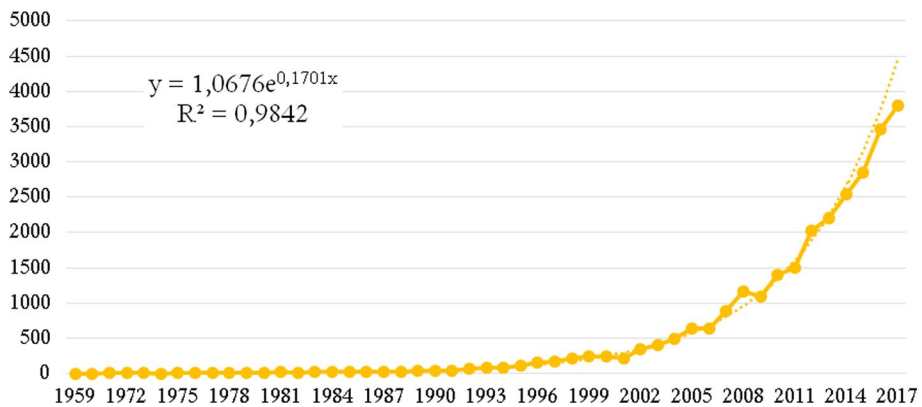


Fig. 1 Growth in the number of Brazilian gender studies articles (until 2017). Source: Research data

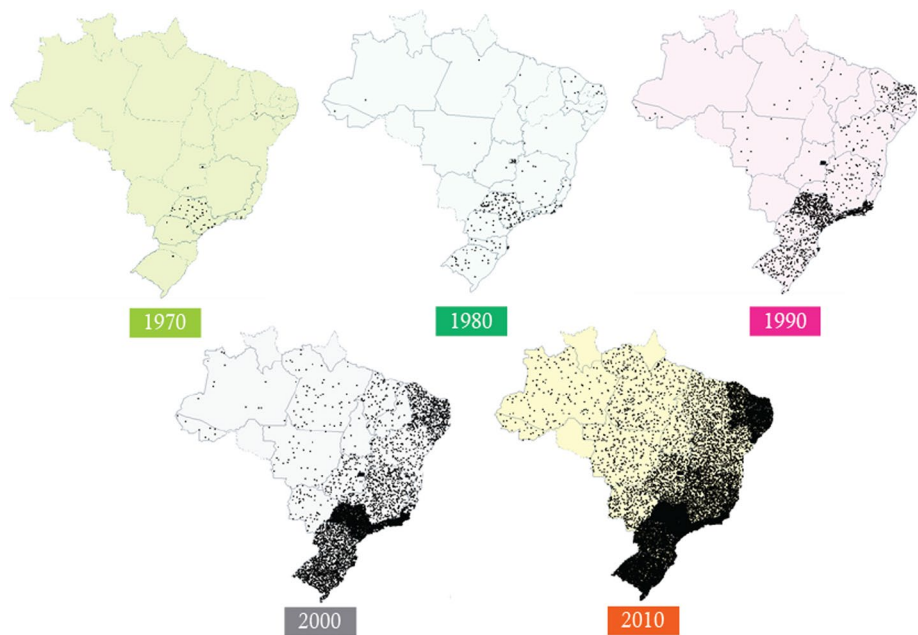


Fig. 2 Distribution of articles in gender studies per Brazilian state by decade (1971–2019), $n=31,609$. Source: Research data

is up to 2019. To calculate growth, we disregarded the last 2 years due to possible delays in publication and indexing (Fig. 1).

Figure 2 shows the distribution of articles on gender studies in the Brazilian states according to each decade. We can observe that the research in the area, in addition to growth in volume, spreads across the Brazilian states.

The number of authors per publication also grows every decade, a phenomenon that has been occurring in several areas of knowledge and in science in general, in which

Table 1 Descriptive statistics of the number of authorships (authors and institutions) per article; comparison between decades and specialized journals (REF and Cadernos Pagu), $n=31,609$

Unit of measurement	1970s	1980s	1990s	2000s	2010s	REF	Cad Pagu
<i>Authors (individuals)</i>							
One author	44.9%	44.26%	51.14%	39.39%	33.66%	71.75%	73.41%
Average	2.27	2.77	2.66	2.72	2.83	1.48	1.59
Median	2	2	1	2	2	1	1
Mode	1	1	1	1	1	1	1
Amplitude	6	23	45	104	75	14	12
Std. deviation	1.60	2.77	3.06	3.05	2.91	1.18	1.29
<i>Institutions</i>							
One institution	91.84%	84.68%	84.66%	80.57%	77.35%	90.77%	90.66%
Average	1.10	1.26	1.25	1.27	1.34	1.15	1.11
Median	1	1	1	1	1	1	1
Mode	1	1	1	1	1	1	1
Amplitude	2	6	7	22	42	7	3
Std. deviation	0.37	0.79	0.72	0.78	1.03	0.61	0.35

Source: Research data

collaboration has been stimulated (Beaver, 2001; Wuchty et al., 2007). Only in the 1990s a slight decline was observed, from 2.77 authors on average in the 1980s to 2.66 in the 1990s, which is explained by the amount of researchers from the social sciences and humanities who started publishing articles on gender studies in the 1990s. Social sciences and humanities are research areas in which the literature indicates less collaboration (Meadows, 1999; Wuchty et al., 2007). This finding can also be a result of the fact that the first two (and still active) journals that specialized in gender studies in the country, founded in the 1990s by researchers in the human and social sciences, have a smaller number of authors per article: 1.48 authors per article on average in the journal *Revista de Estudos Feministas* (REF) and 1.59 in *Cadernos Pagu* (calculations realized in relation to the entire period in which these journals have been publishing). For comparison, Vanz and Stumpf (2012a) found an average of 6.3 authors per Brazilian article published between 2004 and 2006 in all areas.

In every decade and for both journals, the mode is one, that is, there is one author per article, with no collaboration. The percentage of single authorship decreases over time, going from 44.9% in the 1970s to 33.66% in the 2010s, except in the 1990s, when they reached more than half of the articles (51.14%).

Collaboration among different institutions has also increased over time in research on gender studies; however, most articles are authored by one single research entity. In this scenario, the 1990s are statistically equal to the previous decade, although the amplitude increases, in that a single article has people who are associated with up to seven different institutions in the 1980s and to eight institutions in the 1990s. In journals specialized in the area, institutional collaboration is a rare phenomenon, as we can see in the second half of Table 1, which shows the number of institutions per article.

International collaboration is also rare, with only 6.76% of the total of Brazilian gender studies articles written with international collaboration. For comparison, Cross, Thomson, and Sinclair (2018) state that around 1/3 Brazilian papers between 2011 and 2016 had at least one foreign collaborator. Therefore, international collaboration in gender studies is

considerably small if compared to that in other areas of research in Brazil; however, the number is significant if we consider that coauthoring itself is not as common a practice in this area as in others: in neuroscience, for example, 98.57% of the articles present some level of collaboration (Hoppen & Vanz, 2016). Collaborating countries and research institutions will be further discussed in a later subsection.

Languages and journals

Another characteristic that distinguishes gender studies from other research areas in Brazil is the language and journals adopted for publication. Both aspects directly affect the audience and the reach of the publication. Scientific journals and the databases where they are indexed have stimulated the use of English as a means to reach a wider audience and to “internationalize” research. In Brazil, as well as in several other countries around the world, evaluation of graduate programs and of programs for research funding encourage researchers to publish in foreign journals.

Such stimuli are aligned with papers whose research topics are of global interest. In contrast, it is not uncommon that research topics in areas related to the social sciences and humanities be more limited and oriented toward analyzing research phenomena specific to certain regions; that is, they are of local interest. Thus, there exists a preference for using local languages and journals (Nederhof, 2006). Regarding articles on Brazilian gender studies, the data show predominance of Portuguese language (74.3%, followed by English, 22.32%; Spanish, 3.12%; and French, German, and Italian, with less than 1% each); and of national journals (Tables 2 and 3), with less than 50% articles published in national journals in the 1970s and 1980s, 61.13% in the 1990s, 69.27% in the 2000s, and 77.07% from 2011 onwards.

Regarding journals, a preference for publishing nationally can be observed when we analyze the journals with the highest number of articles. Of the 98 journals analyzed in this research that published the highest number of articles in our corpus, only two are foreign journals. Together, these 98 journals published 41.92% of the articles. Furthermore, 31,609 articles were published in 3611 different journals, while 1472 journals published only one article.

When we consider the journals with more articles per decade (Hoppen, 2021), we can understand the importance of the creation of the two first Brazilian journals specialized in the area, the aforementioned *Revista de Estudos Feministas* (released in 1992) and *Cadernos Pagu* (1993). Both are in the top two positions since their origin in the 1990s and are graded among the best stratum within Qualis, which is a journal classification used in the Brazilian science evaluation system. Qualis starts at A1, which is the stratum assigned to the best journals, followed by A2 (second best rating), B1, B2, B3, B4, and finally C, which is the stratum for non-scientific journals. Furthermore, most journals are published in cities in the Southeastern and Southern states of Brazil. The same is true for institutions to which researchers are affiliated, whose production is also concentrated in the institutions from those states (since the publication of the first article in gender studies).

Research institutions

In this section, we analyze the most relevant institutions according to the complete dataset. Subsequently, we analyze the changes that took place over the decades. Collaboration among institutions (national and foreign) is also analyzed under some of these perspectives.

Table 2 Publication language of Brazilian gender articles per decade

Languages	Art	%
1970s		
English	13	65
Portuguese	7	35
<i>Total: 20 of 49 articles (40.82%)</i>		
1980s		
English	69	57.5
Portuguese	51	42.5
<i>Total: 120 of 235 articles (51.06%)</i>		
1990s		
Portuguese	519	61.13
English	317	37.34
Spanish	9	1.06
French	4	0.47
<i>Total: 849 of 1408 articles (60.3%)</i>		
2000s		
Portuguese	2701	69.27
English	1074	27.55
Spanish	103	2.64
French	20	0.51
German	1	0.03
Total		
<i>3899 articles of 7278 (53.57%)</i>		
2010s (~2019)		
Portuguese	9864	77.07
English	2475	19.34
Spanish	440	3.44
French	16	0.13
German	2	0.02
Italian	2	0.02
<i>Total: 12,799 articles of 22,637 (56.54%)</i>		

Source: Research data

We observed that 1141 institutions sign articles of Brazilian gender studies, including Brazilian institutions and foreign collaborators. Table 4 presents the institutions that published 400 or more articles during the period analyzed in this research, as well as their location, acronym, and region. We identified four types of institutions: public universities (subdivided into the three Brazilian government spheres: federal, state, and municipal or community); private universities; other types of public institutions in the federal or state scope, such as foundations and other institutions linked to state departments; and, finally, foreign or international institutions, which can be universities or other types of research and intergovernmental institutions.

Most institutions are Brazilian public universities, most of which fall within the federal scope, followed by the state scope, and then the municipal or community scope. Public

Table 3 Journals with ≥ 100 Brazilian articles in women's and gender studies, 1959–2019

Journal	Art	%	Institution	City	Language(s)	Qualis	Area(s)
Revista Estudos Feministas	1246	3.94%	UFSC	Florianópolis (BR)	POR	A1	Anthropology, education, history, interdisciplinary, languages
Cadernos Pagu	899	2.84%	UNICAMP	Campinas (BR)	POR, ENG, SPA	A1	Anthropology, law, interdisciplinary, languages, sociology
Cadernos de Saúde Pública	490	1.55%	FIOCRUZ	Rio de Janeiro (BR)	POR	A1	Political science, urban planning, social work, sociology
Rev. Enfermagem UFPE On Line	409	1.29%	UFPE	Recife (BR)	POR	B2	Nursing
Rev. Bras. Ginecologia e Obstetrícia	393	1.24%	FEBRASCO	São Paulo (BR)	POR, ENG, SPA	B1	Education, nursing, interdisciplinary, psychology, social work
Em Tese (Belo Horizonte)	362	1.15%	UFMG	Belo Horizonte (BR)	POR	B1	Languages
Ciência & Saúde Coletiva	305	0.96%	Assoc. Bras. Saúde Coletiva	Rio de Janeiro (BR)	POR, ENG	A1	Teaching, social work, sociology
Revista de Saúde Pública	304	0.96%	USP	São Paulo (BR)	POR, ENG	A1	Urban planning
Rev. Bras. Enfermagem	267	0.84%	Assoc. Bras. Enfermagem	Brasília (BR)	POR, ENG, SPA	A2	Nursing, psychology
Gênero (Niterói)	243	0.77%	UFF	Niterói (BR)	POR	B2	Teaching
Revista Educação em Questão	239	0.76%	UFRN	Natal (BR)	POR, ENG, SPA	A2	Education, teaching
Caderno Espaço Feminino	220	0.70%	UFU	Uberlândia (BR)	POR, ENG	B2	Anthropology
Journal de Pediatria	213	0.67%	Sociedade Bras. Pediatria	Porto Alegre (BR)	POR, ENG	A1	Physical education
Rev. Escola de Enfermagem da USP	213	0.67%	USP	São Paulo (BR)	POR, ENG, SPA	A2	Education, nursing, psychology
Rev. Latino-Am. de Geografia e Gênero	208	0.66%	UEPG	Ponta Grossa (BR)	POR, SPA	B1	Geography
Rev. de Pesquisa: cuidado é fundamental	201	0.64%	UNIRIO	Rio de Janeiro (BR)	POR, ENG, SPA	B2	Law, nursing, interdisciplinary, psychology, social work
Revista Linhas	197	0.62%	UDESC	Florianópolis (BR)	POR	B1	Teaching, languages
Rev. Latino-Americana de Enfermagem	195	0.62%	USP	Ribeirão Preto (BR)	POR, ENG, SPA	A1	Nursing
Escola Anna Nery	167	0.53%	UFRJ	Rio de Janeiro (BR)	POR, ENG, SPA	A2	Teaching

Table 3 (continued)

Journal	Art	%	Institution	City	Language(s)	Qualis	Area(s)
Revista Gaúcha de Enfermagem	156	0.49%	UFRGS	Porto Alegre (BR)	POR	B1	Environmental sciences, law, education, nursing, interdisciplinary, psychology
Rev Rene	154	0.49%	UFCE	Fortaleza (BR)	POR, ENG, SPA	B1	nursing
Psicologia em Estudo (UEM)	153	0.48%	UEM	Maringá (BR)	POR, ENG, SPA, FR, IT	A1	Psychology
Psicologia: teoria e pesquisa	149	0.47%	UNB	Brasília (BR)	POR, ENG, SPA, FR	A1	Education, interdisciplinary, psychology
Texto & Contexto—Enfermagem	143	0.45%	UFSC	Florianópolis (BR)	POR	A2	Nursing
Mediações: rev. ciências sociais	140	0.44%	UEL	Londrina (BR)	POR, ENG	B1	Anthropology, education, urban planning, sociology
Rev. Bras. Saúde Materno Infantil	138	0.44%	IMIP	Boa Vista (BR)	POR, ENG	B1	Education, nursing, interdisciplinary, public health
Sexualidad Salud y Sociedad (RJ)	131	0.41%	UERJ	Rio de Janeiro (BR)	SPA, POR	A2	Languages
Estudos de Psicologia (Campinas)	129	0.41%	PUC-Campinas	Campinas (BR)	POR, ENG, SPA	A1	Psychology
Rev. Eletrônica de Enfermagem	124	0.39%	UFG	Goiania (BR)	POR, ENG, SPA	B1	Nursing, teaching, psychology
Psicologia: reflexão e crítica	120	0.38%	UFRGS	Porto Alegre (BR)	POR	A1	Education, interdisciplinary, psychology
Saúde e Sociedade	120	0.38%	USP	São Paulo (BR)	POR, ENG	A1	Political science, teaching
Psicologia e Sociedade	117	0.37%	Assoc. Bras. Psic. Social/PUC-MG	Belo Horizonte (BR)	POR	A2	Education, teaching, philosophy, interdisciplinary, psychology, social work, sociology
Cadernos de Pesquisa (FCC)	112	0.35%	FCC	São Paulo (BR)	POR, ENG, SPA, FR	A1	Political science, education, teaching
Online Brazilian J. of Nursing	109	0.34%	UFF	Niterói (BR)	POR, ENG	B1	Environmental sciences, nursing, psychology

Table 3 (continued)

Journal	Art	%	Institution	City	Language(s)	Qualis	Area(s)
Rev. Bras. em Promoção da Saúde	108	0.34%	UNIFOR	Fortaleza (BR)	POR, ENG, SPA	B1	Teaching, psychology, social work
Ciência, Cuidado e Saúde	105	0.33%	UEM	Maringá (BR)	POR, ENG, SPA	B2	Education, nursing, social work
ACTA Paulista de Enfermagem	104	0.33%	UNIFESP	São Paulo (BR)	POR	A1	Education
Paidéia (Ribeirão Preto)	104	0.33%	USP	Ribeirão Preto (BR)	POR, ENG, SPA	A1	Education, interdisciplinary, psychology
Revista Direito e Práxis	104	0.33%	UERJ	Rio de Janeiro (BR)	POR	A1	Law
Interface: comunicação, saúde, educação	102	0.32%	UNESP	Botucatu (BR)	POR, ENG, SPA	A2	com. and information, education, interdisciplinary, languages, urban planning, psychology
Cadernos de Gênero e Diversidade	100	0.32%	UFBA	Salvador (BR)	POR, ENG, SPA	B4	Anthropology, sociology

Source: Research data

Table 4 Institutions that published ≥ 400 Brazilian gender studies articles, 1959–2019

Institution	#	%	Acronym	Location	Region
Universidade de São Paulo	3713	11.75	USP	São Paulo, SP	Southeast
Universidade Federal de Santa Catarina	1824	5.77	UFSC	Florianópolis, SC	South
Universidade Federal do Rio Grande do Sul	1805	5.71	UFRGS	Porto Alegre, RS	South
Universidade Estadual de Campinas	1691	5.35	UNICAMP	Campinas, SP	Southeast
Universidade Federal de Minas Gerais	1488	4.71	UFMG	Belo Horizonte, MG	Southeast
Universidade Federal do Rio de Janeiro	1446	4.58	UFRJ	Rio de Janeiro, RJ	Southeast
Universidade do Estado do Rio de Janeiro	1276	4.04	UERJ	Rio de Janeiro, RJ	Southeast
Univ. Estadual Paulista Júlio de Mesquita Filho	1181	3.74	UNESP	São Paulo, SP	Southeast
Universidade Federal da Bahia	1015	3.21	UFBA	Salvador, BA	Northeast
Universidade de Brasília	1014	3.21	UNB	Brasília, DF	Midwest
Universidade Federal Fluminense	909	2.88	UFF	Niterói, RJ	Southeast
Fundação Oswaldo Cruz	874	2.77	FIOCRUZ	Rio de Janeiro, RJ	Southeast
Universidade Federal de São Paulo	862	2.73	UNIFESP	São Paulo, SP	Southeast
Universidade Federal de Pernambuco	800	2.53	UFPE	Recife, PE	Northeast
Universidade Federal do Paraná	746	2.36	UFPR	Curitiba, PR	South
Universidade Federal da Paraíba	737	2.33	UFPB	João Pessoa, PB	Northeast
Universidade Federal de Santa Maria	699	2.21	UFSM	Santa Maria, RS	South
Universidade Federal do Ceará	687	2.17	UFCE	Fortaleza, CE	Northeast
Universidade Federal do Rio Grande do Norte	668	2.11	UFRN	Natal, RN	Northeast
Universidade Federal de Goiás	587	1.86	UFG	Goiânia, GO	Midwest
Universidade Estadual de Maringá	556	1.76	UEM	Maringá, PR	South
Universidade Federal de Pelotas	530	1.68	UFPEL	Pelotas, RS	South
Universidade Federal de São Carlos	503	1.59	UFSCAR	São Carlos, SP	Southeast
Universidade Estadual de Londrina	497	1.57	UEL	Londrina, PR	South
Pontifícia Univ. Católica do Rio Grande do Sul	453	1.43	PUC-RS	Porto Alegre, RS	South
Universidade Federal do Espírito Santo	400	1.27	UFES	Vitória, ES	Southeast

Source: Research data

universities are also a type of institution at the top of the list in terms of the number of published articles associated with them. A characteristic of the Brazilian science is that most of its research is carried out within public universities, which is found both in analyses of the “entire” Brazilian science (Leta et al., 2006, 2013) and in studies focused on specific areas (Coutinho et al., 2012; Menezes & Caregnato, 2018). These same studies also found that universities with the highest number of papers are those in the Southeast and South regions of Brazil, which is also true for gender studies: when analyzing a larger portion of institutions, i.e., those that published eight or more articles, of the 114 national institutions, 44 are from the Southeast and 26 from the South. Something that is interesting and that was not observed by the mentioned studies is that the number of institutions from the Northeast (among the most productive) closely follows the number of those from the South, reaching 25. However, institutions in the top positions of production are from the Southern region. Among the same 114 institutions, 11 are in the Midwest region and eight in the North.

Another constant in the bibliometric studies that analyze Brazilian research is the leadership position of Universidade de São Paulo (USP) as the most productive, which is no different from the findings of this research. Alone, it is responsible for more than 10% of all published articles in our corpus: 11.75%, or 3713 of 31,609. In 1996, Leta and De Meis found that USP was responsible for almost half of all national scientific production (Leta & De Meis, 1996). The smaller percentage observed in the current scenario (which was also observed in other studies) shows that this concentration has mellowed, although it is still present. New public universities were founded in regions far from state capitals through programs such as the Program to Support Restructuring and Expansion Plans of Brazilian Federal Universities (Programa de Apoio a Planos de Reestruturação e Expansão das Universidades Federais – REUNI), started in 2007, which corroborates the dissemination of research and education in all Brazilian regions.

Other traditionally very productive higher education institutions (HEIs) accompany USP in terms of the volume of articles: UFSC (which currently houses *Revista de Estudos Feministas*), followed by UFRGS, UNICAMP (responsible for the other journal, *Cadernos Pagu*), and UFMG. Two universities located in the city of Rio de Janeiro occupy the subsequent positions, UFRJ and UERJ, which are federal and state universities, respectively. The next institution is also a state public university, UNESP, which is located in São Paulo, followed by UFBA, the first university to offer an undergraduate program focused on the area: Bachelor of Gender and Diversity Studies, created in 2009. UFBA is the first institution outside the South/Southeast axis to appear on the list; it is located in the Northeast region and is followed by the first university located in the Midwest, UNB, in the Federal District, which is followed by UFF, the second HEI in a city that is not the capital of its state (located in Niterói, RJ, and the aforementioned UNESP, which has units in the capital and in several other cities in the state of São Paulo, such as Araraquara, Bauru, and Marília).

When checking the number of articles for science in general (every theme and area) in the same database and for the same period, the order in which the institutions appear is different: UNESP, UNICAMP, and UFRJ are better positioned, whereas UFSC and UFRGS lose their positions, which indicates that these two universities have a considerably higher focus on gender studies than others. The Ranking Universitário Folha (RUF) 2019 edition, which evaluates Brazilian universities according to their research productivity and other indicators (professors' academic titles, number of professors with CNPq research productivity scholarships, number of citations, and resources received, among others), ranks these same institutions in the following order: USP, UNICAMP, UFRJ, UFMG, UFRGS, UNESP, UFSC, UNB, and UFPE. UFBA is on the 14th place. Table 5 compares the rankings of HEIs according to their number of articles in gender studies, number of articles in all areas, and their positions according to RUF 2019.

Historically, in addition to public universities, other national institutions that are dedicated to research are government agencies (De Meis & Leta, 1996; Leta & De Meis, 1996); this result was also observed for the main institutions that published in gender studies in Brazil, although the number of publications was smaller than those from private universities. Some of these institutions are spread across several cities around the country. That is the case, for example, of Fundação Oswaldo Cruz (FIOCRUZ), located in the twelfth position among the institutions with the highest number of articles on women's and gender studies in Brazil.

According to Casani et al. (2014), the number of private higher education institutions has increased worldwide, especially since market mechanisms have started being incorporated into education, increasing the competitiveness in the higher education system. However, according to the authors, private HEIs, especially those that are for-profit, tend to

Table 5 Comparison of HEI in gender studies articles, general scientific production, and RUF (highest positions)

Gender studies		Science in general		RUF 2019*	
1	USP	1	USP	1	USP
2	UFSC	2	UNESP	2	UNICAMP
3	UFRGS	3	UNICAMP	3	UFRJ
4	UNICAMP	4	UFRJ	4	UFMG
5	UFMG	5	UFRGS	5	UFRGS
6	UFRJ	6	UFMG	6	UNESP
7	UERJ	7	UFSC	7	UFSC
8	UNESP	8	UNIFESP	8	UFPR
9	UFBA	9	UFPR	9	UNB
10	UNB	10	UNB	10	UFPE
11	UFF	11	UERJ	11	UFCE
12	FIOCRUZ	12	EMBRAPA	12	UFSCAR
13	UNIFESP	13	UFPE	13	UERJ
14	UFPE	14	FIOCRUZ	14	UFBA
15	UFPR	15	UFSC	15	UFV
16	UFPB	16	UFF	16	UNIFESP
17	UFSC	17	UFSCAR	17	UFF
18	UFCE	18	UFCE	18	PUC-RS
19	UFRN	19	UFBA	19	PUC-RJ
20	UFG	20	UFV	20	UFG
21	UEM	21	UEM	21	UFSC
22	UFPEL	22	UFG	22	UFRN
23	UFSCAR	23	UFPB	23	UEL
24	UEL	24	UFRN	24	UEM
25	PUC-RS	25	UEL	25	UFU
26	UFES	26	UFPEL	26	UFJF
27	FURG	27	UFU	27	UFES
28	UFPA	28	PUC-RS	28	UFLA
29	UNISINOS	29	UFPA	29	UFPA
30	UDESC	30	UFES	30	PUC-PR

RUF does not cover institutions such as FIOCRUZ and EMBRAPA, which are present in the other columns

Source: Research data and Ranking Universitário Folha (2018)

invest with less intensity in research, focusing only on teaching (especially in programs that requires less infrastructure), which makes their contribution to the public good scarcer, thus deviating from the university mission. Regarding research on gender studies in Brazil, however, Brazilian private HEIs are the second type of institution with more published articles in the area. The most frequent institutions, identified in the analysis of the 114 most productive institutions (in number of articles), are all universities. In Brazil, universities must encompass teaching, research, and community actions.

The last type of institution identified was foreign institutions, including some international and intergovernmental institutions. Most foreign institutions that sign as coauthor in Brazilian gender studies (thus, collaborating with Brazilian institutions) are North American or European universities. Among the analyzed institutions with more than eight

articles, 32 are from the United States, 11 from the United Kingdom, 10 from Canada, and seven from Portugal and Spain. Among the European countries, there are institutions from Italy, Belgium, Switzerland, Germany, and Sweden. From Oceania, there are organizations mainly from Australia, but also from New Zealand, and in Asia, from China and Thailand. Only South Africa from Africa is included, and from Central America, only Mexico is included. Among the neighboring South American countries, the list includes institutions from Argentina, Colombia, and Uruguay.

There are organizations linked to the government of foreign countries, such as the *Consejo Nacional de Investigaciones Científicas y Técnicas* in Argentina, the *Centre National de la Recherche Scientifique* in France, and the *Consiglio Nazionale delle Ricerche* in Italy, which are similar to CNPq in some aspects. Among the international intergovernmental organizations, we have the World Health Organization (WHO), two institutions affiliated with the United Nations (UN), the *United Nations Development Program* and UNICEF, as well as the World Bank. The nations mentioned are the ones that have institutions that present the highest number of articles in gender studies in collaboration with Brazil; however, there are over 80 countries and territories around the world that have collaborated with Brazil in a coauthorship format, which is discussed in a specific section dedicated to international collaboration.

The analysis of institutions per decade, since the 1970s, provides further information. In Tables 6 and 7, the number of institutions shown in each decade is proportional to the number of institutions and articles that exist in each period, respectively, in the lists, approximately 80% of the total number of studies published in each decade. The percentage refers to the proportion of articles in relation to the total of articles in the period.

When analyzing institutions per decade, we can see that USP has led as the most productive HEI since the 1970s, and even before, because the two “gender pre-studies” were both written by authors affiliated to USP. However, its percentage of publications, which reached almost 60% in the 1970s, decreased over time as other new institutions started publishing in the area, reaching less than 10% of the total amount of articles in gender studies, 9.44%, by 2010, although this number is still significantly higher than the one reached by the institution in second place, UFRGS, which published 5.13% of the Brazilian articles in gender studies in this decade (see the tables next). UFRGS and the other HEIs broadened their research scopes and interest in gender studies, which also explains USP’s “decline”. Furthermore, notably, the most traditional HEIs, where most of the scientific production is concentrated, are sharing space with other research institutions from different parts of the country.

Some institutions are always in the top positions: in addition to USP, the top institutions are UNICAMP, UFRJ, UFSC, and UFRGS. As already mentioned, UFSC and UNICAMP are the universities to which the most traditional journals in the area are affiliated. The rise of UNICAMP to the second place in the list of institutions that published the most articles in the 1990s may be linked to the creation of Núcleo de Estudos de Gênero – Pagu (Pagu Gender Studies Center), as well as to the creation of the journal *Cadernos Pagu*, which is also linked to the research group.

REF was launched at UFRJ (*Revista Estudos Feministas*, 2020) and seven years later moved to UFSC. Thus, the connections of UFRJ, UFSC and UNICAMP with journals in the area gives us clues as to why these three universities are always among the ones that publish the most articles: there is proximity with the area, which can be observed as they launched or hosted the pioneer journals.

In USP’s case, the clearest evidence regarding its position among the institutions with the highest number of women’s and gender studies published, since the field’s inception

Table 6 Institutions that published the most Brazilian gender studies, 1970s, 1980s, and 1990s, $n = 31,609$

Institution	#	%	Type	Location
<i>1970s</i>				
USP	29	59.18	St.PU	São Paulo, SP
UNIFESP	5	10.20	Fed.PU	São Paulo, SP
UFPR	4	8.16	Fed.PU	Curitiba, PR
UFRJ	3	6.12	Fed.PU	Rio de Janeiro, RJ
UNICAMP	2	4.08	St.PU	Campinas, SP
UFPE	2	4.08	Fed.PU	Recife, PE
<i>1980s</i>				
USP	85	36.17	St.PU	São Paulo, SP
UFSC	18	7.66	Fed.PU	Florianópolis, SC
UNICAMP	16	6.81	St.PU	Campinas, SP
UNB	14	5.96	Fed.PU	Brasília, DF
UFMG	14	5.96	Fed.PU	Belo Horizonte, MG
UFRGS	10	4.26	Fed.PU	Porto Alegre, RS
UFRJ	9	3.83	Fed.PU	Rio de Janeiro, RJ
UNIFESP	9	3.83	Fed.PU	São Paulo, SP
UFPR	8	3.40	Fed.PU	Curitiba, PR
UFRN	6	2.55	Fed.PU	Natal, RN
UNESP	6	2.55	St.PU	São Paulo, SP
UFPEL	6	2.55	Fed.PU	Pelotas, RS
FIOCRUZ	5	2.13	Fed.PO	Rio de Janeiro, RJ
ULBRA	5	2.13	Priv.U	Canoas, RS
UEL	5	2.13	St.PU	Londrina, PR
UFBA	4	1.70	Fed.PU	Salvador, BA
LSHTM-UK	4	1.70	For.U	London, UK
UFCE	4	1.70	Fed.PU	Fortaleza, CE
<i>1990s</i>				
USP	299	21.24	St.PU	São Paulo, SP
UNICAMP	170	12.07	St.PU	Campinas, SP
UFSC	127	9.02	Fed.PU	Florianópolis, SC
UFRJ	91	6.46	Fed.PU	Rio de Janeiro, RJ
UFRGS	80	5.68	Fed.PU	Porto Alegre, RS
UNIFESP	62	4.40	Fed.PU	São Paulo, SP
UERJ	60	4.26	St.PU	Rio de Janeiro, RJ
FIOCRUZ	58	4.12	Fed.PO	Rio de Janeiro, RJ
UFMG	54	3.84	Fed.PU	Belo Horizonte, MG
UNB	53	3.76	Fed.PU	Brasília, DF
UFRN	51	3.62	Fed.PU	Natal, RN
UNESP	50	3.55	St.PU	São Paulo, SP
UFBA	44	3.13	Fed.PU	Salvador, BA
UEL	34	2.41	St.PU	Londrina, PR
UFF	33	2.34	Fed.PU	Niterói, RJ
PUC-SP	28	1.99	Priv.U	São Paulo, SP
ULBRA	21	1.49	Priv.U	Canoas, RS
UFPEL	19	1.35	Fed.PU	Pelotas, RS
UFPR	19	1.35	Fed.PU	Curitiba, PR

Table 6 (continued)

Institution	#	%	Type	Location
UFCE	17	1.21	Fed.PU	Fortaleza, CE
PUC-RS	16	1.14	Priv.U	Porto Alegre, RS
UFPB	13	0.92	Fed.PU	João Pessoa, PB
UFPE	12	0.85	Fed.PU	Recife, PE
UFSCAR	11	0.78	Fed.PU	São Carlos, SP
FURG	10	0.71	Fed.PU	Rio Grande, RS
UFSM	10	0.71	Fed.PU	Santa Maria, RS
LSHTM-UK	10	0.71	For.U	London, UK
UEM	10	0.71	St.PU	Maringá, PR

St.PU State Public University, *Fed.PU* Federal Public University, *Fed.PO* Federal Public Organization, *Priv.U* Private University, *For.U* Foreign University

Source: Research data

and during its development in the country, is probably linked to the fact that USP is, historically, the institution with the greatest research tradition in Brazil. It is the institution that first formed its intellectual capital, and it is also the university where several professors who were already teaching or came to teach at other major Brazilian universities graduated or earned their doctorates. USP leads university rankings and is often among the “main” research institutions in Latin America and the world. In gender studies, it is the institution that collaborates the most with other institutions, which highlights its central role (see the following analysis). The fact that USP is located in the richest Brazilian state, that invests the most in research in the country, is certainly something that has helped achieve that result.

Collaboration groups

This section presents the partnerships developed in Brazilian research in women’s and gender studies through data on the coauthorship of articles. Given that the research spans a long period of time, almost five decades, the cluster analysis of all data focused on partnerships among research entities by decade. Statistical analyses of the evolution of inter-institutional collaborations have already been reported in the first results section, which presented the general characteristics.

The same organizations present in the tables that showed the most productive institutions per decade (Tables 6 and 7) were analyzed in relation to their collaboration. In the 1970s, there was almost no collaboration among institutions. We had to include every institution that published in that decade (and not just those in the table) to make a map (however, only the institutions that published works in collaboration are shown in the map). Two clusters were formed, and the map below shows the group comprising institutions with the highest number of articles, centered with USP in partnership with UNIFESP and other foreign institutions. Source: Research data.

In the 1980s, there were four groups. The cluster in the center (with USP) collaborates with all other groups. In the 1990s, with an increase in support for scientific production in the area, several institutions established partnerships, and the scenario became more complex, leading to seven groups. UFRJ and USP were among the institutions with the highest number of connections and, therefore, were the ones at the center of the map: USP is in

Table 7 Institutions that published the most Brazilian gender studies, 2000s and 2010s, $n=31,609$

Institution	#	%	Type	Location
<i>2000s</i>				
USP	1161	15.95	St.PU	São Paulo, SP
UNICAMP	555	7.63	St.PU	Campinas, SP
UFSC	515	7.08	Fed.PU	Florianópolis, SC
UFRGS	513	7.05	Fed.PU	Porto Alegre, RS
UFRJ	365	5.02	Fed.PU	Rio de Janeiro, RJ
UFMG	352	4.84	Fed.PU	Belo Horizonte, MG
UERJ	313	4.30	St.PU	Rio de Janeiro, RJ
UNESP	300	4.12	St.PU	São Paulo, SP
UNIFESP	253	3.48	Fed.PU	São Paulo, SP
FIOCRUZ	246	3.38	Fed.PO	Rio de Janeiro, RJ
UNB	223	3.06	Fed.PU	Brasília, DF
UFBA	195	2.68	Fed.PU	Salvador, BA
UFF	191	2.62	Fed.PU	Niterói, RJ
UFPE	150	2.06	Fed.PU	Recife, PE
UEM	147	2.02	St.PU	Maringá, PR
UFPR	138	1.90	Fed.PU	Curitiba, PR
UFCE	138	1.90	Fed.PU	Fortaleza, CE
UFRN	137	1.88	Fed.PU	Natal, RN
UEL	132	1.81	St.PU	Londrina, PR
UFSCAR	110	1.51	Fed.PU	São Carlos, SP
UFG	106	1.46	Fed.PU	Goiânia, GO
UFPB	95	1.31	Fed.PU	João Pessoa, PB
UNISINOS	90	1.24	Priv.U	São Leopoldo, RS
UFPEL	88	1.21	Fed.PU	Pelotas, RS
PUC-RS	84	1.15	Priv.U	Porto Alegre, RS
PUC-SP	82	1.13	Priv.U	São Paulo, SP
UDESC	80	1.10	St.PU	Florianópolis, SC
ULBRA	78	1.07	Priv.U	Canoas, RS
UFMS	78	1.07	Fed.PU	Santa Maria, RS
UFMA	75	1.03	Fed.PU	São Luís, MA
UFES	69	0.95	Fed.PU	Vitória, ES
FURG	68	0.93	Fed.PU	Rio Grande, RS
UFPA	54	0.74	Fed.PU	Belém, PA
PUC-RJ	53	0.73	Priv.U	Rio de Janeiro, RJ
UEPG	50	0.69	St.PU	Ponta Grossa, PR
PUC-MG	44	0.60	Priv.U	Belo Horizonte, MG
UC-USA	43	0.59	For.U	Oakland, USA
UNIFOR	43	0.59	Priv.U	Fortaleza, CE
UFU	43	0.59	Fed.PU	Uberlândia, MG
UFS	41	0.56	Fed.PU	São Cristóvão, SE
UFAL	39	0.54	Fed.PU	Maceió, AL
UFJF	39	0.54	Fed.PU	Juiz de Fora, MG
UFMS	38	0.52	Fed.PU	Campo Grande, MS
UFV	35	0.48	Fed.PU	Viçosa, MG
WHO	33	0.45	For.O	Geneva, Suíça
CNPq	33	0.45	Fed.PO	Brasília, DF

Table 7 (continued)

Institution	#	%	Type	Location
Mackenzie	32	0.44	Priv.U	São Paulo, SP
UFPI	32	0.44	Fed.PU	Teresina, PI
UFMT	31	0.43	Fed.PU	Cuiabá, MT
<i>2010s</i>				
USP	2137	9.44	St.PU	São Paulo, SP
UFRGS	1202	5.31	Fed.PU	Porto Alegre, RS
UFSC	1164	5.14	Fed.PU	Florianópolis, SC
UFMG	1068	4.72	Fed.PU	Belo Horizonte, MG
UFRJ	978	4.32	Fed.PU	Rio de Janeiro, RJ
UNICAMP	948	4.19	St.PU	Campinas, SP
UERJ	901	3.98	St.PU	Rio de Janeiro, RJ
UNESP	824	3.64	St.PU	São Paulo, SP
UFBA	772	3.41	Fed.PU	Salvador, BA
UNB	723	3.19	Fed.PU	Brasília, DF
UFF	683	3.02	Fed.PU	Niterói, RJ
UFPE	634	2.80	Fed.PU	Recife, PE
UFPB	629	2.78	Fed.PU	João Pessoa, PB
UFMS	609	2.69	Fed.PU	Santa Maria, RS
UFPR	577	2.55	Fed.PU	Curitiba, PR
FIOCRUZ	565	2.50	Fed.PO	Rio de Janeiro, RJ
UNIFESP	533	2.35	Fed.PU	São Paulo, SP
UFCE	528	2.33	Fed.PU	Fortaleza, CE
UFRN	474	2.09	Fed.PU	Natal, RN
UFG	474	2.09	Fed.PU	Goiânia, GO
UFPEL	417	1.84	Fed.PU	Pelotas, RS
UEM	399	1.76	St.PU	Maringá, PR
UFSCAR	381	1.68	Fed.PU	São Carlos, SP
PUC-RS	353	1.56	Priv.U	Porto Alegre, RS
UEL	326	1.44	St.PU	Londrina, PR
UFES	323	1.43	Fed.PU	Vitória, ES
UFPA	309	1.37	Fed.PU	Belém, PA
FURG	303	1.34	Fed.PU	Rio Grande, RS
UFMT	269	1.19	Fed.PU	Cuiabá, MT
UNISINOS	269	1.19	Priv.U	São Leopoldo, RS
UFJF	268	1.18	Fed.PU	Juiz de Fora, MG
UFU	261	1.15	Fed.PU	Uberlândia, MG
UFPI	248	1.10	Fed.PU	Teresina, PI
UFS	248	1.10	Fed.PU	São Cristóvão, SE
UDESC	242	1.07	St.PU	Florianópolis, SC
UFMA	241	1.06	Fed.PU	São Luís, MA
UFMS	232	1.02	Fed.PU	Campo Grande, MS
PUC-MG	220	0.97	Priv.U	Belo Horizonte, MG
UEPG	212	0.94	St.PU	Ponta Grossa, PR
PUC-RJ	201	0.89	Priv.U	Rio de Janeiro, RJ
UECE	181	0.80	St.PU	Fortaleza, CE
UFAL	178	0.79	Fed.PU	Maceió, AL
PUC-SP	173	0.76	Priv.U	São Paulo, SP

Table 7 (continued)

Institution	#	%	Type	Location
UFV	168	0.74	Fed.PU	Viçosa, MG
UNIFOR	168	0.74	Priv.U	Fortaleza, CE
UNIOESTE	149	0.66	St.PU	Cascavel, PR
ULBRA	142	0.63	Priv.U	Canoas, RS
UFAM	137	0.61	Fed.PU	Manaus, AM
UFCG	133	0.59	Fed.PU	Campina Grande, PB
UNIMONTES	131	0.58	St.PU	Montes Claros, MG
UNICENTRO	131	0.58	St.PU	Guarapuava, PR
CNPq	127	0.56	Fed.PO	Brasília, DF
UFRRJ	126	0.56	Fed.PU	Seropédica, RJ
UESB	124	0.55	St.PU	Candeias, BA
UEPB	109	0.48	St.PU	Campina Grande, PB
UTFPR	108	0.48	Fed.PU	Curitiba, PR
UFT	107	0.47	Fed.PU	Palmas, TO
UFSJ	103	0.46	Fed.PU	São João del Rei, MG
UNIRIO	102	0.45	Fed.PU	Rio de Janeiro, RJ
UFTM	102	0.45	Fed.PU	Uberaba, MG
UPE	100	0.44	St.PU	Recife, PE

St.PU State Public University, *Fed.PU* Federal Public University, *Fed.PO* Federal Public Organization, *Priv.U* Private University, *For.U* Foreign University, *For.O* Foreign/International Organization

Source: Research data

the largest group, composed mainly of universities of the state of São Paulo (UFSCAR, UNICAMP, and others); and UFRJ with UFRGS and other universities. UNIFESP, UERJ, UFPB, and UFPEL were each at the centers of the other collaboration clusters. Source: Research data. Source: Research data.

In the 2000s, collaboration clusters by geographic regions begin to take form with greater intensity. Universities in the southernmost state of the country were placed in the cluster at the right of the map (UFRGS, UFPEL, and others); this cluster is connected by UFSC to the cluster of universities that goes up the Brazilian map, toward the state of São Paulo, which has UNICAMP and UNESP at its center. The cluster at the center of the map is the one with the greatest dispersion among its institutions, and at the same time it is the most connected to the other groups; it is composed of FIOCRUZ, UNIFESP, UFRJ, UERJ, and other institutions. Source: Research data.

As of 2011, the unprecedented increase in the frequency of publishing and collaboration (in comparison to other decades) makes the map much denser when observing the numbers of its edges (which illustrate coauthorship). To facilitate the identification of institutions, the decade is illustrated with a map of up to 300 edges, in which we can easily see that such edges are thicker when compared to those in the maps for previous decades. In this map, the collaboration by geographic proximity is also much more evident. There are seven clusters, and each one coincides with a region.

The institutions in the southernmost state in the country, Rio Grande do Sul (RS), remain closely tied together, located at the top left portion of the map. UFSC is within another group, although it is not far from the first cluster, and, just like in the previous decade, it makes up a collaboration group with institutions of its own state (Santa Catarina) and the neighboring state (territorially), Paraná (with UFPR, UEL, UTFPR, and other

institutions). What differentiates this grouping from the similar group presented in the 2000s map is that this time it does not contain universities from São Paulo (the next near state), which are now gathered in the largest and most centralized/connected cluster group, with 18 institutions, including USP, UNICAMP, and UNESP.

Furthermore, there is a group formed by institutions from the state of Rio de Janeiro (with UFRJ, UERJ, UFRRJ), and another by institutions mainly from Ceará (UFCE, UECE, UNIFOR). Ceará belongs to the Northeastern region of the country, and other institutions from this region are in the cluster at the top right of the map (with UFPE, UFAL, UFPB). Institutions located in the most geographically centralized states have established partnerships with institutions from other federative units more frequently. Source: Research data.

The collaboration maps organized per decade illustrate USP's central role in interinstitutional partnerships and establishing partnerships with institutions of all regions of the country since the beginning of the field of gender studies. The universities of Rio Grande do Sul (the southernmost state) are the most closely associated and the most isolated in relation to the other groups/regions, as they are the first highly regionalized group to be formed, a characteristic that has not changed since then. The territorial border between Rio Grande do Sul (RS) and Santa Catarina (SC) explains why UFSC is the institution that connects this group to universities from SC, Paraná (PR) and, at times, from São Paulo (SP). UFES also demonstrates intense collaboration with universities that border its state, Espírito Santo (ES), even when these universities belong to other more frequent partnership groups—ES borders Bahia (BA), Rio de Janeiro (RJ), and Minas Gerais (MG). The universities of MG are also characterized by local collaboration, as are those of RJ, which in some periods, are mixed with those of SP. The Northeast, in contrast, has established a group with universities from every state in the region, although the state of Ceará (CE) has had a separate group in recent years.

International collaboration

The collaboration in the Brazilian scientific production of gender studies is not limited to partnerships within the country. As already mentioned, among the 31,609 articles that make up this research corpus, 6.76% (2137) were published with international collaboration, which is a small proportion compared to international collaboration in other fields of knowledge, but still significant if we consider that the area consists of disciplines in which collaboration is not common.

Most of these Brazilian articles in gender studies with international collaboration are from the health sciences (57.48%). Within that scope, 12.22% articles are published with international collaboration.⁴ However, interestingly, the two articles authored by the highest number of different countries are not in technological, clinical, or laboratory-based areas, which tend to have more collaboration because of the need to “exchange” input and technologies. The two articles are in psychology and deal with gender relations in the culture of different countries.

⁴ In these calculations, we use the total number of Brazilian gender studies and of articles published with international collaboration that have filled out their area classification, $n=19,819$ and $n=1832$, respectively. The area with the highest percentage of articles published in collaboration would be engineering (21.05%), but as its data sample is small, we cannot make concrete statements.

We found 81 countries or territories that collaborate with Brazil in women's and gender studies; in relation to science in general, 123 nations collaborated with Brazil from 2011 to 2016 (Cross et al., 2018). Table 8 lists the countries according to their coauthorship frequency. The second half of the same table shows the most important partner countries in relation to their collaboration strength, which we explain below.

Notably, several countries collaborated only a few times with Brazil in all the years covered in this study (almost five decades). Several of them appear only in papers resulting from the same large study (or studies), such as the aforementioned research regarding *dyadic coping*, which brought together over 30 countries, or the study realized by eight countries, the only collaboration that included a Venezuelan institution. Thus, even though we found a high number of countries that collaborated with Brazil in gender studies, several of those are true outliers. This type of partnership is therefore rare, and there is also great diversity concerning which countries collaborate with Brazil.

In terms of frequency, the countries that most collaborate with Brazil in gender studies are from North America (USA and Canada) and Europe (United Kingdom, Portugal, Spain, Switzerland, and France). For comparison, in relation to science in general, Adams and King (2009) identified the following countries as Brazil's main research partners between 1998 and 2007: USA, United Kingdom, France, Germany, Italy, Canada, Spain, Argentina, and Portugal. Furthermore, Vanz and Stumpf (2012) identified the USA, France, the United Kingdom, and Germany in 2004–2006. Cross et al. (2018), in a research carried out encompassing 2011–2016, identified the USA, the United Kingdom, France, Spain, Germany, Italy, Canada, Portugal, Australia, and Netherlands.

While the USA, the United Kingdom, and France are countries that can be considered “central” in science (they have research history and tradition, always ranked among the most productive countries, and are among the ones that cause greater impact in scientific research), notably, Portugal is Brazil's third most frequent partner because science historians credit a certain “delay” in the constitution of a scientific community in Brazil to the fact that it was a colony of Portugal—due to the fact that there was no incentive to do scientific work given that the colonizer itself had no research tradition (Schwartzman, 2001), unlike countries colonized by the United Kingdom, for example. As seen in this study, as the Brazilian research on gender studies is mainly published in Portuguese, perhaps the use of the same language allows for greater dialogue between the two countries, a factor that the authors who analyzed Cadernos Pagu identified as a challenge for the area in the international debate (Lopes & Piscitelli, 2004).

Indeed, despite the fact that most Brazilian gender studies articles written with international collaboration have been published in English (over 80% of those whose language field was filled in the database), when analyzing articles resulting from collaboration with Portugal, more articles exist in Portuguese than in English (72 in Portuguese, 59 in English, and 82 did not inform the language). Most journals also have their names in Portuguese, which indicates that they are Brazilian, Portuguese, or from other Portuguese-speaking countries. The research disciplines that these journals focus on mainly include the following: public health (35 articles), education (28), psychology and cognitive sciences (24), social sciences (19), and clinical medicine (18). Portugal—together with the USA—is also one of the countries that participates in BGS research in the highest number of areas of research (humanities, health, applied social sciences, linguistics, languages, arts, multi-disciplinary, exact and earth sciences, while the USA only doesn't participate in research in the latter one and in agricultural sciences).

Spain's position is also relevant for the same reason: in Brazilian “general” science, the country does not reach a position which is very high (Vanz et al., 2016). A deeper analysis

Table 8 Countries that collaborate with Brazil (≥ 10 articles) and their collaboration strength (≥ 0.10)

Coauthorships				Collaboration strength			
Country	#	% International collab	% BGS	Country	CBRy	Py	FBRy
USA	754	35.28	2.39	Portugal	220	5139	1.18
United Kingdom	338	15.82	1.07	Switzerland	157	15,068	0.49
Portugal	220	10.29	0.70	USA	754	506,433	0.41
Spain	199	9.31	0.63	Spain	199	43,321	0.37
Canada	197	9.22	0.62	Italy	83	12,525	0.29
Switzerland	157	7.35	0.50	Argentina	69	8903	0.28
France	127	5.94	0.40	Belgium	49	4949	0.27
Australia	93	4.35	0.29	Uruguay	15	526	0.25
Italy	83	3.88	0.26	United Kingdom	338	277,226	0.25
Germany	82	3.84	0.26	Greece	16	702	0.23
Argentina	69	3.23	0.22	France	127	46,317	0.23
South Africa	59	2.76	0.19	Australia	93	28,167	0.21
Mexico	55	2.57	0.17	Thailand	22	1619	0.21
Belgium	49	2.29	0.16	South Africa	59	11,710	0.21
China	42	1.97	0.13	New Zealand	31	3677	0.20
Chile	39	1.82	0.12	Mexico	55	11,631	0.20
Netherlands	39	1.82	0.12	Chile	39	6158	0.19
Colombia	36	1.68	0.11	Germany	82	32,065	0.18
Sweden	33	1.54	0.10	Sweden	33	5866	0.17
New Zealand	31	1.45	0.10	Saudi Arabia	4	108	0.15
Japan	25	1.17	0.08	Tanzania	5	170	0.15
Thailand	22	1.03	0.07	Zimbabwe	6	246	0.15
Denmark	19	0.89	0.06	Singapore	13	1261	0.14
Greece	16	0.75	0.05	Ireland	13	1283	0.14
Nigeria	16	0.75	0.05	Kenya	11	950	0.14
Norway	16	0.75	0.05	Colombia	36	11,935	0.13
Uruguay	15	0.70	0.05	Nigeria	16	2443	0.12
Singapore	13	0.61	0.04	Canada	197	376,157	0.12
India	13	0.61	0.04	Botswana	3	111	0.11
Ireland	13	0.61	0.04	Austria	11	1660	0.10
Czech Republic	13	0.61	0.04	Ghana	5	374	0.10
Mozambique	12	0.56	0.04	Denmark	19	5430	0.10
Austria	11	0.51	0.03				
Finland	11	0.51	0.03				
Israel	11	0.51	0.03				
Kenya	11	0.51	0.03				
Peru	10	0.47	0.03				

CBRy articles written in collaboration with Brazil, Py articles published by the country, FBRy collaboration strength with Brazil

Source: Research data

of the type of research published by Brazil and Spain together can, for example, help analyze whether collaboration occurs due to the cultural and linguistic proximity, given the Hispanic influence in all Latin American countries, in which Brazil is included. Unfortunately, the data on language available do not allow us to draw conclusions regarding this: a high number of articles did not present that data (87), and the articles that do carry such information were found mostly in English (60), followed by Portuguese (36) and Spanish (16). Journals do not present a predominance of titles in Portuguese or Spanish; however, there is a predominance of virtually the same thematic fields as those found in the collaboration with Portugal: psychology and cognitive sciences (37 articles), public health (32), clinical medicine (19), education (16), and social sciences (16).

Heilborn and Sorj (1999), Diniz and Foltran (2004), and Schuck (2018) identify the French and American (USA) influence on the “theoretical dialogue” and on Brazilian research on gender and feminisms, which may also reinforce the partnership with these scientific centers. Latin American countries are also present, although at a lower frequency. Argentina is the country that collaborates with Brazilian gender studies in the highest number of different research areas and most frequently: human sciences, health sciences, applied social sciences, and multidisciplinary fields. Chile and Colombia come in the second and third places, respectively, with a lower frequency. Chile mainly published articles in public health, while Colombia in human sciences. The analysis of the collaboration strength of all countries can provide information regarding whether these are significant collaborations (described below).

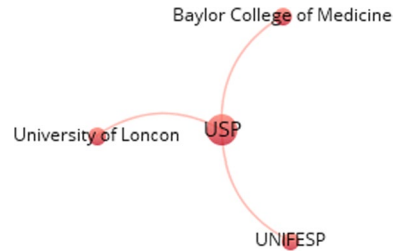
In the analysis of collaboration among institutions, we observed that foreign institutions were concentrated in the same cluster. Thus, we analyzed the authors (people) and the institutions that most publish in collaboration with other countries to identify whether there are specific groups of people responsible for this type of partnership. The research institution that most establishes international partnerships is USP (present in 23.91% of the articles published in international collaboration), followed by UFRGS (7.81%), FIOCRUZ (6.46%), and UNICAMP (6.18%); however, researchers that published the highest number of articles in international partnership are affiliated to UFPEL, FIOCRUZ, and USP, and others to UNICAMP and UFRGS.

While analyzing collaboration among researchers that published five or more articles in international partnership, we observed that two large groups exist, and several nodes have no connections. The unconnected nodes are researchers who have published with international partners but did not establish frequent connections, at least not in the fields of feminist, women’s, and gender studies. In contrast, researchers in the health sciences and psychology have interconnected in studies on women’s reproductive health, maternal-infant health, and mother-infant relationships, with a focus on the disciplines of obstetrics, pediatrics, epidemiology, public health, and psychology. Source: Research data.

There are also three clusters that are well-connected internally, which indicates studies with intense collaboration, whose authors focus on research on reproductive health, epidemiology, and sexual behavior, particularly on HIV/AIDS and other sexually transmitted infections. Therefore, no specific group of people is responsible for international collaborations; however, groups of people publish in international coauthorship on two main research fronts: women’s reproductive health with a focus on motherhood, and sexual behavior, with a focus on HIV and AIDS.

While the simple count (absolute measure, first column of Table 8) identifies the most frequent collaboration networks, collaboration strength considers the “scientific size” of each research actor to assess the intensity of the research cooperation between

Fig. 3 Collaboration among the most productive institutions in Brazilian gender studies, 1970s, $n = 4$



two countries (Luukkonen et al., 1993). An adaptation of this measure is used to relativize the collaboration with Brazil according to the scientific “size” of each country.

Argentina, Belgium, and Uruguay have gained rank in this perspective with the strength of their collaboration. These three countries have increased their relevance in collaboration in BGS when the data are relativized according to their research activity in gender studies. Canada, which in the absolute data is the fifth most frequent contributor, has a production that is hundreds of times greater than that of Uruguay, which made it lose its positions in this index. In contrast, Portugal and the USA, which are the most frequent countries in the absolute data, also appear among the strongest contributors in Brazilian articles on gender studies. Switzerland, Spain, and Italy are also frequent and relevant contributors. In the aforementioned research by Vanz and Stumpf (2012) on articles published between 2004 and 2006, the USA and Argentina are countries with the greatest strength of collaboration with Brazil, considering science in general, which is also identified in the women’s and gender studies area in the present study.

Articles written in collaboration with the US are more focused on the medical fields, with public health on the top position (208 articles), followed by clinical medicine (163), biomedical research (80), psychology and cognitive sciences (80), and finally social sciences (52) and interdisciplinary/general journals (43). The main research focus in Uruguay is also public health, and, interestingly, more than 1/3 of the articles use the country as a case study or for comparison. In collaborations with Argentina, the main themes differ from those of the other collaborators: social sciences first (14), then clinical medicine (8), and historical studies (7). The data on language do not allow for conclusions because 24 of the articles coauthored with Argentina do not present that information, and those that do present it display a predominance of articles in English (22), and the same amount in Portuguese and Spanish (with 8 each) (Figs. 3, 4, 5, 6, 7).

Brazilian research in gender studies counts with the collaboration of countries from all continents of the world, which is illustrated in the cartographic projection that identifies with dots the distribution of Brazilian gender studies in the world (Fig. 8).

Final considerations

The area on women’s and gender studies developed by researchers in Brazil is growing, in many ways. It grows in its volume of articles, in the number of languages used, and in the number of researchers and institutions. Its development is moving towards covering more research fields, more languages of publication, and being carried out in more research institutions, spread over different geographic points in Brazil. Such characteristics highlight the plurality of this research area, which is also plural in its theoretical conception—of investigating, reflecting, and understanding the plurality in relations of gender, race, ethnicity, class, sexuality, nationality, and others.

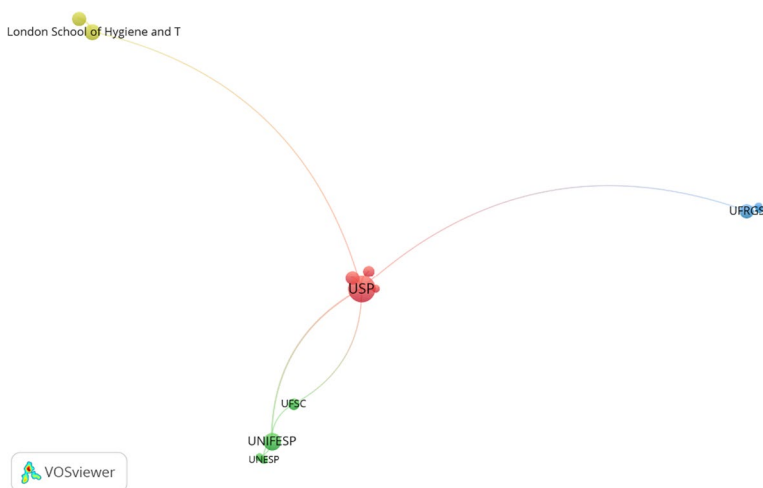


Fig. 4 Collaboration among the most productive institutions in Brazilian gender studies, 1980s, $n=13$

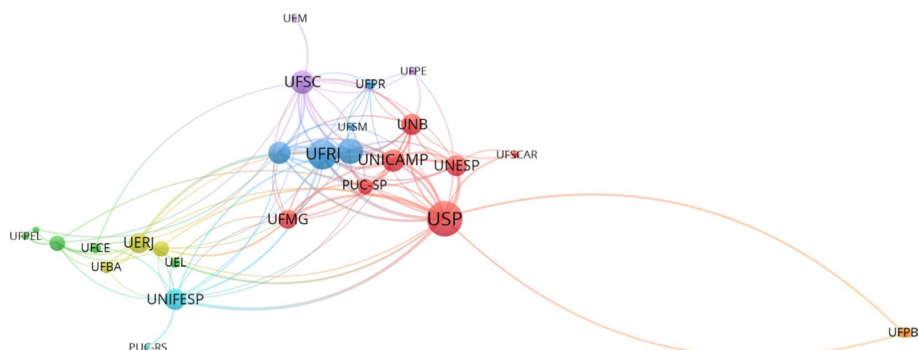


Fig. 5 Collaboration among the most productive institutions in Brazilian gender studies, 1990s, $n=27$

In contrast, the characteristics of science in general in Brazil, such as the important presence of institutions that have tradition in research, are also observed. That is the case of the relevant presence of the Universidade de São Paulo since the inception of these studies in Brazil in the 1970s. Its predominance in publishing reaches over 59% of the articles in the first decade. However, this number has been decreasing over the years (in part, due to policies focusing on incentives for science in Brazil over new territories, and due to the creation of new universities, the greatest producers of research in Brazilian science). Nevertheless, the role of USP becomes explicit when we analyze the collaboration clusters that include that university and how central it is in them, given its connections to institutions from other states and that are territorially distant from it. Other collaboration groups are strongly characterized by the geographic proximity among institutions.

The public universities are the main research agents in gender studies, similar to the behavior of other research areas in Brazil. Other governmental institutions also produce it, and many private universities are frequent research agents. Smaller private institutions, of

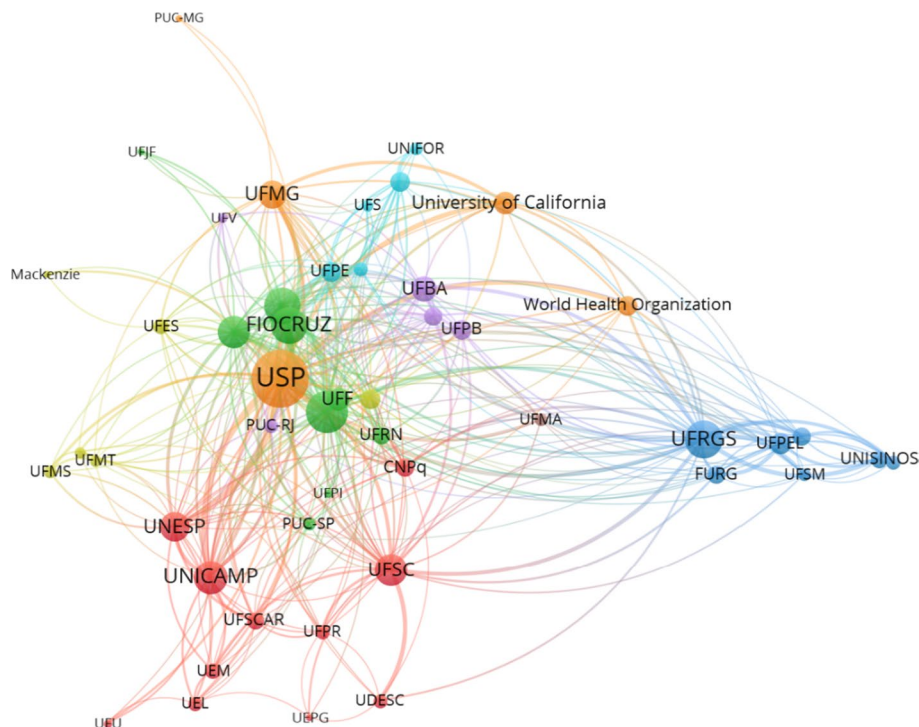


Fig. 6 Collaboration among the most productive institutions in Brazilian gender studies, 2000s, $n=49$

higher education or otherwise, were not found in our research. Governmental institutions of international scope, such as the UN and WHO, and foreign universities are present in a smaller portion of the articles in our corpus.

The factors that set this area apart from others studied areas in Brazil are, for example, the preference for single authorship, despite the growing collaboration (a phenomenon that is more acute in other areas of Brazilian science), and the preference for using the national language, Portuguese (which has also decreased over time but is still predominant). The literature on scientific communication considers that single authorship is frequent in more theoretical or “initial” areas of knowledge, in which theoretical discussion is (still) predominant. However, gender studies are not incipient in Brazil because the first papers date from the 70s. The use of Portuguese is also related to the type and scope of the discussions promoted: as Brazil is in a region where most countries have Spanish as their official language, and as English is the language considered “official” in science, the publishing of research in Portuguese reduces (or even inhibits) the possibility of a greater international dialogue involving studies developed in Brazil.

Language seems to be an important factor for partnership between Brazil and Portugal: the two countries have significant collaboration strength with most papers written in Portuguese and in Portuguese-speaking journals. Partnerships with other countries are rare and are mainly observed in disciplines within the health sciences. By analyzing the collaboration clusters, we identified the themes characteristic of these works, demonstrating that international collaboration is, in addition to infrequent, punctual.

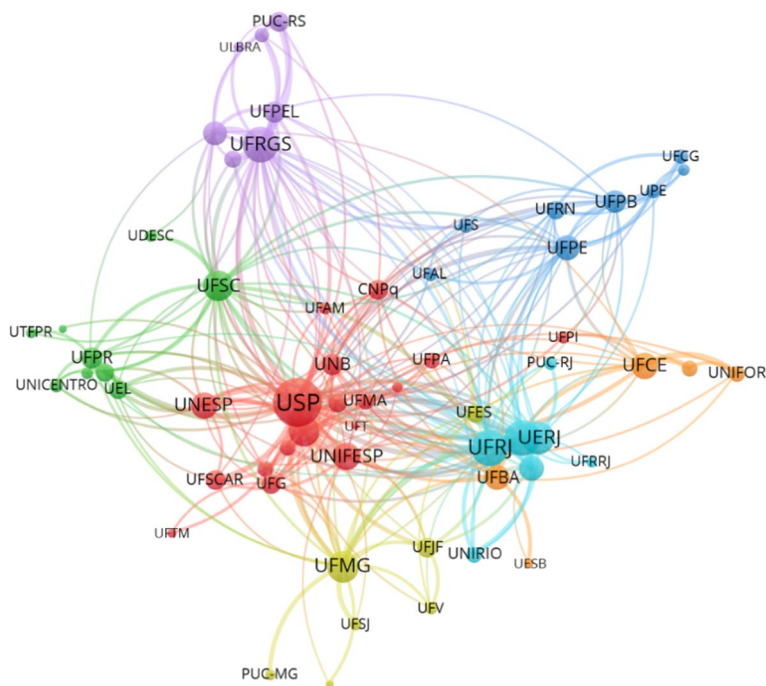
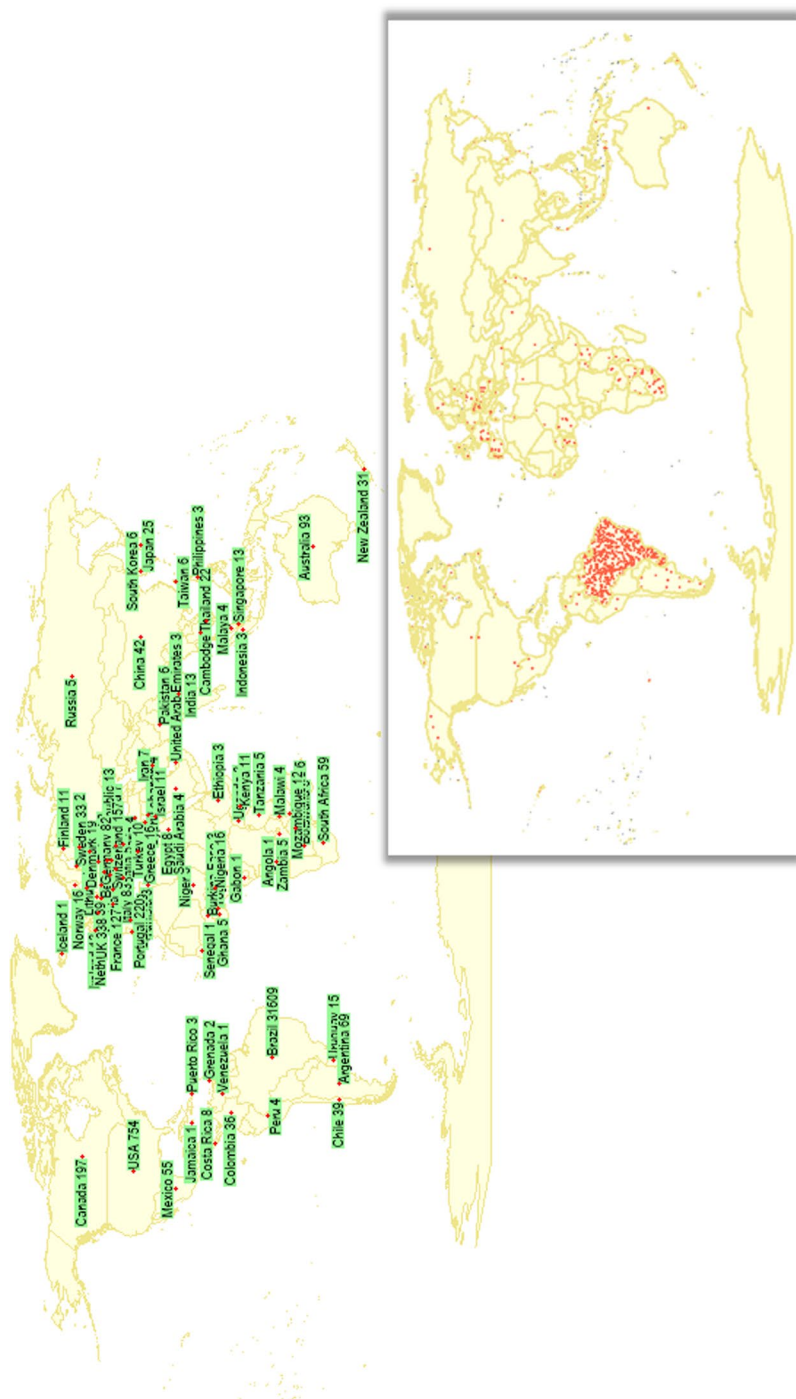


Fig. 7 Collaboration among the most productive institutions in Brazilian gender studies, 2010s, $n=61$, with 300 edges

There is dispersion in relation to journals, but the most frequent are Brazilian ones. Thus, the data corroborate the understanding that Brazilian research in women's and gender studies is established scientifically as it is accepted and published in important, quality journals, and it is developing toward attracting an increasing number of researchers from different areas/fields of knowledge. In contrast, this "restricted" location of publishing in national or Portuguese-speaking journals adds another layer to the question raised about hindering international dialogue. Some research topics are, of course, exclusively of local or regional interest, there not being a need for reaching other audiences; however, discussions prompted when faced with other realities must also be considered in areas such as gender studies.

The question of the subjects of local interest also raises another important reflection: Brazilian research on women's and gender studies has spread over time throughout the country's regions. Despite this, it is still heavily centered in the Southeast and South regions of the country, and in three of the Brazilian federative units no articles were identified (the states of Amapá, Rondônia, and Roraima, all belonging to the North region of the country). Therefore, this point should be a target of reflection and of policies for the promotion of science, and it could be brought forward by the country's journals specialized in Brazilian gender studies, which bring together and disseminate this multifaceted and comprehensive area.

The data corpus we used in this work is now available in an open research data repository at <https://doi.org/10.5281/zenodo.7129182> (Hoppen, 2022). Future studies using it or new datasets may evaluate research fronts in each region of the country and in most



frequent research institutions, as well as perform an in-depth analysis of research carried out from 2011 onwards, from a perspective involving smaller time frames. Such investigations may contribute to a better assessment of local research interests, the potential of each research institution, and, in the future, whether social inequities deepened in the COVID-19 pandemic, added to the new conservative policies established by the Brazilian State since 2018, changed the directions or status of research in Brazilian gender studies.

Finally, the present study (as well as previous ones) brought to light the diffuse borders between research fields involving gender studies, which is an area that is interdisciplinary in nature. Therefore, an investigation on the different academic fields that make up this large area (according to the disciplines and research fields established in the evaluation of Brazilian science) will be the subject of a new publication.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11192-022-04545-w>.

Acknowledgements We would like to thank bibliometric researcher Éric Archambault for providing access to IFindr throughout the PhD research of the first author, Natascha Helena Franz Hoppen, who was advised by Professor Samile Andréa de Souza Vanz. In addition to Éric, we thank IFindr's team, especially Claire Nigay and Anthony Coïa, who answered our frequent questions and requests regarding this research. We are grateful for the valuable contributions of the gender studies researcher and librarian Bruna Dalmaso-Junqueira regarding increasing and refining the search strategy of this work; we also appreciate the enriching suggestions made by professor Dagmar Elisabeth Estermann Meyer throughout the finishing process of the original work; and we thank the team of the Núcleo de Assessoria Estatística of Universidade Federal do Rio Grande do Sul (NAE UFRGS) for their assistance in adapting the measure of collaboration strength.

Author contributions Conceptualization: NHF Hoppen, SAS Vanz; Methodology: NHF Hoppen; Formal analysis and investigation: NHF Hoppen; Writing—original draft preparation: NHF Hoppen, Writing—review and editing: NHF Hoppen, SAS Vanz; Resources: NHF Hoppen, SAS Vanz; Supervision: SAS Vanz.

Funding Partial financial support was received from Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) and Fundação de Amparo à Pesquisa do Estado do Rio Grande do Sul (FAPERGS).

Data and material availability Open dataset “Dataset of Brazilian articles on feminist, gender, and women’s studies: articles from 1959 to 2019” (Artigos brasileiros de estudos de gênero e sobre mulheres: conjunto de dados de publicações de 1959 a 2019) available at <https://doi.org/10.5281/zenodo.7129182> (Hoppen, 2022).

Code availability Not applicable.

Declarations

Conflict of interest Not applicable.

References

- 1Science. (2018). *Advanced search*. Science-Metrix.
- 1Science. (2019). *Advanced query features*. IFindr; Science-Metrix.
- Adams, J., & King, C. (2009). *Brazil: Research and collaboration in the new geography of science*. Thomson Reuters.
- Andrade, S. D. S., Meyer, D. E. E., & Barzotto, C. E. (2019). Transversalidade de gênero em políticas públicas: uma revisão de literatura. *Revista Práxis*, 16(2), 80–106. <https://doi.org/10.25112/rpr.v2i0.1816>
- Aquino, E. M. L. (2006). Gênero e saúde: perfil e tendências da produção científica no Brasil. *Revista de Saúde Pública*, 40, 121–132. <https://doi.org/10.1590/s0034-89102006000400017>
- Archambault, É. (2016). *Classification of scientific journals*. Science-Metrix.

- Archambault, É., Beaulac, O. H., & Caruso, J. (2011). Towards a multilingual, comprehensive and open scientific journal ontology. In E. Noyons, P. Ngulube, & J. Leta (Eds.), *International conference of the international society for scientometrics and informetrics (ISSI)* (No. 13; pp. 66–77). ISSI.
- Archambault, É., & Larivière, V. (2010). The limits of bibliometrics for the analysis of the social sciences and humanities literature. In S. A. C. O. United Nations Educational (Ed.), *World social science report: knowledge divides* (pp. 251–254).
- Archambault, É., Vignola-Gagné, É., Côté, G., Larivière, V., & Gingras, Y. (2006). Benchmarking scientific output in the social sciences and humanities: The limits of existing databases. *Scientometrics*, 68(3), 329–342. <https://doi.org/10.1007/s11192-006-0115-z>
- Beaver, D. B. (2001). Reflections on scientific collaboration (and its study): Past, present, and future. *Scientometrics*, 52(3), 365–377. <https://doi.org/10.1023/A:1014254214337>
- Brasil. Conselho Nacional de Desenvolvimento Científico e Tecnológico. (2020). *Tabela de áreas do conhecimento*.
- Brasil, Conselho Nacional de Desenvolvimento Científico e Tecnológico. (n.d.). *Currículo Lattes*. Retrieved June 15, 2020, from <http://buscatextual.cnpq.br/buscatextual/busca.do?metodo=apresentar>
- Brilhante, A. V. M., Moreira, G. A. R., de Vieira, L. J. E., & Catrib, A. M. F. (2016). Um estudo bibliométrico sobre a violência de gênero. *Saúde e Sociedade*, 25(3), 703–715. <https://doi.org/10.1590/S0104-12902016148937>
- Bruschini, C., Ardaillon, D., & Unbehau, S. G. (1998). *Tesouro para estudos de gênero e sobre mulheres*. Editora 34.
- Bufrem, L. S., & Nascimento, B. S. (2012). A questão do gênero na literatura em Ciência da Informação. *Em Questão*, 18, 199–214.
- Casani, F., De Filippo, D., Garcia-Zorita, C., & Sanz-Casado, E. (2014). Public versus private universities: Assessment of research performance; case study of the Spanish university system. *Research Evaluation*, 23(1), 48–61. <https://doi.org/10.1093/reseval/rvt028>
- Coelho, R. (1961). Personalidade e papéis sociais do xamã entre os carafas negros. *Revista de Antropologia*, 9(1–2), 69–89. <https://doi.org/10.11606/2179-0892.ra.1961.110415>
- Correa, M. (2001). Do feminismo aos estudos de gênero no Brasil: Um exemplo pessoal. *Cadernos Pagu*, 16, 13–30.
- Correa, S., & McIntyre, P. (2003). *The population and reproductive health program in Brazil: Lessons learned*.
- Costa, A. O. (2008). O campo de estudos de gênero e suas duas revistas: Uma pauta de pesquisa. *Revista Estudos Feministas*, 16(1), 131–132. <https://doi.org/10.1590/s0104-026x2008000100014>
- Coutinho, R. X., Dávila, E. S., Santos, W. M., Rocha, J. B. T., Souza, D. O. G., Folmer, V., & Puntel, R. L. (2012). Brazilian scientific production in science education. *Scientometrics*, 92(3), 697–710. <https://doi.org/10.1007/s11192-012-0645-5>
- Cross, D., Thomson, S., & Sinclair, A. (2018). *Research in Brazil: A report for CAPES by Clarivate Analytics*. Clarivate Analytics.
- De Meis, L., & Leta, J. (1996). *O perfil da ciência brasileira*. UFRJ.
- Deive, F. P., Osborne, R., Silva, E. R., Ferreira, R. C., Clair, E. S., & Nery, L. C. P. (2011). Estudos de gênero na Educação Física Brasileira. *Motriz*, 17(1), 93–103. <https://doi.org/10.5016/1980-6574.2011v17n1p93>
- Diniz, D., & Foltran, P. (2004). Gênero e feminismo no Brasil: Uma análise da Revista Estudos Feministas. *Revista Estudos Feministas*, 12, 245–253. <https://doi.org/10.1590/S0104-026X2004000300026>
- Espírito Santo, P. (2008). Os estudos de gênero na Ciência da Informação. *Em Questão*, 14(2), 317–332.
- Folha de S. Paulo. (2018). *Ranking Universitário Folha 2018*. Folha de S. Paulo. rnf.folha.uol.com.br
- Glänzel, W., Leta, J., & Thijs, B. (2006). Science in Brazil. Part 1: A macro-level comparative study. *Scientometrics*, 67(1), 67–86. <https://doi.org/10.1007/s11192-006-0055-7>
- Glänzel, W., & Schubert, A. (2003). A new classification scheme of science fields and subfields designed for scientometric evaluation purposes. *Scientometrics*, 56(3), 357–367. <https://doi.org/10.1023/A:1022378804087>
- Gomes, J. O., Dias, T. M. R., & Moita, G. F. (2018). Uma análise dos principais tópicos de pesquisas investigados pelos pesquisadores doutores brasileiros. *Em Questão*, 24(2), 55–82. <https://doi.org/10.19132/1808-5245242.55-82>
- Grinsztejn, B., Jalil, E. M., Monteiro, L., Velasque, L., Moreira, R. I., Garcia, A. C. F., Castro, C. V., Krüger, A., Luz, P. M., Liu, A. Y., McFarland, W., Buchbinder, S., Veloso Santos, V. G., & Wilson, E. C. (2017). Unveiling of HIV dynamics among transgender women: A respondent-driven sampling study in Rio de Janeiro Brazil. *The Lancet HIV*, 4(4), e169–e176. [https://doi.org/10.1016/S2352-3018\(17\)30015-2](https://doi.org/10.1016/S2352-3018(17)30015-2)

- Grossi, M. P. (2004). A Revista Estudos Feministas faz 10 anos: uma breve história do feminismo no Brasil. *Revista Estudos Feministas*, 12, 211–221. <https://doi.org/10.1590/s0104-026x2004000300023>
- Heilborn, M. L., & Sorj, B. (1999). Estudos de gênero no Brasil. In S. Miceli (Ed.), *O que ler na ciência social brasileira (1970–1995)* (pp. 183–221/1–28). Sumaré.
- Hilpert, P., Randall, A. K., Sorokowski, P., Atkins, D. C., Sorokowska, A., Ahmadi, K., et al. (2016). The associations of dyadic coping and relationship satisfaction vary between and within nations: a 35-nation study. *Frontiers in Psychology*, 7, 10. <https://doi.org/10.3389/fpsyg.2016.01106>
- Hoppen, N. H. F. (2021). *Retratos da pesquisa brasileira em estudos de gênero: análise cientométrica da produção científica* [Tese (Doutorado em Comunicação e Informação)]. Universidade Federal do Rio Grande do Sul. <http://hdl.handle.net/10183/220744>
- Hoppen, N. H. F., & Vanz, S. A. S. (2016). Neurosciences in Brazil: A bibliometric study of main characteristics, collaboration and citations. *Scientometrics*, 109(1), 121–141. <https://doi.org/10.1007/s11192-016-1919-0>
- Hoppen, N. H. F., & Vanz, S. A. S. (2020). What are gender studies: Characterization of scientific output in a multidisciplinary and international database. *Encontros Bibli: Revista Eletrônica de Biblioteconomia e Ciência Da Informação*, 25, 1–30. <https://doi.org/10.5007/1518-2924.2020.e71677>
- Hoppen, N. H. F. (2022). Artigos brasileiros de estudos de gênero e sobre mulheres: conjunto de dados de publicações de 1959 a 2019 [Open dataset], *Zenodo*. <https://doi.org/10.5281/zenodo.7129182>
- Instituto Brasileiro de Geografia e Estatística. (2020). As projeções cartográficas. In *Atlas geográfico escolar*. IBGE.
- Krys, K., Capaldi, C. A., van Tilburg, W., Lipp, O. V., Bond, M. H., Vauclair, C.-M., Manickam, L. S. S., Domínguez-Espinosa, A., Torres, C., Lun, V.M.-C., Teyssier, J., Miles, L. K., Hansen, K., Park, J., Wagner, W., Yu, A. A., Xing, C., Wise, R., Sun, C.-R., ... Ahmed, R. A. (2018). Catching up with wonderful women: The women-are-wonderful effect is smaller in more gender egalitarian societies. *International Journal of Psychology*, 53, 21–26. <https://doi.org/10.1002/ijop.12420>
- Leta, J., & De Meis, L. (1996). A profile of science in Brazil. *Scientometrics*, 35(1), 33–44. <https://doi.org/10.1007/BF02018231>
- Leta, J., Glänzel, W., & Thijs, B. (2006). Science in Brazil. Part 2: Sectoral and institutional research profiles. *Scientometrics*, 67(1), 87–105. <https://doi.org/10.1007/s11192-006-0051-y>
- Leta, J., Thijs, B., & Glänzel, W. (2013). A macro-level study of science in Brazil: Seven years later. *Encontros Bibli*, 18(36), 51–66. <https://doi.org/10.5007/1518-2924.2013v18n36p51>
- Lopes, M. M., & Piscitelli, A. (2004). Revistas científicas e a constituição do campo de estudos de gênero: um olhar desde as “margens.” *Revista Estudos Feministas*, 12, 115–121. <https://doi.org/10.1590/s0104-026x2004000300013>
- Louro, G. L. (1995). Gênero, história e educação: construção e desconstrução. *Educação & Realidade*, 20(2), 101–132.
- Luukkonen, T., Tijssen, R. J. W., Persson, O., & Sivertsen, G. (1993). The measurement of international scientific collaboration. *Scientometrics*, 28(1), 15–36. <https://doi.org/10.1007/BF02016282>
- Matos, G. I. (2018). *Estudos de gênero e feminismos: uma análise bibliométrica da Revista Estudos Feministas* [Dissertação (Mestrado em Ciência da Informação)]. Universidade Estadual Paulista Júlio de Mesquita Filho.
- Meadows, A. J. (1999). *A comunicação científica*. Briquet de Lemos.
- Medeiros, T. D., Hoppen, N. H. F., & Vanz, S. A. S. (2020). A produção científica sobre estudos de gênero no repositório digital da UFRGS. *Biblos*, 34(2), 188–211. <https://doi.org/10.14295/biblos.v34i2.11515>
- Menezes, S. D., & Caregnato, S. E. (2018). Produção científica brasileira em química entre 2004 e 2013: análise dos artigos indexados na Web of Science. *Encontros Bibli*, 23(53), 25–38.
- Miceli, S. (1995). A Fundação Ford e os cientistas sociais no Brasil, 1962–1992. In S. Miceli (Ed.), *Histórias das Ciências Sociais no Brasil* (Vol. 2, pp. 341–396). Sumaré.
- Minella, L. S. (2013). Temáticas prioritárias no campo de gênero e ciências no Brasil: raça/etnia, uma lacuna? *Cadernos Pagu*, 40, 95–140. <https://doi.org/10.1590/S0104-83332013000100003>
- Narvaz, M. G. (2009). *A(in)visibilidade do gênero na psicologia acadêmica: onde os discursos fazem(se) política* [Tese (Doutorado em em Psicologia)]. Universidade Federal do Rio Grande do Sul.
- Nederhof, A. J. (2006). Bibliometric monitoring of research performance in the social sciences and the humanities: A review. *Scientometrics*, 66(1), 81–100. <https://doi.org/10.1007/s11192-006-0007-2>
- Pinto, C. R. J. (2003). *Uma história do feminismo no Brasil*. Fundação Perseu Abramo.
- Rago, M. (1998). Descobrimos historicamente o gênero. *Cadernos Pagu*, 11, 89–98.

- Resende, M. C. R., Ramos, M. A., Melo, A. A. O., Tomaz, C. M., Pacheco, M. H. S., & Silva, W. A. C. (2012). Participação feminina na produção científica em finanças nos ENANPADs de 2000 a 2010. *Revista Ciências Sociais Em Perspectiva*, 11(20), 1–22.
- Revista Estudos Feministas. (2020). *Histórico do periódico*. [Portal SEER REF]; UFSC. <https://periodicos.ufsc.br/index.php/ref/about>
- Saffioti, H. I. B. (1976). *A mulher na sociedade de classes: mito e realidade* (2nd ed.). Vozes.
- Sardenberg, C. M. B., & Costa, A. A. C. (2012). Feminismos no Brasil: enunciando e canalizando demandas das mulheres em sua diversidade. *Labrys: estudos feministas*, 20/21.
- Schuck, E. O. (2018). Conhecimento e espaços de poder: trajetórias da pesquisa acadêmica feminista no Brasil. *Inclusão Social*, 11(2), 30–43.
- Schwartzman, S. (2001). *Um espaço para a ciência: a formação da comunidade científica no Brasil*. Ministério da Ciência e Tecnologia.
- Silva, S. V. (2000). Os estudos de gênero no Brasil: algumas considerações. *Biblio 3W*, 5(262).
- Söderlund, T., & Madison, G. (2015). Characteristics of gender studies publications: A bibliometric analysis based on a Swedish population database. *Scientometrics*, 105(3), 1347–1387. <https://doi.org/10.1007/s11192-015-1702-7>
- Souza, R. F. (2004). Áreas do conhecimento. *DataGramaZero*, 5(2).
- Tomaz, R. (2015). Feminismo, maternidade e mídia: relações historicamente estreitas em revisão. *Galáxia*, 29, 155–166. <https://doi.org/10.1590/1982-25542015120031>
- Uchoa, D. M. (1959). Psicopatologia da despersonalização. *Arquivos de Neuro-Psiquiatria*, 17(3), 267–284. <https://doi.org/10.1590/S0004-282X1959000300003>
- Universidade de São Paulo. Grupo de Estudos de Gênero Educação e Cultura Sexual. (2008). *Ariadne: democratizando o conhecimento: a construção de uma base de dados sobre gênero, sexualidade e educação formal como subsídio para a formação de agendas e ações de políticas governamentais e não governamentais [base de dados]*.
- van Eck, N. J., & Waltman, L. (2007). VOS: A new method for visualizing similarities between objects. In *Studies in classification, data analysis, and knowledge organization* (pp. 299–306). Kluwer Academic Publishers. https://doi.org/10.1007/978-3-540-70981-7_34
- van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84(2), 523–538. <https://doi.org/10.1007/s11192-009-0146-3>
- Vanz, S. A. D. S., De Filippo, D., Caregnato, S. E., García-Zorita, C., Moura, A. M. M., Lascurain Sanchez, M. L., & Sanz-Casado, E. (2016). Scientific collaboration between Brazil and Spain: Journals and citations. *Encontros Bibli*, 21(47), 41–50. <https://doi.org/10.5007/1518-2924.2016V21N47P41>
- Vanz, S. A. D. S., & Stumpf, I. R. C. (2012). Scientific output indicators and scientific collaboration network mapping in Brazil. *Collnet Journal of Scientometrics and Information Management*, 6(2), 315–334. <https://doi.org/10.1080/09737766.2012.10700942>
- Vieira, A. S., Coelho, A. J., Miquelino, A. S., & Calado, P. (2016). Faces de Eva: Uma análise bibliométrica. *Faces de Eva: Estudos Sobre a Mulher*, 36, 34–60.
- Villar, J., Fernandes, M., Purwar, M., Staines-Urias, E., Di Nicola, P., Cheikh Ismail, L., et al. (2019). Neurodevelopmental milestones and associated behaviours are similar among healthy children across diverse geographical locations. *Nature Communications*, 10(1), 1–10. <https://doi.org/10.1038/s41467-018-07983-4>
- Wuchty, S., Jones, B. F., & Uzzi, B. (2007). The increasing dominance of teams in production of knowledge. *Science*, 316(5827), 1036–1039. <https://doi.org/10.1126/science.1136099>

Springer Nature or its licensor holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.

Authors and Affiliations

Natascha Helena Franz Hoppen¹  · Samile Andréa de Souza Vanz¹ 

✉ Natascha Helena Franz Hoppen
natascha.hoppen@ufrgs.br

¹ Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil