

Does the Brazilian postgraduate have a gender and color bias?

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1. Introduction

Brazil is commonly known for its ethnic-racial and cultural diversity (Schwartzman, 1999). However, marginalization and underrepresentation of several social groups still persist (Nogueira; Felipe; Teruya, 2008). When focusing on ethnic-racial matters for characterizing the Brazilian postgraduate public sector, and using the Racial Parity Index (IPR)ⁱ as a reference, the demographic census of 2000 and 2010 reveal that black people are underrepresented within the postgraduate courses across Brazil (Artes, 2018). Furthermore, most analyses of Brazilian postgraduate students' profiles revolve around gender differences and the criticism regarding androcentrism and sexism, with only a few addressing gender and race/ethnicity jointly (Barros & Silva, 2019; Minella, 2013).

The lack of representativeness of black students in the postgraduate sector is also noticeable at the micro-level on certain public universities. The Federal University of Paraná (UFPR), for instance, shows that black people are underrepresented among both students and faculty across all three academic levels (professional masters, academic masters, and Ph.D.), especially in the latter, where blacks are almost inexistent. On the Fluminense Federal University (UFF), by its turn, there is a perceivable disadvantage of black women attending master courses when compared to their white peers, thus revealing the existence of racial disparities among *stricto sensu* postgraduate students (Pinto, 2007).

Recognizing the inequalities in Brazilian postgraduate scenario, the Ford Foundation created an Scholarship Program from 2001, whose objective was to contribute to the consolidation of a new generation of leaders from the social segments who have faced more intense restrictions on access to higher education. It is considered the first affirmative action in Brazilian postgraduate, responsible for funding, in total, 343 scholarships for underrepresented groups (blacks, *pardos*, and indigenous), especially from the North, Northeast, and Midwest regions of the country (Rosemberg & Andrade, 2008).

In face of this debate, which shows that the Brazilian postgraduate scenario reflects racial inequalities also historically present on society, this article was conducted based on the premise that the prevalence of race and gender minorities as postgraduate students does not correlate to their distribution across the Brazilian Society. Therefore, this paper aims at providing an overview of the postgraduate students' profile in Brazilⁱⁱ, based on gender and race characteristics. For the analysis, we use the latest secondary data from Brazilian Institute of Geography and Statistics (IBGE) and the two Brazilian funding agencies: National Council for Scientific and Technological Development (CNPq)ⁱⁱⁱ, Coordination for the Improvement of Higher Education Personnel (Capes)^{iv}.

Discussions about gender and race in higher education from a national perspective are particularly targeted to public officials and policymakers who would be interested in making informed decisions on the future of the higher education policies. It would also be of interest to the civil society and international organizations looking to develop programs to strengthen inclusion in the Brazilian postgraduate landscape.

This paper is divided into four sections. The first one focuses on presenting the most relevant milestones of the Brazilian postgraduate system with a brief history of the students' profiles. In the second section, the methodology is presented; while in the third section, we outline the results and discussion. In the fourth and final section, we conclude the paper discussing the perceived challenges to tackle inequalities in the Brazilian research landscape.

2. A historical perspective of the Brazilian postgraduate

The Brazilian *stricto sensu* postgraduate system is composed of Masters and Doctorate programs and courses distributed across the entire national territory. It has had significant influence from the American and European systems since its origin, with two distinct moments. According to Balbachevsky (2005), in the 1930s, the Brazilian universities received the first groups of foreign professors who came for academic missions or as political refugees. They provided the first model of postgraduate studies, whose characteristics resembled the set up encountered in their home countries featuring a professor surrounded by a small group of students. It is important to note that these groups have established themselves in a small number of universities (Balbachevsky, 2005), and they represented the national elite whose vast majority of students were comprised of men (Martins, 2000).

From the 1950s, essential institutions were created to support both the postgraduate system and the national innovation system, such as Capes, CNPq, research agencies, and Financiadora de Estudos e Projetos (FINEP)^v. Both Capes and CNPq are the largest Brazilian institutions promoting research in Brazil. They are also the agencies that grant the most scholarships to researchers.

The Sucupira Report (Almeida Jr. *et. al*, 2005) – CFE number 977/65, approved in 1965, is the second moment of the postgraduate sector and regarded up to date as the turning point in the consolidation of the Brazilian postgraduate system (Balbachevsky, 2005). Largely influenced by the American model, it set up the formal structure, the scope, and role of the postgraduate studies in Brazil.

After 1960, the formal qualification and investment in human resources to act in science and technology was mainly driven by the government, which coincides with the period of military dictatorship (Moreira & Velho, 2008; Morosini, 2009). Since the 1970s, there were some initiatives to further improve and organize this system, with special emphasis on the Postgraduate National Plan (PGNP) (Morosini, 2009). This initiative, which had several versions, aimed at the institutionalization, qualification, and planning of the national postgraduate scenario based on the country's Science and Technology (S&T) needs. In 1985, the Ministry of Science and Technology was founded, with one of its objectives being the adaptation of the S&T research to the socio-economic context and the physical and environmental conditions of Brazil.

Following the Ministry's foundation, the 1988 Constitution determined that universities should obey the principle of inseparability between teaching, research, and extension, which means that it is no longer possible to create differentiated institutional models. Furthermore, the 218th Constitution Article claims that "the State will support the training of human resources in the areas of science, research and technologies, and will grant those who deal with it the necessary means and working conditions". This highlights a commitment to support the Brazilian educational system, especially postgraduate, reinforcing its important role in this context.

Additionally, the creation of States Research Support Agencies (FAPs) in 1990 aimed to complement federal programs in the promotion of scientific activities, to develop competent researchers, to privilege basic research as well as political and technological development interests.

The current PGNP (2011-2020) discusses the Brazilian postgraduate evaluation system, the importance of multidisciplinary in postgraduate studies and the asymmetries in the distribution of postgraduate programs in the national territory. It presents topics such as the internationalization of graduate studies through international cooperation, without leaving aside the funding of graduate studies, and a new role for agencies (Ivashita & Vieira, 2017). The novelty is that, in parallel to this plan, the new National Education Plan (NEP) is being prepared.

In fact, for the first time, a national education plan will contemplate the goals of postgraduate since the PGNP will be an integral part of the NEP (Capes, 2020).

Despite all these plans and the intention to further develop the postgraduate sector in Brazil, there have been cuts on the forecasted investments since 2019. Under the Jair Bolsonaro's government, the universities are facing financial and reputational challenges. The main agencies such as CAPES and CNPq had their budgets significantly reduced, weakening policy and financial incentives towards research and development in the country (Da Silva, Pires & Pereira, 2019; Cardoso Amaral, 2019).

In 2018, Brazil offers 4,641 postgraduation programs that accommodate 7,043 master and doctorate courses in several fields of study, with some universities having only one of the modalities (Dados Abertos – CAPES, 2020). The Master and Doctorate scholarship grants are monthly paid worth, respectively, BRL 1,500 and BRL 2,200.

3. Data and Methodology

In this paper, we analyze post-graduate students based on their gender and race identities. These two concepts are articulated in the article as race referring to an individual's phenotypical traits, such as skin color (Kabad; Bastos & Santos, 2010), and ethnicity as a multidimensional term referring to socio-cultural factors (Kabad; Bastos & Santos, 2010; Santos *et al.*, 2010; Guimarães, 2011). We have opted to use the term "race" (or "colors") as opposed to "ethnicity", following the official classification used by IBGE. Therefore, individuals are divided into five categories: white, black, *pardo*^{vi}, yellow, and indigenous. Besides IBGE data, we also used for the analyses the latest available data from the CNPq and Sucupira Platform.

According to an IBGE (2020) projection, the population was 51% women and 49% men in 2018. Distributing this number according to the self-declaration of race, 46.9% of the population is *pardo* (racially mixed or "brown"), 42.9% is white, 9.2% is black, and yellow, indigenous, and non-declared sum up 1% (IBGE, 2020). This means that the country is composed mostly of *pardos*, which when summed with blacks comprise more than half of the population. Lastly, IBGE (2020) also states that 6.7% of the population possess some type of disability, such as visual, hearing, walking, mental, or intellectual.

CAPES' open data system, accessed from the Sucupira Platform, is responsible for sharing all information about post-graduate in Brazil, including students' profiles, and it collects annual information divided by quadrennials, with the current one starting in 2017 and ending in 2020. The system provides public information between 2004 and 2018 (Dados abertos CAPES, 2020), with 2018 being used as the latest available. Then, for accuracy, we have used 2018 as a pattern of comparison and representativeness between the data sources. It is assumed that all post-graduate programs feed the platform with data from students in a regular situation, them being either Brazilian or foreign. Thus, this is the most assertive data to be used.

The total number of postgraduate students in 2018 was 390,421, with 384,829 Brazilians and 5,592 foreigners from 117 different countries (see table 1). Since data from IBGE is being used for comparison with data from CAPES, we opted to remove foreigners from the analysis. They represent a small number of the Brazilian population, that in 2018 was around 0,4% (Cavalcanti, Oliveira, Macêdo & Pereda, 2019).

From the 384,829 Brazilian students, 199,894 did not declare their race or there is no information available. For this matter, the cohort considered for the subsequent analysis comprises of 184,935 students, corresponding to 48.1% of the total. It is important to note that despite the lack of information for more than half of the students, it is still possible to draw some conclusions.

Finally, this is a descriptive paper aimed at providing an overview of the postgraduate students' profile in Brazil. The data was analyzed employing descriptive statistics. According to Guimarães (2008), the objective of this technique is to summarize the main characteristics of a data set through tables, graphs, and numerical summaries, thus describing the data can be compared to taking a picture of reality.

4. Results and discussion

The general outlook of the data shown in Table 1 allows us to find information about the national post-graduate scenario. The percentages of women and men attending postgraduate studies are representative of the gender division found in the Brazilian population. Thus, despite women being considered a minority on some spheres of society (Lopes, 2006; Leta, 2003) they cannot be considered underrepresented in the Brazilian postgraduate system. This finding corroborates with the study carried out by Barros & Mourão (2020).

However, when analyzing the percentage of the white population in the postgraduate system, we noted a major difference from the national population distribution. Although *pardos* are the country's majority, white people dominate the postgraduate scenario. If we analyze *pardos* and blacks together, following the same approach as Pedrosa *et al.* (2014) and Artes *et al.* (2016), their underrepresentation in the context of postgraduate becomes even more explicit.

There is also a percentage referring to those that declared some form of disability. For IBGE, 6.7% of the general population possesses some form of disability, while the number found in the Sucupira Platform is barely 0.4%, thus concluding that this group is also underrepresented in the postgraduate courses. It is important to note that some types of disability can incapacitate individuals to perform daily activities, which can also affect their access to education and, consequently, to the postgraduate access.

The data analyzed indicates that yellow and indigenous individuals are equally represented in the postgraduate system according to their respective distributions in the general population (as per Table 1). Data from IBGE reveal that these groups together represent less than 1% of the Brazilian population (also considering those that did not declare race). Within the postgraduate system, they represent 1.3% and 0.3%, respectively. A hypothesis for justifying these findings, at least for the indigenous population, is that affirmative policies adopted by universities have contributed towards balancing their representation as postgraduate students. By providing quotas for indigenous people, these initiatives have promoted their access to universities (Lobato & Benedetti, 2012).

Table 1: General outlook of Sucupira Platform data compared with IBGE data.

Gender	Post-Graduate general distribution Sucupira Platform Capes		Brazilian population general distribution IBGE
	Absolute value	Percentage	Percentage
Men	176,797	45.9%	49%
Women	208,032	54.1%	51%
Total (with no declared)	384,829	100 %	100 %
Race	Absolute value	Percentage	Percentage
White	131,417	71.1%	42.9%
Pardo	40,345	21.8%	46.9%

Black	10,185	5.5%	9.2%
Yellow	2,384	1.3%	1.0%
Indian	604	0.3%	
Total (with no declared)	184,935	100%	100%
No declared/without information	199,894	51.9%	

Disabled	Absolute value	Percentage	Percentage
No	383,121	99,6%	93,3%
Yes	1,708	0,4%	6,7%
Total (with no declared)	384,829	100%	100%

International students	Absolute value
Foreigners	5,592
Countries	117

Source: elaborated by the authors using Sucupira Platform and IBGE data.

To understand deeply the differences in Brazilian postgraduate, we present in Table 2 a detailed distribution of men and women according to their self-declaration of race in the Sucupira Platform.

Both white men and women are the majority in the postgraduate educational system, a fact also indicated by Artes (2018), Minella (2013) e Pinto (2007). However, *pardo*, black and indigenous men are a majority relative to *pardo*, black and indigenous women. Only self-declared yellow men and women are similarly distributed. This suggests that *pardo* and black women are two groups still underrepresented in the postgraduate system.

Table 2: Distribution of men and women according to self-declaration – Sucupira Platform

MEN DISTRIBUTION - RACE		
	Absolute value	Percentage
White	56,721	69.3%
Pardo	18,927	23.1%
Black	4,801	5.9%
Yellow	1,043	1.3%
Indigenous	323	0.4%
Total	81,815	100%
WOMEN DISTRIBUTION – RACE		
	Absolute value	Percentage
White	74,696	72.4%
Pardo	21,418	20.8%
Black	5,384	5.2%
Yellow	1,341	1.3%

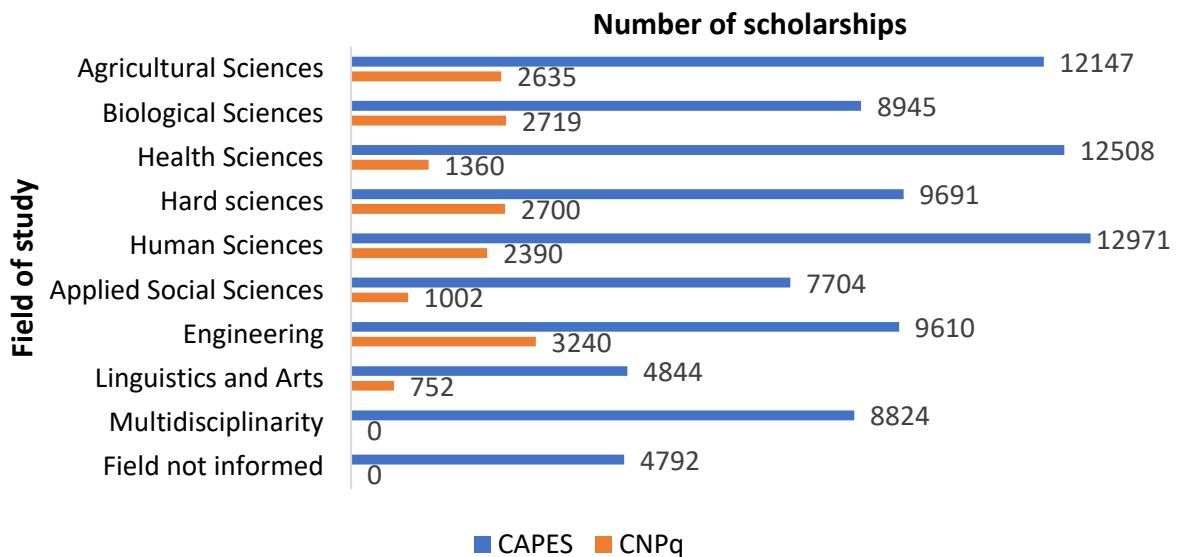
Indigenous	281	0.3%
Total	103,120	100%

Source: elaborated by the authors using Sucupira Platform data.

In 2018, CAPES granted 92,036 scholarships (Plataforma Sucupira, 2019). Analyzing this number by region, we can identify that the Southeast concentrates most of the grant holders (47.1%), followed by the South (23.2%), Northeast (17.9%), Midwest (7.2%) and the North (4.5%). This shows a great disparity in terms of the distribution of these resources throughout the country. However, it is important to mention that the most research-intensive universities are located in the Southeastern and Southern regions, as well as the highest number of postgraduate programs (Santos, 2015).

Figure 1 illustrates the scholarship division by field of study according to data from CAPES (Plataforma Sucupira, 2019) and CNPq (Fomento Nacional, 2020). The graph points out that CAPES distributes the scholarships more evenly in all fields of study, while CNPq focuses more on the fields of engineering, biological and hard sciences^{vii}.

Figure 1: Distribution of postgraduate scholarships in Brazil by field of study in 2018



Source: elaborated by the authors using CAPES and CNPq data.

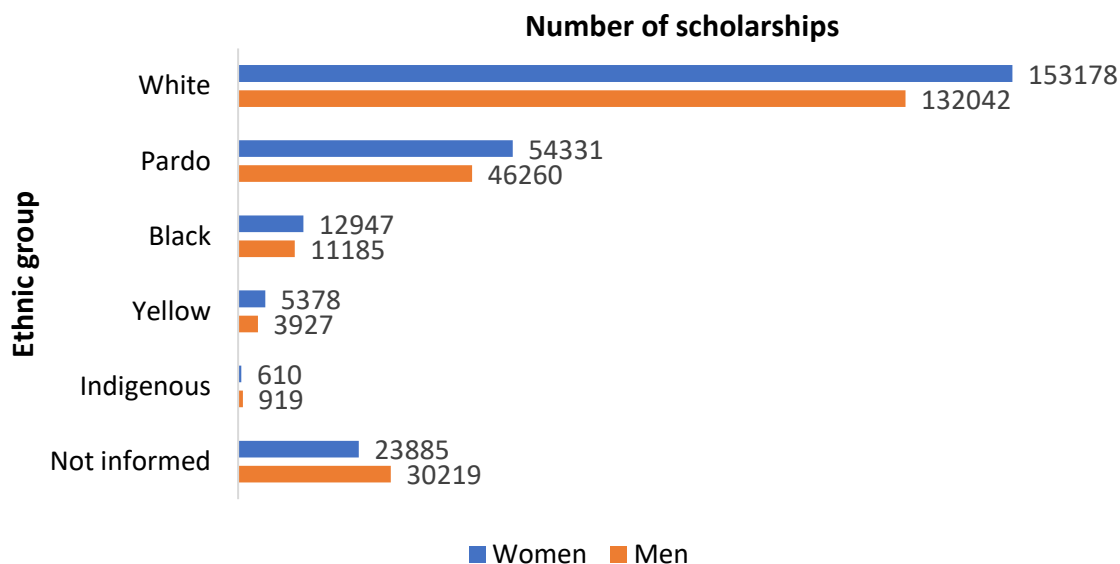
Note: CNPq data refers to the average number of monthly scholarships paid from January until July 2018; this is a limitation in the Fomento Nacional platform.

Concerning the distribution of scholarships by gender and race, a study published by CNPq, National Institute for Educational Studies and Research “Anísio Teixeira” (Inep), and Parent in Science^{viii} for the years between 2013 and 2017 shows that the majority of students that received scholarships (considering undergraduate research, master’s, Ph.D. and productivity researcher) granted by the institution have declared themselves as white, between both men and women.

Data show once again that white men and white women have received most of the financial resources destined for research scholarships. *Pardo* and black women account for 67,278 (26.9%) scholarships, whereas black women account only for 12,947 (5.2%). Women self-declared yellow and indigenous accounts for, respectively, 5,378 (2.1%) and 610 (0.2%)

scholarships. *Pardo* and black men received 57,445 (25.6%) scholarships between 2013 and 2017, and black men were the recipient of only 11,185 (5%) scholarships. Yellow and indigenous men are the lowest number of recipients among men, accounting for 3,927 (1.7%) and 919 (0.4%) scholarships, respectively. Figure 2 details this information below:

Figure 2: Distribution of CNPq postgraduate scholarships by the racial group between 2013 and 2017

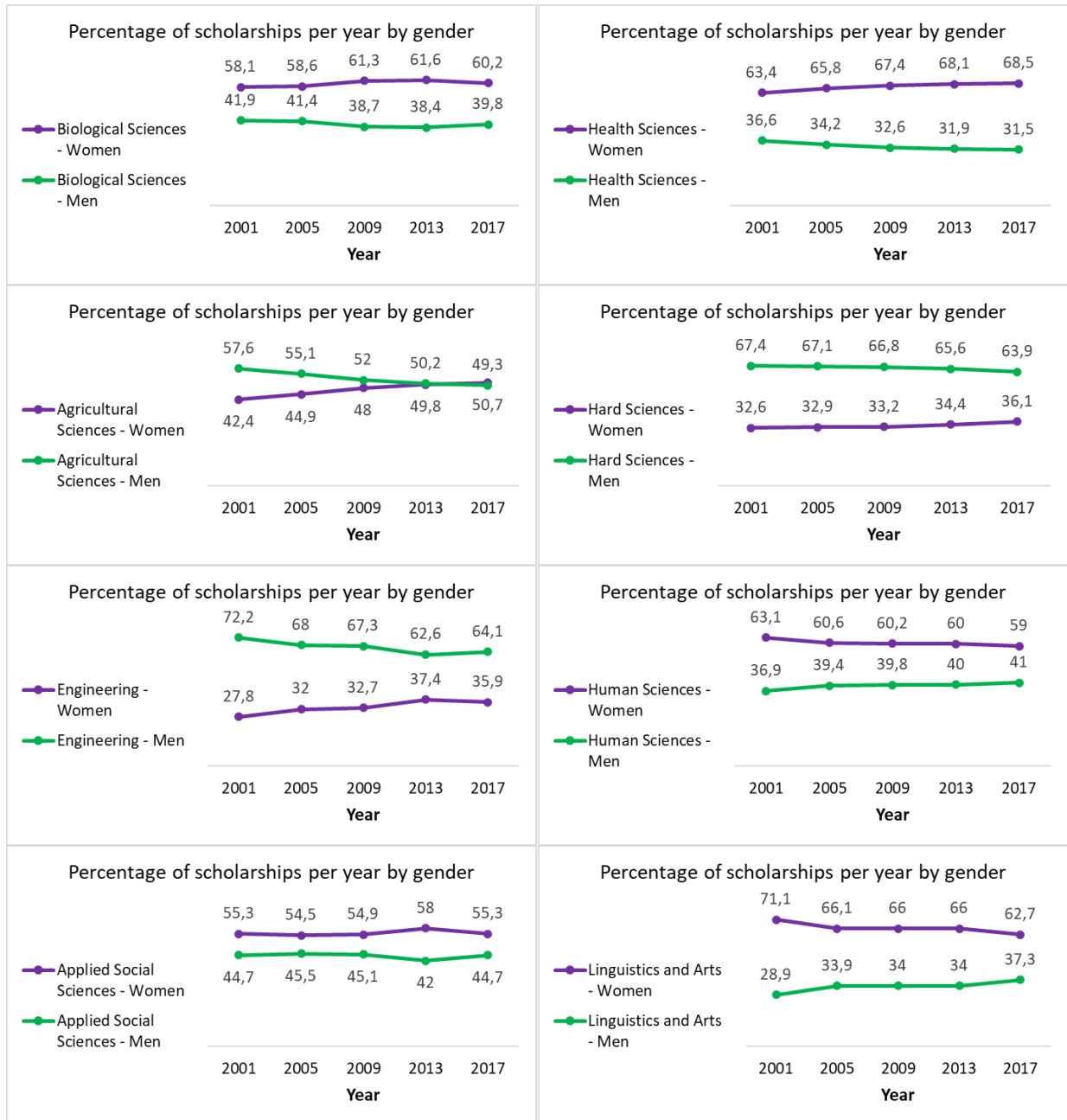


Source: elaborated by the author based on Gender and Number (2018).

Women, regardless of race, still face challenges related to social stigmas, such as the concept that they are a better fit at disciplines that employ soft skills. They occupy fewer places in technological fields such as engineering and hard sciences, but more places in social sciences such as human sciences and applied social sciences. The women's presence is more common to areas related to health and humanities (Huyer, 2015).

The scholarships distributed by CNPq (Fomento Nacional, 2020) in 2018 also have confirmed this point of view. The total number of scholarships granted to women was 51% while 49% were granted to men. However, although women have the majority of scholarships, there are two areas that this number is different: in the hard sciences, 5.7% are granted to women and 10.4% to men; and in engineering, 7.2% of the scholarships go to women, while 12.1% go to men. Even we looked for the past years, as shown in Figure 3, this situation is still the same. No data were found regarding the gender distribution of scholarships granted by CAPES for the same period.

Figure 3: Percentage of postgraduate scholarships per year by gender in CNPq



Source: elaborated by the authors based in MCTIC data

Areas related to technology and innovation are dominated by men, and there is still an entry barrier for women in this regard. According to the set of data from CNPq presented above, women expanded their participation between 2001 and 2017 in engineering, hard and earth sciences, although they still are less than 40% of the postgraduate students.

Other studies have also highlighted differences in men's and women's participation by knowledge area and course (see Artes, 2018; Barros & Silva, 2019; Guedes *et al.*, 2015). Barros & Mourão (2020) identified a prevalence of women in the areas of Health, Humanities and Linguistics and Arts, and the prevalence of men in the Hard Sciences, Engineering, and Agricultural Sciences.

Similarly, by taking into account data from the Lattes curriculum of 4,970 women who ended their doctoral thesis between 2000 and 2013, Grossi, Borja, Lopes and Andalécio (2016) have found greater women participation in the fields of Biological, Health, and Human Sciences, in courses typically regarded as “feminine courses” (Pinto, 2007).

Sacco *et al.* (2016), by analyzing productivity researcher scholarship holders (PR), conclude that the women predominance among PRs is a particularity of fields such as Psychology and Nursing, in which women account for more than 90% of scholarship holders. However, there is evidence of change in gender distribution by course and field of knowledge within the PR context, contradicting the history of women representation in some areas (Guedes *et al.*, 2015). This is the case of the Agricultural Sciences, which saw an increase in women's participation, as we can identify in figure 3 as well. On the other hand, Human Sciences and Linguistics, Languages and Arts, witnessed a decrease of the same public.

Furthermore, maternity is also another challenge to be faced. Researchers that became mothers affirm that pregnancy spurs negative reactions from colleagues and superiors – since a maternity leave will be necessary – and the productivity of the researcher could be compromised. Estimates claim that the impact of maternity in the scientific career of women is of 5 years (Gênero e Número, 2018), and the percentage of women that dedicate to science reduces as they progress further in the academic career (Huyer, 2015). This implies that, as they become older, they dedicate less towards research development possibly due to familiar activities.

It is worth noting that, according to data from the Sucupira Platform (Dados abertos CAPES, 2020), women abandon or are expelled from post-graduate (60.2%) less than men are (39.8%), implying that, while women face more challenges pursuing the academic career, they are found to be more persistent than men.

Conclusions

The objective of this paper was to provide an overview of the postgraduate students' profile in Brazil, based on gender and race characteristics and using data from IBGE, CNPq and Capes. As an to answer our title question “*Does the Brazilian postgraduate have gender and color bias?*”, our results show that the percentage of women and men enrolled in postgraduate courses correlates with the gender distribution in the Brazilian society, thus revealing no gender differences in this regard. However, when we shed light over knowledge areas, the differences become clear: men are the majority in hard sciences and engineering, whereas women prevail in humanities and health sciences.

About the race profile, the postgraduate students are predominantly white, accounting for 71.1% of the total number of students. Black and *pardos* are statistically underrepresented groups within the Brazilian postgraduate system when compared to the national distribution, while yellow and indigenous people are not. However, it is worth mentioning that discussions about equality between social groups should go beyond the numbers, meaning that even minorities that are currently represented must also be granted their own space in terms of culture, traditions and identity. We must think beyond the phenotypes and incorporate the feeling of belonging for these groups. This means building a new plural university that represents its structure based on the contribution of all the actors within its space.

Our findings have especial implications for the political and social fields. From a policymaking perspective, there is an evident need to monitor ongoing policies, but also to propose new initiatives aiming to address social-cultural differences between groups and gender differences between areas of knowledge. In other words, policies which do not simply represent minorities statistically, but include their ethnic and social differences.

We must take public universities as a diverse space of discussion and social construction of knowledge. Due to their social mission, they should represent society as a whole and not just a minor part of it. These are the challenges to be faced, which start, precisely, with works like this, which contribute to uncovering the differences such as gender versus field of knowledge and/or gender versus race. There is much more discussion to be held until we indeed have equity in all terms of the Brazilian postgraduate system.

As an avenue for future studies, we strongly indicate comparisons with the final quadrennial data from the Sucupira Platform to identify progress regarding racial equality in the Brazilian postgraduate system.

Referências

- Almeida Júnior, A., Sucupira, N., Salgado, C., Barreto Filho, J., Silva, M. R. e, Trigueiro, D., Lima, A. A., Teixeira, A., Chagas, V., & Maciel, R. (2005). Parecer CFE nº 977/65, aprovado em 3 dez. 1965. *Revista Brasileira de Educação*, 30, 162–173. <https://doi.org/10.1590/s1413-24782005000300014>
- Artes, Amélia; Unbehaum, Sandra; Silvério, Valter (orgs.) (2016). Ações afirmativas no Brasil: reflexões e desafios para a pós graduação. São Paulo: vol. 2, *Cortez Editora*.
- Artes, A. (2018). Dimensionando As Desigualdades Por Sexo E Cor/Raça Na Pós-Graduação Brasileira. *Educação Em Revista*, 34(0), 1–23. <https://doi.org/10.1590/0102-4698192454>
- Balachevsky, E. (2005). A pós-graduação no brasil novos desafios para uma política bem-sucedida. *Os Desafios Da Educação No Brasil, January 2009*, 275–304. https://portais.ufg.br/up/67/o/Pos-Graduacao_Brasil_2.pdf
- Barros, S. C. da V.; Mourão, L. (2020). Gender and science: An analysis of Brazilian postgraduation. *Estudos de Psicologia (Campinas)*, 37, 1–12. <https://doi.org/10.1590/1982-0275202037e180108>
- Barros, S. C. da V., & Silva, L. M. C. e. (2019). Desenvolvimento na carreira de bolsistas produtividade : uma análise de gênero. *Arquivos Brasileiros de Psicologia*, 71(2), 68–83.
- Cardoso Amaral, N. (2019), “As Universidades Federais brasileiras sob ataque do Governo Bolsonaro”, en *Propuesta Educativa*, Año 28, núm. 52, noviembre 2019, pp. 127 a 138
- Capes. Plano Nacional de Pós Graduação 2011-2020 (2020). Available in <https://www.capes.gov.br/plano-nacional-de-pos-graduacao> > Access Jul, 2020
- Cavalcanti, L; Oliveira, T; Macêdo, M; Pereda, L. (2019) Resumo Executivo. Imigração e Refúgio no Brasil. A inserção do imigrante, solicitante de refúgio e refugiado no mercado de trabalho formal. *Observatório das Migrações Internacionais; Ministério da Justiça e Segurança pública/Conselho Nacional de Imigração e Coordenação Geral de Imigração Laboral*. Brasília,DF: OBMigra.
- Dados abertos – Capes. [2017 a 2020] Discentes da pós graduação stricto sensu do Brasil. Available in <https://dadosabertos.capes.gov.br/dataset/2017-2020-discentes-da-pos-graduacao-stricto-sensu-do-brasil> > Access Jul. 2020
- Dados abertos – Capes. [2017 a 2020] Cursos da pós graduação stricto sensu no Brasil. Available in <https://dadosabertos.capes.gov.br/dataset/2017-a-2020-cursos-da-pos-graduacao-stricto-sensu-no-brasil> > Access Jul. 2020.
- Da Silva, M. R., Pires, G. D. L., & Pereira, R. S. (2019). A política de devastação e autoritarismo de Bolsonaro, ‘o exterminador do Brasil’: ‘future-se’ para o abismo, sofrimento e adoecimento do Brasil e a urgente resistência ativa. *Motrivivência*, 31(59), 1-15.
- Gênero e Número (2018). Infográfico: os caminhos de mulheres e homens na ciência brasileira. Available in <http://www.generonumero.media/infografico-os-caminhos-de-mulheres-e-homens-na-ciencia-brasileira/> > Access Jul 2020.

- Guimarães, A. S. A. (2011). Raça, cor, cor da pele e etnia. *Cadernos de Campo (São Paulo 1991)*, 20(20), 265-271.
- Grossi, M. G. R., Borja, S. D. B., Lopes, A. M., & Andalécio, A. M. L. (2016). As mulheres praticando ciência no Brasil. *Revista Estudos Feministas*, 24(1), 11–30. <https://doi.org/10.1590/1805-9584-2016v24n1p11>
- Guedes, M. de C., Azevedo, N., & Ferreira, L. O. (2015). A produtividade científica tem sexo? Um estudo sobre bolsistas de produtividade do CNPq. In *Cadernos Pagu* (Vol. 2015). <https://doi.org/10.1590/18094449201500450367>
- Guimarães, P. R. B. Métodos Quantitativos Estatísticos. *IESDE Brasil*, Curitiba, 2008
- Huyer, Sophia. Is the gender gap narrowing in science and engineering? United Nations Educational, Scientific and Cultural Organization. In *Unesco Science Report – Towards 2030*, 2015.
- Ivashita, S. B., & Vieira, A. D. R. (2017). a Pós-Graduação No Brasil E O Plano Nacional De Pós-Graduação - Pnpg (2011-2020): Rupturas E Permanências. *Debates Em Educação*, 9(19), 121–132. <https://doi.org/10.28998/2175-6600.2017v9n19p121>
- Instituto Brasileiro de Geografia e Estatística – IBGE. Tabela 6403 – População, por cor ou raça. Available in <<https://sidra.ibge.gov.br/Tabela/6403#resultado>> Access Jul. 2020
- Instituto Brasileiro de Geografia e Estatística – IBGE. Projeção da população do Brasil e das Unidades da Federação. Available <https://www.ibge.gov.br/apps/populacao/projecao/index.html?utm_source=portal&utm_medium=popclock&utm_campaign=novo_popclock> Access Jul. 2020
- Kabad, J. F., Bastos, J. L., & Santos, R. V. (2010). Raça, cor e etnia em estudos epidemiológicos sobre populações brasileiras: revisão sistemática na base PubMed. *Physis: Revista de Saúde Coletiva*, 22(3), 895-918.
- Leta, J. (2003). As mulheres na ciência brasileira: crescimento, contrastes e um perfil de sucesso. *Estudos avançados*, 17(49), 271-284.
- Lobato, A. O. C., & Benedetti, E. J. B. (2012). Negros e índios: ações afirmativas e a realização da justiça social. *JURIS*, Rio Grande, 17: 75-91.
- Lopes, A. M. D. Á. (2006). Multiculturalismo, minorias e ações afirmativas: promovendo a participação política das mulheres. *Revista Pensar*, 11, 54-59.
- Martins, C. B. (2000). O ensino superior brasileiro nos anos 90. *São Paulo Em Perspectiva*, 14(1), 41–60. <https://doi.org/10.1590/s0102-88392000000100006>
- Morosini, M. C. (2009). A pós graduação no Brasil: formação e desafios. *Revista Argentina de Educación Superior*, RAES, ano 1, 1, 2009.
- MCTIC. Brasil: CNPq – distribuição percentual do número total de bolsas-ano (1) concedidas no país e no exterior, por grande área segundo o sexo do bolsista, 2001-20017. Available in <http://www.mctic.gov.br/mctic/opencvms/indicadores/detalhe/Bolsas_formacao/Bolsas_4.7.html> Access Jul. 2020.
- 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>
- Moreira, M. L., & Velho, L. (2008). Pós-graduação no Brasil: da concepção “ofertista linear” para “novos modos de produção do conhecimento” implicações para avaliação. *Avaliação: Revista Da Avaliação Da Educação Superior (Campinas)*, 13(3), 625–645. <https://doi.org/10.1590/s1414-40772008000300002>
- Nogueira, J. K., Felipe, D. A., & Teruya, T. K. (2008). Conceitos de gênero, etnia e raça: reflexões sobre a diversidade cultural na educação escolar. *Fazendo Gênero*, 8.
- Pedrosa, Renato; Simões, Tania P.; Carneiro, Ana M.; Andrade, Cibele Y.; Sampaio,

- Helena; Knobel, Marcelo. *Access to higher education in Brazil*. (2014) Widening Participation and Lifelong Learning. Vol. 16, n. 1.
- Pinto, G. (2007). Desigualdades de participação na pós-graduação da UFF: aliando gênero e raça. *Revista Gênero*, 8(1), 121–142.
- Plataforma Sucupira – Capes. Distribuição de bolsas de pós graduação no Brasil por nível, estado e região 2018. Available in <<https://geocapes.capes.gov.br/geocapes/>> Access Jul. 2020
- Plataforma Sucupira – Capes. Distribuição de bolsas de pós graduação no Brasil por grande área do conhecimento em 2018. Available <<https://geocapes.capes.gov.br/geocapes/>> Access Jul 2020
- Rosemberg, F., & Andrade, L. F. (2008). Ação afirmativa no ensino superior brasileiro. *Cadernos Pagu*, 31, 419–437. <https://doi.org/10.1590/s0100-15742009000100015>
- Santos, S. M. (2015). O desempenho das universidades brasileiras nos rankings internacionais: áreas de destaque da produção científica brasileira. *Doctoral Thesis, Escola de Comunicações e Artes*, University of São Paulo, São Paulo. doi:10.11606/T.27.2015.tde-26052015-122043. Retrieved 2020-07-24, from www.teses.usp.br
- Schwartzman, S. (1999). Fora de foco: diversidade e identidades étnicas no Brasil. *Novos Estudos CEBRAP*, 55, 83-96.
- Sacco, A. M., Valiente, L., Vilanova, F., Wendt, G. W., DeSousa, D. A., & Koller, S. H. (2016). Perfil dos Bolsistas de Produtividade em Pesquisa do CNPq atuantes em Psicologia no Triênio 2012-2014. *Psicologia: Ciência e Profissão*, 36(2), 292–303. <https://doi.org/10.1590/1982-3703002702015>
- Santos, D. J. D. S., Palomares, N. B., Normando, D., & Quintão, C. C. A. (2010). Raça versus etnia: diferenciar para melhor aplicar. *Dental Press Journal of Orthodontics*, 15(3), 121-124.
- Vanali, A. C., & Silva, P. V. B. da. (2019). Ações Afirmativas Na Pós-Graduação Stricto Sensu: Análise Da Universidade Federal Do Paraná. *Cadernos de Pesquisa*, 49(171), 86–108. <https://doi.org/10.1590/198053145911>

ⁱ The Racial Parity Index (IPR) substitutes categories of the variable sex for categories of the variable color / race: a numerical indicator for blacks in the proportion of blacks for indicator in whites (Artes, 2018).

ⁱⁱ This paper is the result of a research project commissioned by the Newton Fund in Brazil.

ⁱⁱⁱ CNPq is tied to the Ministry of Science, Technology, Innovation, and Communications and has as its main attributions to promote scientific, technological, and innovational research, and to promote the development of qualified human resources for research in all fields of study. More information available at <http://www.cnpq.br/web/guest/pagina-inicial> (in Portuguese).

^{iv} Capes is an agency tied to the Ministry of Education, which acts in the expansion and consolidation of post-graduation in all Brazilian states. The agency conducts a quadrennial evaluation and is responsible for the Sucupira Platform, which collects data from all post-graduate courses in Brazil. Furthermore, it is the only agency that can accredit or discredit post-graduate courses in Brazil. More information available at <https://www.capes.gov.br/> (in Portuguese).

^v Finep has as its mission to promote the economic and social development of Brazil through the public funding of science, technology and innovation in companies, universities, technological institutes, and other public and private institutes. It is also linked to the Ministry of Science, Technology, Innovation, and Communications. More information available at <http://www.finep.gov.br/> (in Portuguese).

^{vi} The terms used in this paper are directly translated from their official Portuguese counterparts used by IBGE. We understand that translation might not coincide with official English terms. Thus, in order to preserve the research's intended meaning, we encourage the reader not to interpret them as slurs. Furthermore, the term pardo

refers to the Brazilian population that is miscegenated or multiracial. They are those people who have some miscegenation, a person with a mix of colors.

^{vii} The Capes definition of Hard Sciences also include astronomy, physics, computer science, geosciences, mathematics/statistics, and chemistry. More information in <https://www.capes.gov.br/avaliacao/sobre-as-areas-de-avaliacao>

^{viii} Group mostly formed by mother scientists who conduct discussions on motherhood within the universe of Brazilian science. More information: <https://www.parentinscience.com/>