Breaking the glass ceiling: women's perceptions of academic-scientific careers in physics and nursing

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Abstract

Women's representation in science has grown, yet they still comprise only about a third of the global scientific community. While women are the majority in fields like social, biological, and health sciences, they remain underrepresented in others, such as exact sciences and engineering, from training stages to senior positions. Beyond gender-related challenges, motherhood introduces additional barriers. In this study, we analyzed the perceptions of research productivity fellows from the National Council for Scientific and Technological Development in the fields of physics and nursing regarding their academic-scientific trajectories. These fields present contrasting professional landscapes: women are a minority in physics and a majority in nursing. Data collected in 2020 from fellows active in 2019 revealed that being a woman and, in particular, being a mother impacts scientific careers differently across disciplines. In physics, participants perceived significant obstacles, including gender-based challenges and the disruption caused by motherhood. In nursing, however, motherhood was seen as more integrated into the academic journey. These findings underscore how the academic environment, shaped by the gender composition of a field, profoundly influences career experiences. Addressing these disparities requires context-specific strategies to create equitable and inclusive scientific environments.

Introduction

The intricate interplay between gender and academic careers has become a topic of escalating importance in contemporary society (Poggio, 2022). As efforts are made towards achieving gender equality, gaining insight into the distinct experiences encountered by women in various professional fields becomes imperative. The academic sphere, in particular, mirrors distinctive nuances and challenges that intricately shape the professional trajectories of women.

The issue of productivity in science has gained considerable prominence in recent times, driven by the heightened expectations placed on academics within the university setting (Doğan & Arslan, 2024). The contemporary university, often characterized as neoliberal or market-driven by scholars like Amsler, Motta, Tzanakou, Pearce, and Lynch, follows market logic marked by intensified work, expanded control mechanisms, and heightened competitiveness. The quantification of scientific work, gauged through metrics like publications and citations, has become the norm, demanding continual high performance. This culture has exacerbated stress, anxiety, and exhaustion among academics, particularly impacting mothers (Tzanakou & Pearce 2019, França et al. 2023). In the backdrop of neoliberal shifts in higher education, the idealized image of a scientist with an uninterrupted, linear career trajectory poses additional challenges for academic mothers to navigate (Acker 1990, Amsler & Motta 2019).

In Brazil, discussions and studies on scientific productivity often include analysis on Research Productivity (PQ) Fellowships (Areas et al. 2023, Areas et al. 2024, Bezerra et al. 2022), funded by the National Council for Scientific and Technological Development (CNPq), a federal funding agency. Established in 1976, PQ fellowships is one of CNPq's most prominent scientific programs. It is awarded to

researchers with doctoral degrees across all fields of knowledge who demonstrate exceptional performance among their peers. This fellowship recognizes outstanding research achievements and contributions to scientific advancement, conferring a prestigious status not only on the recipient but also on their affiliated institution and research group (Gomes et al., 2022). It emphasizes both scientific output and human resource development, reinforcing its pivotal role in fostering excellence within Brazil's academic and research landscape. Women are significantly underrepresented among PQ fellows, consistently holding only about 36% of the fellowships over many years (Valentova et al., 2017; Areas et al., 2024). Several factors hinder women from occupying leadership and prestigious positions, such as the PQ Fellowships, including harassment (National Academies of Sciences, Engineering, and Medicine, 2018; Brito et al., 2022), conscious and unconscious gender bias (Moss-Racusin et al., 2012; Reuben et al., 2014; Gaston, 2015; Carli et al., 2016), domestic labor, child and/or elder care responsibilities, and, notably, motherhood (Machado et al., 2019; Karasik et al., 2015; Frietsch et al., 2009). Motherhood has a profound impact on the careers of women scientists. The first survey conducted by the Parent in Science Movement in Brazil, revealed a significant decline in productivity following motherhood (Machado et al., 2019). The results showed an immediate decrease in the number of scientific publications by mother scientists, a trend observed across various fields. Importantly, this decrease is not limited to the maternity leave period but extends for at least four years after the birth of the first child (Machado et al., 2019). Similar patterns have been reported in other countries, highlighting the global nature of this challenge (Morgan et al., 2021). These findings underline the difficulty of balancing caregiving responsibilities with scientific careers. Studies show that new parents, particularly mothers, are more likely to leave full-time STEM positions than their childless peers.

Even those who remain employed full-time are more likely to transition out of STEM fields entirely (Cech & Blair-Loy, 2019). This underscores the systemic challenges faced by mother scientists in maintaining their career trajectories within STEM disciplines.

This study aims to unravel the intricacies of gender dynamics in two distinct fields, physics and nursing, shedding light on the challenges faced by women in different academic environments. The decision to focus on physics and nursing arises from their contrasting gender compositions, offering valuable perspectives on the intersection of motherhood and scientific careers. Physics, a field where women remain a minority, and nursing, predominantly occupied by women, provide a unique framework for analyzing the perceptions of Brazilian research productivity fellows. Furthermore, our previous findings have highlighted distinct dynamics regarding PQ fellowship applications and concessions in these two fields (Bezerra et al., 2022). In physics, women represent a minority in both applications and concessions, with no significant changes observed over time. Conversely, in nursing, while the percentage of fellowship proposals submitted by men (the underrepresented group) has increased, the rate of concessions for male applicants has not followed the same trend. These results suggest that underrepresented groups, whether women in physics or men in nursing, have consistently remained in marginalized positions over the years, with little progress toward equity (Bezerra et al., 2022). Building on this context, we seek to deepen our understanding of how these contrasting gender compositions influence the academic experiences of women in physics and nursing, particularly in relation to motherhood and career progression. This leads to our central research question: What are the perceptions of Brazilian research productivity fellows regarding motherhood and its impact on their scientific trajectories within the realms of physics and nursing? By

examining the experiences and perspectives of women in these distinct disciplines, we aim to contribute meaningful insights to the broader discourse on gender dynamics in academic research.

Methodology

The study was approved by the Research Ethics Committee of the Federal University of Rio Grande do Sul, Brazil, with the number CAAE 34061620.1.0000.5330. The questionnaire aimed to investigate women's perceptions of their careers and how gender and motherhood impacted their trajectories. It was designed using the Google Forms tool and distributed via email to all researchers with research productivity fellowships active in 2019 in the fields of physics and nursing. Responses were collected between September 3 to October 26, 2020. At that moment, the physics field had a total of 995 PQ fellowship holders, with only 10% being women (98 researchers). Nursing had a total of 179 PQ fellows, with 94% being women (168 researchers). In response to our survey, 66 physics fellows participated, representing 67% of the total number of women fellows in the field. In nursing, 59 fellowship holders participated, representing 34% of the total number of female fellowship holders in the field. The questionnaire gathered information on respondents' demographic profiles, including age, institutional affiliation, age at completion of the doctorate, age at entry into the PQ fellowship system, and whether they had children, among other variables. Additionally, it included questions related to perceptions about gender, motherhood, and career, using a Likert scale or open-ended fields. The complete questionnaire can be found in the supplementary material. It is important to note that nine closed questions from this questionnaire, concerning the profile of PQ fellowship holders in physics and nursing in relation to their academic-scientific career, were analyzed in another article (Bezerra et

al., 2023).

In this article, we analyzed eight closed questions designed to explore topics related to motherhood and academic trajectory, using a 5-point Likert scale to measure levels of agreement or frequency. Each response option on the Likert scale was assigned a numerical value (e.g., 1 for "Strongly Disagree" to 5 for "Strongly Agree"). Comparisons were made between researchers from the two fields. Given the ordinal nature of the Likert scale data, statistical comparisons were conducted using the Mann-Whitney test. All analyses were performed using SigmaPlot software version 14 (Systat Software Inc.).

Results

This section presents the findings from the statistical analysis of responses to the eight objective questions, measured using a 5-point Likert scale. The analysis explores participants' perceptions and experiences related to their academic and scientific trajectories. Participants were asked about their parental status, with 72.7% indicating that they had children and 27.3% indicating otherwise. Based on these responses, the questionnaire included tailored questions directed specifically to researchers who were mothers and those without children, while some questions were posed universally to all participants.

First, we analyzed the general perception of women researchers regarding whether being a woman had impacted their academic-scientific careers (Figure 1). The results show that perceptions differ significantly between the two fields. Among physicists, the majority agreed with the statement, with 37.9% responding "agree" and 40.9% responding "strongly agree". In contrast, nursing researchers demonstrated a

more distributed pattern, with only 25.9% agreeing and 17.2% strongly agreeing, while 20.7% strongly disagreed and 17.2% disagreed. The percentage of participants responding "neutral" was also higher in nursing (19.0%) compared to physics (12.1%). These findings reveal that women in physics perceive the impact of their gender on their careers as more significant than women in nursing, with a statistically significant difference between the two areas (Mann-Whitney; $p < 0.001$).

Next, we analyzed the responses of women who are mothers regarding the impact of motherhood on their scientific productivity (Figure 2). The results reveal a significant perceived decrease in productivity due to motherhood in both fields, although the magnitude of this perceived impact varies. Among physicists, 60.41% reported a decrease and 27.08% reported a large decrease, while no participants indicated a positive or neutral impact. In contrast, nursing researchers presented a more varied distribution: 58.10% reported a decrease and 9.30% a large decrease, while 25.58% reported no impact. A small proportion of nursing respondents reported an increase in productivity, with 4.65% indicating an increase and 2.32% indicating a large increase. These findings underscore that motherhood has a broader perceived impact on productivity in physics than in nursing, with a statistically significant difference between the areas (Mann-Whitney; $p = 0.004$).

Figure 3 presents responses to two questions about how mothers perceive their career stage relative to women in their field who are not mothers (Figure 3a) and men in their field who are fathers (Figure 3b). The results highlight notable differences between physics and nursing. When comparing their careers to childless women, most physicists reported feeling disadvantaged: 25.0% indicated they were "behind" and 2.08% reported being "far behind", while 52.08% rated their position as "equal". In contrast, nursing researchers expressed fewer negative perceptions, with only 9.3% indicating they were

"behind", and none reporting being "far behind". A majority of nursing respondents (60.5%) rated their career stage as "equal," while a significant proportion (14.0%) even felt they were "ahead". When comparing their careers to men who are fathers, the perceived disadvantage was more pronounced among physicists. In this group, 47.9% felt "behind", and 10.4% reported being "far behind". Only 6.25% indicated they were "ahead", while 33.33% rated their position as "equal". Nursing researchers, on the other hand, showed more balanced perceptions: 18.6% felt "behind", and none reported being "far behind". Notably, 23.25% of nursing respondents felt "ahead", and 13.95% felt "far ahead", with the remaining 44.18% rating their career stage as "equal". These findings indicate that physicists perceive a stronger negative impact of motherhood on their careers compared to their peers in nursing, with the gap being particularly pronounced when comparing their careers to male colleagues who are fathers. A statistically significant difference between the areas was observed for both questions (Mann-Whitney; (a) $p = 0.034$ and (b) $p < 0.001$).

We also analyzed the perceptions of women without children regarding how their career stage compares to their colleagues who are mothers (Figure 4a) and fathers (Figure 4b). When comparing themselves to their colleagues who are mothers, physicists mostly perceived their career stage as "equal" (50.00%) or "ahead" (44.44%), with a smaller proportion (5.55%) feeling "far ahead". None of the respondents indicated being "behind" or "far behind". In nursing, the responses were more concentrated, with 73.33% rating their career stage as "equal" and 26.66% as "ahead", with no participants indicating they were "far ahead", "behind" or "far behind". There is no statistical difference between the two fields for this comparison (Mann-Whitney; $p = 0.685$). When comparing their careers to male colleagues who are fathers, physicists showed more varied responses. The majority (77.77%) rated their career stage as

"equal", while 11.11% felt "behind" and smaller proportions indicated being "ahead" (5.55%) or "far ahead" (5.55%). In contrast, nursing researchers predominantly rated their stage as "equal" (93.33%) or "ahead" (6.66%), with no participants indicating they were "behind" or "far ahead". Similarly, there is no statistical difference between the fields for this comparison (Mann-Whitney; $p = 0.163$). These findings suggest that while women without children in both fields perceive their career progression similarly when compared to their colleagues, the results do not indicate significant differences between physics and nursing in these perceptions.

Figure 5 presents the perceptions of women without children regarding two statements: (a) whether the choice not to have children was influenced by their professional career, and (b) whether not having children has facilitated their professional trajectory in some way. For the first statement (Figure 5a), "The choice not to have children was influenced by my professional career," the responses show a stark contrast between physicists and nursing researchers. In physics, the majority of respondents agreed (55.55%) or strongly agreed (11.11%) with the statement, while none expressed disagreement. In nursing, however, a majority strongly disagreed (66.66%) or disagreed (6.66%), with only 20.00% agreeing and none strongly agreeing. This indicates that career considerations were more strongly linked to the decision not to have children among physicists compared to nursing researchers. There is a statistically significant difference between the two fields for this question (Mann-Whitney; $p = 0.018$). For the second statement (Figure 5b), "The fact of not having children facilitated my professional trajectory in some way," the responses also differed notably. Among physicists, a large proportion agreed (27.77%) or strongly agreed (44.44%), while smaller percentages expressed neutrality (22.22%) or disagreement (5.55%). In nursing, the distribution was more varied: 46.66% agreed, but 20.00%

strongly disagreed, and another 20.00% disagreed. Only a small percentage (6.66%) strongly agreed, and another 6.66% remained neutral. These results suggest that the perception of career facilitation due to not having children is more prevalent among physicists than nursing researchers. This difference is also statistically significant (Mann-Whitney; $p = 0.023$). These findings underscore that career considerations and perceived professional advantages of not having children are more pronounced in physics than in nursing, reflecting distinct dynamics in how these fields interact with personal life decisions.

We further investigated whether the differing perceptions regarding career and motherhood between physics and nursing researchers could be linked to differences in caregiving responsibilities and support systems at home (Table 1). The analysis focused on who primarily performed caregiving tasks, such as attending medical appointments, assisting with schoolwork, and caring for children while at home, as well as the participants' ability to conduct academic activities while managing childcare. When asked who accompanied their children to medical or dental appointments, the majority of respondents in both fields reported being primarily responsible, with 63.5% of physicists and 59.7% of nursing researchers selecting “Myself”. In physics, 35.1% indicated the involvement of the “Father” or “Partner”, compared to 29.2% in nursing. Sharing this responsibility equally (“Both equally”) was reported by 25.7% of physicists and 11.1% of nursing researchers. Minimal reliance on other family members or paid support (“Others”) was observed in both groups. Despite these differences, the results were not statistically significant (Mann-Whitney; $p = 0.415$). A similar trend was observed in responses regarding assistance with schoolwork. In physics, 52.7% of mothers indicated “Myself” as the primary caregiver, while 27.0% mentioned the “Father” or “Partner”, and 13.5% reported sharing this responsibility equally (“Both

equally"). In nursing, 56.9% of respondents selected "Myself", with 22.2% indicating the "Father" or "Partner", and 8.3% reporting equal sharing. Contributions from other sources, such as private tutors or extended family members, were minimal. Again, no statistically significant difference was found between the two groups (Mann-Whitney; $p = 0.711$). Regarding who cared for children while at home, the majority of respondents in both fields selected "Myself" (62.2% in physics and 58.3% in nursing). However, higher involvement from the "Father" or "Partner" was reported by physicists (39.2%) compared to nursing researchers (36.1%). Small percentages of respondents in both groups reported relying on domestic workers, nannies, or other family members ("Others"). This analysis also revealed no significant statistical difference between the two fields (Mann-Whitney; $p = 0.741$).

Finally, when asked about their ability to conduct academic and scientific activities at home while managing childcare, the responses differed slightly between the two fields. In physics, 6.1% of respondents reported "Never," 18.9% reported "Rarely", and 23.0% reported "Sometimes". Only 12.2% indicated "Often" and 2.7% reported "Always". In nursing, no respondents reported "Never," while 6.9% selected "Rarely," and 20.8% selected "Sometimes". Notably, 25.0% of nursing respondents reported "Often" and 6.9% reported "Always". Although these responses suggest that nursing researchers perceive themselves as more capable of balancing academic activities with childcare, the difference was not statistically significant (Mann-Whitney; $p = 0.494$). These findings suggest that caregiving responsibilities are distributed similarly between physics and nursing researchers, and the slight differences in reported support and work-life balance do not fully account for the stronger negative perceptions of motherhood's impact observed among physicists.

Discussion

In this study, we evaluated the perceptions of researchers in physics and nursing regarding the impact of gender on their careers, with a focus on motherhood. Our study showed that the academic trajectory is, in general, difficult for women. Based on the data, however, it can be concluded that the perception of Brazilian research productivity fellows on motherhood and scientific trajectory within the physics and nursing careers is different. In physics, researchers demonstrated a greater tendency to agree that being a woman had an impact on their academic trajectories, while this perception was less pronounced in nursing. In fact, more than half of the participants in nursing either disagreed with or were indifferent to the statement that being a woman affected their careers. This contrast may reflect the predominantly female composition of the nursing field, where gender equality is perceived to be less of a challenge. In physics, however, where women are a minority, researchers often feel like "space invaders" in a traditionally male-dominated environment (Puwar, 2004; Amery et al., 2015). This dynamic reinforces a sense of inferiority and non-belonging (Bourdieu & Passeron, 1990; Gander, 2019).

Regarding motherhood, the study highlights significant challenges perceived by mothers. An increase in the gender gap after motherhood occurs in many fields (Angelov et al., 2016; Hardoy et al., 2017; Kleven et al., 2019; Collins et al., 2020), including academia. Motherhood tends to disrupt the trajectory of women scientists across all disciplines, leading to a reduction in publication rates that often persists for several years after childbirth (Fox et al., 2011; Machado et al., 2019; Morgan et al., 2021). Nevertheless, PQ fellows in physics reported a more negative impact of motherhood on their scientific productivity compared to those in nursing. Women in

physics perceive their career progression as significantly behind their male colleagues who are fathers and their childless colleagues, while in nursing, mothers reported feeling equal to their peers. This suggests that the masculine academic culture in physics exacerbates the challenges of balancing motherhood and career, with women often feeling constrained by traditional ideals of academic excellence and the absence of institutional support (Morrish & Sauntson, 2019). There is an extension of the research productivity fellowship, for 12 months, for female PQ fellows as a result of birth or adoption. However, it is known that there is institutional pressure, more accentuated in some areas of knowledge, such as physics, in which the pause in productivity and academic activities can mean loss of professional opportunities and delay in the stages of a scientific career. Studies indicate that many women feel compelled to forego maternity rights to sustain academic productivity (Jones & Floyd, 2023; Huppatz et al., 2019). This is often exacerbated by symbolic violence, such as being assigned tasks during maternity leave or facing moral harassment regarding pregnancy in professional contexts (Bourdieu, 2002; Huppartz et al., 2019). The expectation that mothers are less dedicated to their careers due to caregiving responsibilities perpetuates patriarchal norms and undermines their professional contributions (O'Brien, 2007; Grummell et al., 2009; Lynch, 2010; Gander, 2019). It is important to highlight that the challenges of balancing caregiving and professional demands extend beyond childcare. Many women also bear the responsibility of elder care, which is often overlooked in discussions about gender and career progression. This burden creates additional fragmentation of time and impacts scientific productivity (Moreau & Robertson, 2019; Derigne & Ferrante, 2012). Despite cultural shifts, the association of academic excellence with a "carefree" masculinity persists (Leathwood & Read, 2008). Women navigating multiple caregiving roles often face significant barriers in meeting the demands of academic work,

highlighting the need for institutions to recognize and address these complexities. The COVID-19 pandemic has exacerbated the already significant challenges of balancing academic careers with caregiving responsibilities, disproportionately affecting women researchers. The closure of schools, childcare facilities, and elder care services placed additional burdens on women, who often assume the majority of domestic and caregiving tasks (Staniscuaski et al., 2020). This sudden increase in responsibilities led to a sharp decline in productivity for many female scientists, particularly mothers, further widening gender disparities in academia (Myers et al., 2020; Staniscuaski et al., 2021).

The perception of women without children also differed between the two fields. In physics, more than half of the respondents indicated that their decision not to have children was influenced by their professional careers, and the majority agreed that being childfree facilitated their career progression. These findings reflect the pressure to conform to academic productivity standards traditionally shaped by the male majority in the field (O'Brien, 2007; Lynch, 2010). Conversely, in nursing, the vast majority disagreed with the notion that not having children was a career-driven decision or that it made their professional trajectory easier. In this field, having children is more integrated into the academic journey, with career development accommodating family life. This is supported by the observation that nursing researchers tend to enter the PQ fellowship system at an older age, often balancing extended academic timelines with family responsibilities (Bezerra et al., 2023).

Caregiving responsibilities were reported in similar ways across both groups analyzed in our study. This finding suggests that the respondents share similar personal or familial caregiving strategies and provide strong evidence that the differences in perceptions of career progression and the impact of motherhood between physics and

nursing are not primarily driven by disparities in caregiving responsibilities. A notable percentage of participants in both areas identified “myself” as the primary caregiver for tasks such as attending medical appointments, assisting with schoolwork, and managing childcare at home. This highlights that caregiving remains a central responsibility for women, including in academia as a whole. Studies have shown that academic mothers spend 8.5 more hours per week on parenting or domestic tasks and less time on research than fathers (Mason and Goulden, 2004; Jolly et al., 2014). Women academics also take on tasks such as waking up during the night and staying at home to care for a sick child (Rhoads and Rhoads, 2012). The lack of significant differences between physics and nursing may reflect broader cultural norms that shape caregiving expectations and practices similarly across professions. However, while caregiving arrangements appear comparable, this does not negate the possibility of differential career impacts between the fields. For example, the predominance of self-reported caregiving (“myself”) might carry heavier repercussions in physics, where women are a minority and face a male-dominated environment. In such contexts, caregiving responsibilities may clash more sharply with institutional expectations of uninterrupted productivity and career progression, amplifying the challenges for women navigating both their professional and personal roles.

The comparison of the two areas allows us to reflect that the inclusion of women in science can potentially change the dynamics of work relationships and the academic-scientific environment. Furthermore, diversity, with the presence of minority groups, in the different branches of knowledge, can change the way science is done. This study offers valuable insights into understanding gender dynamics in academic contexts, highlighting the pressing need to consider the particularities of different disciplines when addressing gender equity issues. The divergences in the perceptions of researchers

in physics and nursing about the impact of being a woman and the complexities associated with motherhood reflect not only the specific characteristics of these areas, but also the influence of cultural norms and institutional structures, in addition to the existence of interconnected challenges that permeate the academic environment. Addressing these challenges requires a reevaluation of institutional practices and a shift towards managing diversity more effectively. Women's diverse experiences, particularly the intersections of motherhood, caregiving, and professional expectations, must be considered in policies that aim to promote gender equality in academia. Support networks, inclusive policies, and recognition of caregiving responsibilities beyond childcare are essential to create an equitable academic environment. Without such changes, the ideal of scientific excellence will continue to exclude those who cannot conform to its narrow, patriarchal definitions (Moreau & Robertson, 2019).

An important limitation of this study is the absence of data on race, as this information was not collected in the questionnaire, preventing a deeper understanding of how race intersects with gender and motherhood in shaping the academic trajectories of women researchers. Race is a critical dimension of inequality that profoundly influences access to resources, representation, and experiences within academia, especially in Brazil (Williams et al., 2022). Future studies should include this variable to provide a more comprehensive analysis of the challenges faced by women scientists, particularly those from underrepresented racial and ethnic groups, in navigating their careers.

Building more inclusive environments requires a holistic approach that goes beyond superficial policies and takes into account the complex interactions between gender, career, institutional structure and race. This work thus contributes to discussions about gender equality in academic careers.

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Author Contributions

Ana Gomes Bezerra designed the questionnaire, collected the data, conducted the analyses, and drafted the initial version of the manuscript. Fernanda Staniscuaski and Márcia C. Barbosa supervised all stages of the work, contributed to the analyses, and reviewed the manuscript.

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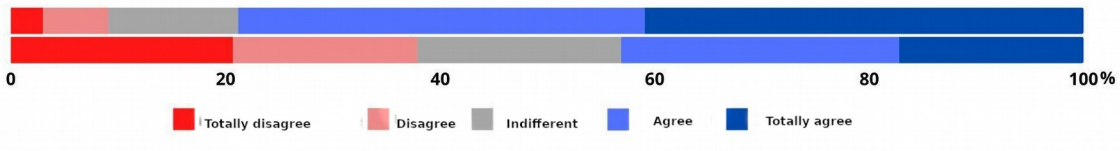

Figure 1: Perception of researchers in the fields of physics and nursing regarding the impact of being a woman on their academic-scientific careers. Results are presented as percentages for each field, measured on a 5-point Likert scale, ranging from "Totally Disagree" to "Totally Agree."

Figure 2: Perception of mother researchers in the fields of physics and nursing regarding the impact of motherhood on their scientific productivity. Results are presented as percentages for each field, measured on a 5-point Likert scale, ranging from "Large decrease" to "Large increase."

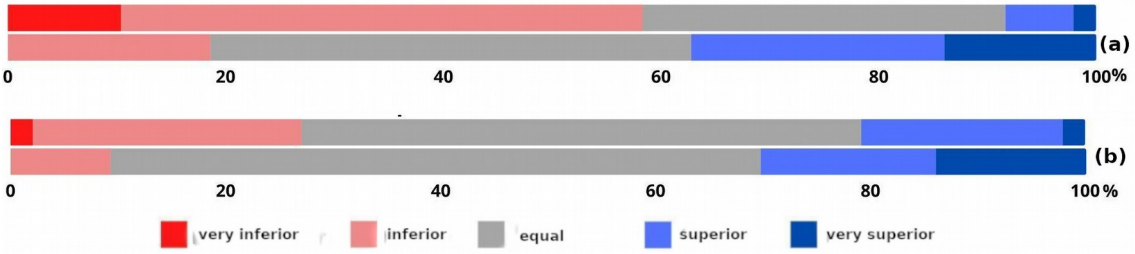

Figure 3: Perception of mother researchers in the fields of physics and nursing about their career stage in relation to (a) male colleagues who have children and (b) female colleagues who do not have children. Results are presented as percentages for each field, measured on a 5-point Likert scale, ranging from "Far behind" to "Far ahead."

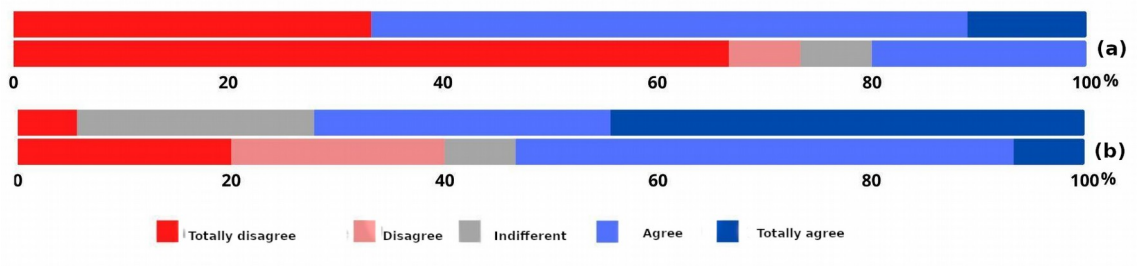

Figure 4: Perception of childless researchers in the fields of physics and nursing about their career stage in relation to (a) their mother colleagues and (b) their colleagues who are fathers. Results are presented as percentages for each field, measured on a 5-point Likert scale, ranging from "Far behind" to "Far ahead."

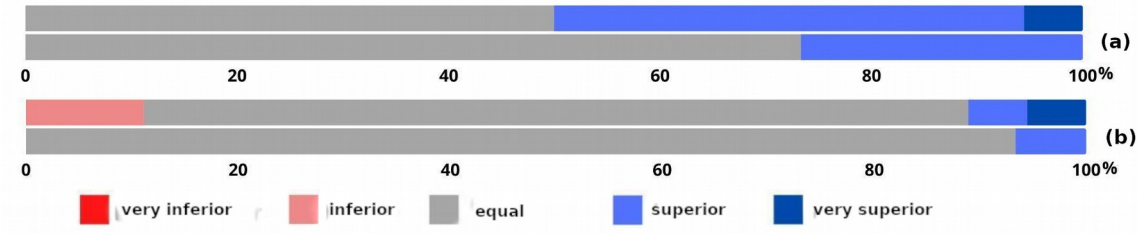

Figure 5: Perception of researchers without children in the fields of physics and nursing regarding (a) whether the choice not to have children was influenced by their professional career and (b) whether not having children has facilitated their professional trajectory. Results are presented as percentages for each field, measured on a 5-point Likert scale, ranging from "Totally Disagree" to "Totally Agree."