

Women's participation in graduate programs in Applied Social Sciences in Brazil

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Abstract

Objective: Even though women's presence in the academic milieu is currently more frequent, their delayed entry into this sphere may restrict their presence in Brazilian graduate programs. Hence, this study's objective is to analyze the participation of women in graduate programs in Applied Social Sciences from 2010 to 2019.

Method: Data were collected from the Catalog of Dissertations and Theses of the Coordination for the Improvement of Higher Education Personnel (Capes) concerning the production of dissertations and theses between 2010 and 2019 in the field of Applied Social Sciences. A total of 98,116 publications were found: 81,454 theses and 16,662 dissertations, which were cataloged according to gender. The letter M was assigned for men's productions, and W was assigned for women's productions. The results show that 48.66% concerned women's publications, while men authored 51.34%.

Results: The results indicate that women's participation in graduate programs increased over the years, especially in Master's programs; 83.39% of productions concerned Master's theses and 16.61% dissertations. The programs in which female presence was stronger in the period were public and business administration, accounting sciences, and tourism, which together account for 28.75% of the publications, followed by Law with 23.71%.

Contributions: Women's presence in graduate programs in Applied Social Sciences has increased in recent years. However, the presence of women in doctoral programs is inferior to that of men. Therefore, this study is relevant to encourage discussions about the presence of women in the Brazilian academy and the factors that restrict their presence in the academic milieu.

Keywords: Female gender; Graduate Program; Science policy.

Published in Portuguese and English. Original Version in Portuguese.

Round 1: Received in 25/5/2022. Ask to revise on 3/7/2022. Round 2: Resubmitted on 28/7/2022. Ask to revise on 26/8/2022. Round 3: Resubmitted on 23/9/2022. Accepted on 15/10/2022 by Bruna Camargos Avelino, Doutora PhD (Assistant Editor) and by Gerlando Augusto Sampaio Franco de Lima, PhD (Editor). Published on 23/12/2022. Organization responsible for the journal: Abracicon.

1. Introduction

Education is considered a right intended to promote personal development, preparing individuals to be citizens and professionally qualified. Hence, equal educational conditions should be provided to all (Constituição, 1988). Accordingly, the Universal Declaration of Human Rights (1948) states that education and teaching should disseminate awareness of human rights and freedom.

Studying gender roles is essential to understand how society is organized and the roles each gender plays. However, certain characteristics and patterns, such as the notion that men are supposed to be the financial providers while women are responsible for domestic chores, delayed the presence of women outside the home, such as in the academic milieu and job market (Lopes, 2015). Hence, gender inequality and preconceptions in the educational and professional spheres are consequences of socially constructed and established conceptions of the female gender (Melo, 2017).

In this sense, stereotypes impacted women's academic and professional lives and are perpetuated to this day. Hence, certain feminine characteristics such as empathy and sensitivity are used to justify barriers preventing them from entering or advancing in the job market. Additionally, the need to reconcile household chores, child care and professional responsibilities aggravate the process (Rodrigues *et al.*, 2015; Lara *et al.*, 2017; Carmo *et al.*, 2016).

Despite such difficulties, even though the participation of women in the academic milieu has been delayed, its increase in undergraduate and graduate programs in recent decades is promising. However, even though women are more educated than men, their presence in the job market, such as positions with a formal job contract and in the research field, is less frequent than their male counterparts (Cruz, 2019).

Although women's presence in universities is more significant than men's, women are less visible and less appreciated as professionals (Guedes, 2008). For example, Mendonça and La Rocque (2016) argue that when women are portrayed as scientists in cinematographic art, they usually play supporting roles rather than prominent roles. A similar situation is observed by Cardoso (2016), in which characteristics associated with the female gender, such as kindness and graciousness, are used to convey the idea that women are less capable than men in a working context.

Based on the previous discussion, this study focuses on the following research question: **What is women's participation in graduate programs (Master's and doctoral programs) in Applied Social Sciences in Brazil?** Hence, the objective is to analyze women's participation in graduate programs in the field of Applied Social Sciences in Brazil between 2010 and 2019.

Therefore, we expand the discussion about gender and inequality in graduate programs and the job market. In addition, the importance of verifying the participation of women in master's and doctoral programs is highlighted because this is the path for women to become researchers and professors. Thus, we emphasize the relevance of discussing and encouraging debates within universities regarding gender issues.

This study is divided into four sections in addition to the introduction to better present information. The first section presents the theoretical framework, addressing gender inequality and women's participation in science and graduate programs. The second section discusses the methodological procedures, and the third section presents an analysis of the results. Finally, the fourth section presents the final considerations.

2. Theoretical Framework

2.1 Gender Inequality

Lara *et al.* (2017) argue that gender roles are constructed and transmitted from a very early age. Thus, family members teach girls to perform domestic chores, while boys are taught to be independent by working outside the home. Leite & Pátaro (2013) also identified these differences in social roles that are attributed and taught to genders. Her research shows that girls are encouraged to perform tasks around the home, and boys are encouraged to study and train themselves through courses.

Differences between genders regarding opportunities are found in the school environment and permeate the path to college and job relationships (Teixeira & Freitas, 2015; Souza, 2016; Menezes, 2019; Leite & Pátaro, 2013). From this perspective, the lack of incentives and stereotypes concerning the female gender strongly interfere with social organization and opportunities provided to women as professionals (Rodrigues *et al.*, 2015; Andrade & Monteiro, 2018).

The historical barriers women encounter in society have led to many struggles for the change process to occur. Among these obstacles, the author highlights the prohibition of women from studying and getting involved with science because they were not supposed to have the necessary skills, such as insight and courage, which men would be endowed with (Melo, 2017; Lopes, 2015). In this sense, female and male behaviors started to be differentiated by society, in which some characteristics attributed to men, such as courage and intelligence, were considered to be superior to those attributed to women, such as fragility and patience (Leite & Pátaro, 2013; Lopes, 2015).

Fernandez (2019) reports that the conception of female inferiority is based on gender discrimination within society, especially in the job market. The author argues that certain professions are culturally perceived as more suitable for women while others are not. Thus, being a nanny, nurse, or teacher is aligned with being a woman because it involves activities previously performed at home, such as housekeeping and childcare.

Despite the effects arising from these limitations, the feminist movement contributed to making certain advances and improvements regarding gender relations possible in social settings, directly benefiting women (Melo, 2017). Among the advancements resulting from this struggle to obtain better conditions, women have greater participation in universities and the job market to support their families. Thus, they must reconcile their responsibilities at home and outside the home (Lara *et al.*, 2017).

Considering this context, women who manage to access the job market encounter obstacles in reconciling their professional and personal lives and, to a large extent, abdicate more outstanding professional achievements more frequently than men (Tavares & Parente, 2015; Amaral *et al.*, 2017; Lopes, 2015; Menezes, 2019). Amaral *et al.* (2017) sought to identify the mishaps imposed on students in a computer field course, mainly composed of men. The authors found that the abilities of female students are undervalued, especially their knowledge and, in professional terms, even in the university.

Furthermore, as discussed before, women's professional performance was influenced by the household chores traditionally attributed to them. For this reason, women are more frequently present in health and education courses, such as nursing, teaching, and social work. On the other hand, men are more frequently present in fields that distance themselves from these responsibilities, such as engineering and mathematics. Finally, note that the differences between genders are only related to biological factors rather than their abilities or competencies (Lopes, 2015).

According to Lima (2013), women find difficulties in professions such as military careers, executive positions, technology sectors, and science. As a result, they find few jobs and professional growth opportunities, while their technical-scientific knowledge is underestimated (Teixeira & Freitas, 2015; Carvalho & Rabay, 2015; Andrade & Monteiro, 2018). Therefore, women's path includes more mishaps than men's, especially in research (Tavares & Parente, 2015).

2.2 Women's Scientific Production

The participation of women in academia has increased since the 1980s and 1990s due to the institutionalization of higher education. Thus, in recent decades, women have been more frequently present in Brazilian universities, and there is a growing trend of women occupying research positions (Leta, 2003). Hence, the expectation for the coming years is that the proportion of female participation in science will match that of their peers. However, despite this advance, cultural barriers remain regarding the professional growth of women in the research field (Ohayon *et al.*, 2006). According to Tavares and Parente (2015), several studies use the term "glass ceiling" to refer to an invisible and impenetrable barrier between women and leadership positions.

Therefore, despite the expectation of female growth in the academic environment, women still face obstacles to getting a stable position in the academic milieu, especially in fields where women are not traditionally represented, such as exact sciences (Andrade & Monteiro, 2018; Ohayon *et al.*, 2006; Lima, 2013). Regarding this aspect, Silva and Prestes (2018) discuss the segmentation of fields of knowledge according to gender, considering that women are less represented in exact sciences due to a lack of openness and collective encouragement; hence, their scientific production in this field is less frequent as well.

On the other hand, women's presence is perceived in fields traditionally described as feminine, such as pedagogy and nursing, considering these professions are linked to teaching and care, aspects considered to be feminine (Andrade & Monteiro, 2018; Teixeira & Freitas, 2015; Ohayon *et al.*, 2006; Lima, 2013). From this perspective, Grossi *et al.* (2016) note that due to the majority of women in these programs, the level of scientific production is also higher in these fields than in exact sciences; the most significant number of dissertations is defended in the biological, health, and human sciences fields.

Gindre and Budó (2018) show the disparate participation of women in events in the field of criminal sciences compared to men. According to the authors, men present most papers at events such as annals, congresses, and seminars on criminal matters. When considering the coordination of events, the authors also point out that only 20 of the 79 individuals who became coordinators in the five years of research were women, showing that women are less represented in leading positions.

In addition to the production of knowledge, women remain a minority in positions of command and those of greater recognition. This fact is reflected in the academic milieu, where women disperse throughout their scientific careers (Tavares & Parente, 2015). Furthermore, Ohayon *et al.* (2006) argue that women find it difficult to ascend professionally in academic and scientific institutions because men traditionally dominate these environments, reinforcing the stereotype that men are more apt to assume leading positions.

According to Leta (2003), the different modalities of scholarships distributed by the National Council for Scientific and Technological Development (CNPq) are divided into scientific initiation programs, Master's and Ph.D. programs, recent Ph.D. graduates, and research productivity following this hierarchical order. In this sense, the proportion of female scholarship holders has expanded in the different types of scholarships awarded. However, as the hierarchical level of scholarships increases, the proportion of women decreases. This fact is explained by the low representativeness of women in prominent and recognized academic positions, which delays their participation in this milieu. Furthermore, the author shows that a portion of women goes through the initial modalities but do not continue in scientific activities as the recognition given based on grants is mainly restricted to men.

In this sense, Teixeira and Freitas (2015) argue that little attention is given to gender issues in academic environments, culminating in a few propositions to change this context. The authors mentioned above considered that these issues in the educational field affect the division of labor and assignments within educational institutions, disseminating a distinct organizational culture according to gender. Such factors favor men over women. In this sense, women's access to scientific productions is hindered and discouraged by implicit and structural practices that permeate society.

Nganga et al. (2021) argue that the tension in the trajectory of female researchers between academic and personal identities leads to the development of skills, such as time management, organization, and task prioritization, in an attempt to balance the numerous responsibilities they have. Furthermore, the authors believe that as career levels progress, the pressure of university tasks increases and the adjustments needed to adapt to new positions harm women, considering that the pace of graduate programs was not designed for women.

2.3 Graduate Programs

According to the Brazilian Institute of Geography and Statistics (IBGE, 2018), the participation of women in undergraduate programs is slightly higher than that of men. The literature confirms this statement, showing the greater participation of women in undergraduate programs (Ferri *et al.*, 2018; Silva & Prestes, 2018). However, even though women are more numerous than men at this level of training, their participation in graduate programs, such as Master's and doctoral programs, is less frequent than their male counterparts. In this sense, women leave academic studies after graduating; hence, they are less represented than men in graduate programs (Teixeira & Freitas, 2015; Ribeiro *et al.*, 2017; Tavares & Parente, 2015; Leta, 2003).

Thus, the participation of women in research is restricted since the beginning of academic life, either due to a lack of incentive to research, due to discrimination and devaluation of them as researchers or because of the low expectations of following a career as a scientist (Teixeira & Freitas, 2015; Silva & Prestes, 2018; Ribeiro *et al.*, 2017; Tavares & Parente, 2015; Menezes, 2019). Furthermore, according to Silva and Prestes (2018), the participation of women becomes restricted as the degree levels increase. In this sense, the presence of women in academia is less frequent, while their presence is more significant in Master's programs than in Ph.D. programs. Accordingly, Leta (2003) highlighted the female disadvantage in research and degree levels.

In this sense, Araújo (2016) discusses gender disparities in 2015 in Brazilian graduate programs in the field of philosophy. According to the author, approximately 28.4% of 3,652 students were women, while 71.6% were men. The same situation is found in the teaching career; only 20.76% of 785 professors were women. Furthermore, the author notes that women are 2.5% less likely to reach the top of the academic career in graduate schools, as full professors than men.

Ferreira and Casagrande (2016) analyzed women's female participation in research groups in the graduate programs in science and technology (S&T) at the Universidade Tecnológica Federal do Paraná (UTFPR). Their findings show that the faculty mainly comprised men, 72.33%. Additionally, in 2015, one of the programs, the one in energy systems (PPGSE), had no woman among its faculty members.

Furthermore, Ohayon et al. (2006) compared the participation of women in scientific research. Even though the statistics indicate an increase of women in research positions, women are clearly in a smaller number among awarded researchers with CNPq productivity grants, researchers leading research groups, and researchers nominated for development agency committees or appointed to leadership positions. The same occurs in France, where women are also a minority among full professors, on scientific committees, and in technology. Therefore, it is difficult for women to ascend professionally in Brazil and France, especially in the research field.

3. Methodological Procedures

This is a descriptive study, as it is intended to present an analysis of the characteristics found regarding gender in Brazilian graduate studies. As for the procedures, it is classified as a documentary study because it uses data that have yet not received treatment. Finally, its approach is characterized as a quantitative study (Raupp & Beuren, 2006).

3.1 Population and Sample

Information from Applied Social Sciences concerning the period between 2010 and 2019 was collected from the Capes Catalog of Dissertations and Theses. In addition, a spreadsheet was extracted from Capes' website that contained data concerning several productions conducted in graduate programs. However, according to this study's objective, only academic and professional dissertations and theses from the field of Applied Social Sciences and its respective programs, as determined by Capes, were considered.

In this segment, 98,116 productions were found: 81,454 (83.02%) concerned theses and 16,662 (16.98%) dissertations. Table 1 shows the total distribution of dissertations and theses according to regions. Note that the Southeast presents the largest share, with 53.79% of dissertations and theses, while the North presents the lowest, with 2.35% of dissertations and theses.

Table 1

Total production of dissertations and theses according to region.

Region	Total	%
Southeast	52,785	53.79%
South	21,688	22.10%
Northeast	14,826	15.11%
Midwest	6,520	6.65%
North	2,297	2.35%
Total	98,116	100.0%

Source: study's data (2022)

As for publications over time, Table 2 presents the total number of publications in the period. Note that 2010 presents the smallest proportion of publications, with 6.89%. The highest participation concerns 2019, with 13.27% of the data analyzed. Hence, the data presented in Table 2 shows that total production increased from 6.89% to 13.27% in the period.

Table 2

Total production of dissertations and theses over the years

Year	Total	%
2010	6,762	6.89%
2011	7,313	7.45%
2012	8,140	8.30%
2013	8,570	8.74%
2014	9,394	9.57%
2015	9,887	10.08%
2016	10,936	11.15%
2017	11,575	11.80%
2018	12,515	12.75%
2019	13,024	13.27%
Total	98,116	100.0%

Source: study's data (2022)

As for the distribution of productions according to the fields, ten fields of knowledge were identified. Table 3 shows the field of Applied Social Sciences and the number of dissertations and theses.

Table 3

Number of dissertations and theses according to the field of knowledge

Field of Knowledge	Total	%
Public and Business Administration, Accountancy, and Tourism	22,810	23.25%
Public Administration, Accountancy, and Tourism	7,338	7.48%
Architecture and Urbanism	8,541	8.70%
Applied Social Sciences I	2,906	2.96%
Communication and Information	8,867	9.04%
Law	26,724	27.24%
Economics	10,643	10.85%
Demography and city/regional planning	5,120	5.22%
Social Work	5,167	5.26%
Total	98,116	100%

Source: study's data (2022)

Table 3 shows that Law presents the highest production, with 27.24% of the total, followed by public and business administration, accounting sciences, and tourism, which together present 23.25% of publications. Regarding the lowest participation, applied social sciences I appears with 2.96%, while Demography and city/regional planning and social work present 5.22% and 5.26%, respectively.

3.2 Treatment of Data

All the dissertations and theses published in the graduate programs in Applied Social Sciences were identified and selected based on the data obtained. Furthermore, a ten-year time frame was considered to achieve this study's objective, based on the need to analyze the participation of women in graduate programs in the last decade. The productions were initially cataloged by genre, identifying the researchers with a letter M if a man or W if a woman.

This identification was performed manually; in some cases, gender was confirmed by searching the authors. Therefore, after this classification, the dissertations and theses were categorized to determine the total participation in graduate programs according to the modality of production. This process enabled analyzing how the production progressed over the years according to regions and fields of knowledge.

Thus, data were mapped using the following indicators: female audience, dissertations and theses, women's participation according to fields of knowledge, dissertations and theses according to region, dissertations and theses produced by women, and production per year. Hence, data were analyzed to meet this study's objective.

4. Analysis and Discussion of Results

4.1 Women's Participation in Graduate Programs

To analyze the difference between women's and men's publications, the authors were divided according to gender to identify which audience produces the highest number of dissertations and theses in the field of Applied Social Sciences in Brazilian universities. As a result, women's publications totaled 48.66% of the total, representing 47,744 productions, and men were responsible for 50,372 productions, or 51.34%.

Regarding this aspect, women were the minority, by a difference of 2.68%, which confirms what Seefeld et al. (2017) state about the tendency of women to increase their presence in graduate schools. Hence, the results show this trend of women's greater participation in graduate programs. Table 4 shows the total participation of women in the development of dissertations and theses and their respective percentages.

Table 4

Percentage of women's production

Women's production in graduate programs	Total	%
Dissertations	7,932	16.61%
Theses	39,812	83.39%
Total	47,744	100%

Source: study's data (2022)

Regarding the total number of women's productions in the period, Table 4 shows that women's participation was more significant in the number of theses, with 83.39% than in the number of dissertations, with 16.61%. Hence, the percentages in each program show that women are more likely to become masters than doctors. Such a fact is also reported in the literature, as some authors note that women leave the programs as the level of academic degrees increases (Teixeira & Freitas, 2015; Silva & Prestes, 2018). Thus, despite the more significant number of women participating in Master's degrees, their presence at the doctoral level is still rare.

4.2 Women's Participation According to Field of Knowledge

Here the participation of women is analyzed according to the field of knowledge. According to CAPES (2022), evaluation areas facilitate analysis and development activities. Thus, the criterion adopted is affinity. Two levels are considered; the first level is that of colleges and is divided into three, involving life sciences, humanities, and exact, technological, and multidisciplinary sciences. The second level concerns major fields and is divided into nine: Agricultural Sciences; Biological Sciences; Health Sciences; Human Sciences; Applied Social Sciences; Linguistics, Letters, and Arts; Exact and Earth Sciences; Engineering; Multidisciplinary Sciences.

In this study, we considered the College of Humanities and the large field of Applied Social Sciences, determined by Capes. In this sense, Table 5 shows that the fields of Public and Business Administration, Accounting Sciences, and Tourism together present the highest production, with 28.75%, followed by Law, with 23.71%. Even though the Law program presents a lower percentage, its participation is the largest, considering the field with the highest percentage is segmented into three different programs.

Table 5

Women's Participation in the fields of knowledge

Field of Knowledge	Total	%
Public and Business Administration, Accountancy, and Tourism	13,729	28.75%
Architecture, Urbanism, and Design	5,290	11.08%
Communication and Information	7,013	14.69%
Law	11,322	23.71%
Economics	3,445	7.21%
Demography and city and regional planning	2,845	5.97%
Social Work	4,100	8.59%
Total	47,744	100.0%

Source: study's data (2022)

Until 2015, CAPES used the nomenclature Social Sciences I to refer to programs that integrate communication and information. However, only the nomenclature Communication and Information was used to refer to these programs after this period. Hence, the division determined by CAPES and currently used to refer to the seven fields is adopted in this study. At the same time, the two groups mentioned before were added together, totaling 14.69% of the data. In this sense, the fields with the lowest participation of women were Demography and city/regional planning, with 5.97%, and Economics, with 7.21%.

4.3 Women's Production According to Region

Here, we analyze the percentage of women's participation in dissertations and theses according to region. Hence, below we present an analysis of the percentage of women's participation in dissertations and theses according to the region.

Table 6

Number of dissertations per region

Region	Women's production	Total production	% Women's production	% Production per region
Midwest	425	964	44.5%	5.7%
Northeast	948	1,845	51.9%	11.1%
North	33	73	41.8%	0.4%
Southeast	4,905	10,485	46.7%	63.0%
South	1,621	3,295	49.2%	19.8%
Total	7,932	16,662	47.60%	100.0%

Source: study's data (2022)

Regarding the number of dissertations per region, Table 6 shows that the productions are not homogeneously distributed. The Southeast presents the highest number of productions, with 63%, more than half of the total, and markedly ahead of the remaining regions. The South follows with 19.8%, the Northeast with 11.1%, the Midwest with 5.7%, and the North with only 0.4% of the total.

Therefore, according to Table 6, only in the Northeast did women produce more dissertations than men, with 51.9%. The South follows with 49.2%, and the Southeast presents the highest number of dissertations authored by women, with 46.7%. The participation of women in the Midwest and North was 44.5% and 41.8%, respectively.

As for women's participation in theses, Table 7 shows that the region with the highest number of productions in the period is the Southeast, with 51.93%. Conversely, the North presents the lowest participation, with 2.73%, followed by the Midwest, with 6.82%. Note that the literature shows that the North invests less in graduate programs, which is in line with this study's findings, showing that the number of productions in this region is lower than in the remaining regions (Tavares & Parente, 2015).

Still, some authors argue that there is a greater concentration of graduate publications in certain regions (Nascimento & Nunes, 2014; Tavares & Parente, 2015; Souza et al., 2017). This study's results corroborate the literature, considering that both dissertations and theses are more concentrated in the Southeast than in the North.

Table 7

Number of theses per region

Region	Women's production	Total production	% Women's production	% Production per region
Midwest	2,621	5,556	47.17%	6.82%
Northeast	6,835	12,981	52.65%	15.94%
North	1,245	2,224	55.98%	2.73%
Southeast	19,516	42,300	46.14%	51.93%
South	9,595	18,393	52.17%	22.58%
Total	39,812	81,454	48.88%	100.0%

Source: study's data (2022).

Regarding women's participation in the production of theses according to region, Table 7 shows that women authored more theses than men in the Northeast, North, and South, with 52.65%, 55.98%, and 52.17%, respectively. On the other hand, the Midwest had 47.17%, and the Southeast had 46.14% of women's participation. Even though the North presents the lowest number of publications, with 2.73%, women produced 55.98% of the theses in the region. On the other hand, the Southeast, which presents the highest production among all regions, with 51.93%, has the lowest percentage of theses published by women, with 46.14%.

These results corroborate previous studies, such as Silva and Prestes (2018), regarding the greater participation of women in Master's programs than in Ph.D. programs. In addition, note that women led the publication of theses in three Brazilian regions, accounting for more than half of what was produced. However, regarding the number of dissertations, only the Northeast presents 51.9% of publications authored by women. Thus, even though women are more frequently present in Master's programs, their presence in doctoral programs is less frequent.

4.4 Progression of Women's Participation According to Year

In this section, we present how academic productions progressed over the years, along with women's participation in the publication of dissertations and theses.

Table 8

Women's participation in the publication of dissertations over the years

Year	Women's production	Total production	% Women's production
2010	430	944	45.55%
2011	438	980	44.69%
2012	577	1,274	45.29%
2013	622	1,334	46.63%
2014	719	1,541	46.66%
2015	780	1,625	48.00%
2016	929	2,002	46.40%
2017	1,077	2,189	49.20%
2018	1,146	2,311	49.59%
2019	1,214	2,462	49.31%
Total	7,932	16,662	47.61%

Source: study's data (2022).

The percentages in Table 8 were calculated considering the differences between genders concerning the total number of productions. Thus, Table 8 shows that the percentage of women's participation varies slightly in the period. This analysis shows a gradual increase in the period. However, a drop is observed between 2010 and 2011 and 2015 and 2016 in the percentage of women in the programs. The year in which women presented the highest participation was 2018 and the year with the lowest participation was 2011, with 44.69%.

As for the number of theses authored by women, a larger variation is found regarding theses than dissertations (Table 9). 2019 was the only year in which the number of women who attended a Master's program was higher than men, with 50.75%. A variation between 46.87% and 49.21% is found in the remaining years. Overall, publications increased by 3.88% from 2010 to 2019.

Table 9

Women's Participation in theses over the years

Year	Women's production	Total production	% women's production
2010	2,727	5,818	46.87%
2011	3,021	6,333	47.70%
2012	3,334	6,866	48.56%
2013	3,537	7,236	48.88%
2014	3,834	7,853	48.82%
2015	4,065	8,262	49.20%
2016	4,362	8,934	48.82%
2017	4,551	9,386	48.49%
2018	5,021	10,204	49.21%
2019	5,360	10,562	50.75%
Total	39,812	81,454	88%

Source: study's data (2022)

Even though the number of female Masters is higher than that of female doctors, the percentage of participation in both master's and Ph.D. programs is close to 50%. The same finding is shown by Ohayon *et al.* (2006), i.e., men's and women's publications tend to equalize. However, this study's results show an increase of approximately 4% in the period for both dissertations and theses. In this sense, it is clear that the mishaps need to be overcome to ensure gender equity within the academy and job market.

5. Conclusion

Understanding women's context in society and the obstacles they face to reach leadership positions is essential to encourage debates on gender inequality. Many factors influence the barriers impeding advancements in the university environment, such as the difficulty of women reconciling the second shift and having their knowledge underestimated.

This study's objective was to analyze women's participation between 2010 and 2019 in graduate programs in Applied Social Sciences. According to this study, women's participation increased in graduate programs. Women authored 47,744 publications in the period analyzed, i.e., 48.66% of the total dissertations and theses. Thus, regarding the total number of women's publications, there were more theses, with 83.39%, than dissertations, with 16.61%.

Regarding the fields of Applied Social Sciences with the highest production authored by women, Public and Business Administration, Accounting Sciences, and Tourism stand out. Together, these represent 28.75% of the total, followed by Law, with 23.71%. As for the fields with the lowest participation of women in graduate programs, Demography and City/Regional Planning amount to 5.97% and Economics to 7.21%.

As for the number of dissertations according to region, only in the Northeast did women surpass men, with 51.9%, while the remaining regions had less than 50% participation. About Master's degrees, women's participation in the period was higher than men's in the Northeast, North, and South. Note that the region with the highest number of dissertations and theses is the Southeast, with 63% and 51.4%, respectively, although the analysis shows that women are less represented than men in this region.

The progression of productions over the period varied over the years analyzed, especially regarding Master's degrees. Only in 2019 did women surpass men in the number of theses, with 50.75%. Overall, the production increased by 3.88% from 2010 to 2019. Regarding the dissertations, a gradual increase was found over the years, with the highest participation of women in 2018, with 49.59%.

The results lead to the conclusion that there is a tendency for women to be more represented in graduate programs in Applied Social Sciences in Brazil. Their presence is not the same nationwide though, which impacts job opportunities, especially for faculty positions at universities.

As a research limitation, we note that, due to the significant ethnic variability in Brazil, there was difficulty in identifying the gender of foreign and even Brazilian names. Thus, gender was confirmed through an online consultation. Nevertheless, such a limitation does not invalidate this study's findings, which contribute to the discussion regarding the presence of women in Brazilian academia and the factors that influence their presence in graduate programs.

Thus, future studies could investigate the factors that explain the differences found here. Hence, aspects such as encouragement and openness to genders in the various fields, faculty composition, and potential influences on careers in research, including the culture of university environments, can be addressed in the future.

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