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## The impact of gender and race inequalities in the academic world during the

**Results indicate that childless white men are having less impact in their scientific productivity during the period of social distance. On the other hand, the production of black women – whether childless or not – and white women with children is the most impacted**

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By Mirian Social Barradas

A study developed by the [Parent in Science](#) group, formed by researchers of the Federal University of Rio Grande do Sul (UFRGS) and other universities, investigated how factors such as “gender” and “race” impact the production of Brazilian scientists during the pandemic of Covid-19. It was possible, through the answers of almost 15 thousand volunteers, to verify that some groups are particularly affected, even though this pandemic scenario has certainly affected the productivity of many researchers. The study indicates that black women, having children or not, and white women having little children are the most affected.

The Parent in Science works since 2016 on the gender inequality issue on science and studies the impacts of [parenting](#) in scientific production, especially for women. During the pandemic, the members of the group – 15 out of 16 members are mothers or fathers – started to face more difficulties since their children’s schools suspended their in-person activities, and the scientists began to work remotely from home. [Rossana Soletti](#), professor of the [North Coast Campus of UFRGS](#) and member of the Parent in Science, says that, in addition to this personal experience, “the scientific journal editors from many countries started to state that they have never seen such an abrupt fall in article submissions made by women, such as the one happening during the pandemic.”



Image: Rochele Zandavalli/UFRGS – Archive

The group then decided to do a survey with professors, post-doctoral students, and graduate students to understand how academic productivity is being affected during the pandemic and to verify whether there have been specific groups or people under certain conditions whose productivity has been more impacted among them. When the [data were systematized](#), the researchers discovered that black women (childless or not) and white women with children (especially aged up to 12 years old) are the groups more affected by the pandemic in terms of academic productivity. On the other hand, the masculine production (mainly of childless men) has been less impacted in this period.

Gender inequality is noticeable in the survey results. In general, the women researchers reported more difficulties about working in home-office regime. Among the post-doctoral students, for instance, 13.9% of the women and 27.9% of the men claim to be managing to work remotely. This inequality also happens in other groups investigated: among professors, this rate is 8% among women and 18.3% among men; among graduate students, 27% of the women and 36.4% of the men manage to work in the home office format.

Aligned with gender, parenting is also a factor that influences scientists’ productivity: among post-doctoral female students with children, only 2.2% are managing to work from home; among the childless women researchers, this goes up to 25.1%. The fact of having or not children is a relevant variable also for men: 37.6% of the post-doctoral childless men are managing to work remotely against 4.2% of men with children.

For the women researchers, another factor that seems to influence productivity is their children's age. Among women teachers, the article submission rate, planned before the social isolation, is lower when the researcher has children aged up to one year (32%) or between one and six years (28,8%). Among men with children, the article submission does not vary so much in relation to the age of the children.

Soletti believes that the explanation to this shortage phenomenon can be cultural: during the period in which the woman is on maternity-license, in the first months of the life of the baby, the responsibility of taking care of the baby is predominantly hers. Also, the division of chores is still pretty much uneven in Brazil. This is what the last [National Survey by Continuous Domestic Sample \(PNAD Contínua\) of the Brazilian Institute of Geography and Statistics \(IBGE\)](#), published in May of this year, says: women dedicate, on average, 21 hours a week to chores and to family members caring (like children and the elderly). On the other hand, men only use 11 hours a week in average to this type of activity.

One of the surprises, for members of the Parent in Science, was the revelation of how impacting race is since the results indicate that the answers about the scientific production of black women, childless or not, were similar. Among the professors who answered the questionnaire, for instance, when asked whether they were managing to submit scientific articles as planned, only 46.5% of the black women with children and 48.7% of the childless black women answered ‘yes’. Among the white women, the difference between these two groups is bigger: 47.2% of the white women, with children, are managing to submit articles to scientific journals against 58.9% of the childless white women. “The black women don’t need to have the parenting as an ‘obstacle.’ The race factor per se seems to be a hindrance that women have to thrive on their scientific career, because we know that, unfortunately, the academy is not inclusive, just like other areas,” concludes Soletti.

### Inequalities create personal and social loss

Professor Soletti explains the impact of maternity on the career of a scientist: “The recruiting processes evaluate the production of candidates on a determined period – five years, for instance. If during such period you didn’t produce because you had a pause in your career, it doesn’t matter how productive you were or how good a researcher you used to be, you’ll suffer some loss.” Thus, when a mother takes part in a public teaching recruitment process, she will compete with people who had not had this pause, and the consequent productivity decrease.

This situation causes a personal loss for the researcher in terms of resume score and research competence ranking since the evaluation is made through productivity in the academic environment. This situation creates the “snowball effect”: if this female teacher who had children and saw her productivity decrease applies for a scholarship or for research financing, for instance, she will have to face competitors who did not have such pause. “With less incentives, funds, and scientific initiation scholarship holders or graduate students working in their research team, harder and harder it will become for this female researcher to improve her career,” concludes Soletti.

Society also loses since the research progress is harmed – and science, less diversified: “We will have more people from the same niche with more chances to ascend on a scientific career, which decreases the diversity on science.” These impacts occur in the medium and the long run: the members of the Parent in Science estimate that the effects of parenting on a scientific career last from three to four years after the first child’s birth. However, this interval can still be modified or extended if the scientist has more than one child. One of the group’s ideal is the creation of public policies to promote equality among the researchers. The members of Parent in Science believe that all public recruitment notices should consider at least one more year in curriculum analysis for scientists with children. In Brazil, the pioneer in the flexibilization of some criteria for mother researchers was the [Serrapilheira Institute](#). Soletti exemplifies that some notices from UFRGS itself and from other universities have recently been considering these conditions.

The [Fluminense Federal University \(UFF\)](#) and the [Tocantins Federal University \(UFTO\)](#), for instance, are including concession clauses of “extra points” in their notices to women researchers who are mothers. “Some commissions are considering this demand. Little by little, we are advancing in this question,” she celebrates. She complements that other possible public policies, like the creation of specific financing for women returning from maternity license, end up blocked by budgetary questions.

### Next Steps

Soletti says that, since the unfolding of the tabulated data, the members of the group have participated in a series of lives and webinars aiming to discuss the study results and debate possible solutions. However, she highlights that, besides public policies, a cultural change is necessary. “In other countries there have been some incentive projects; for example, one project considering one more year on career progression to men that had had children. In some cases, what was observed is that men used this extra year to produce even more instead of dedicating themselves to their child,” she pities it. The results also indicate new questions that the members of the Parent in Science want to keep investigating; one point they intend to analyze deeply is of mothers who have children with disabilities. This was one of the questions made in the questionnaire but, due to the little number of women researchers who declared having children with disabilities, it was not possible to make a more precise analysis. “We had few answers about it, probably because these mothers must be, at this moment, overburdened, without access to the treatments and to the necessary help, to the point that maybe they did not manage to answer the questionnaire,” Soletti believes.

The group is working on a guide with examples of universities that adopt incentive policies to researchers with children. The guide is about to be published on the [Parent in Science site](#) in the following months. The members are also promoting an ambassador’s program aiming to take the discussion about this theme to other states of Brazil.

### Knowing more

[Document containing all the study’s results.](#)

**Scientific article (in preprint format, still not revised by the peers):**

STANISÇUASKI, Fernanda *et al.* [Gender, race and parenthood impact academic productivity during the COVID-19 pandemic: from survey to action.](#) BioRxiv, 2020.

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