

## Work-Family and Family-Work Conflict: Are There Gender Differences Among Researchers?

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**ABSTRACT** – Family and work are organizing spheres of adulthood and dedication to a sphere can compete with dedication to the other. We aimed to identify and discuss the perceptions of researchers, male and female, about their professional development and possible work-family and family-work conflicts. Two studies were conducted: a survey with scientists (n=400) from different areas of knowledge and career levels; and interviews with 12 researchers. The perception of female professional development was significantly higher than male, and the perception of work-family conflict had low scores for both. However, the researchers' discourses showed that they perceive gender differences, but developed strategies to reconcile such spheres of life, such as planning pregnancy, building support network or making waivers for the family.

**KEYWORDS:** Gender, stereotypes, professional development, work-family conflicts

## Conflito Trabalho-Família e Família-Trabalho: Existe Diferença na Percepção de Pesquisadoras E Pesquisadores?

**RESUMO** – Família e trabalho são esferas organizadoras da vida adulta e a dedicação a uma esfera pode competir com a dedicação à outra. Objetivamos identificar e discutir as percepções de pesquisadoras e pesquisadores sobre seu desenvolvimento profissional e possíveis conflitos entre trabalho-família e família-trabalho. Foram realizados dois estudos: um *survey* com cientistas (n=400) de diferentes áreas do conhecimento e níveis na carreira; e entrevistas com 12 pesquisadoras. A percepção de desenvolvimento profissional feminina foi superior à masculina e a percepção do conflito trabalho-família teve escores baixos para ambos. No entanto, os discursos das pesquisadoras mostram que elas percebem diferenças de gênero, mas desenvolveram estratégias para conciliar tais esferas, como planejar a gestação, construir rede de suporte ou fazer renúncias pela família.

**PALAVRAS-CHAVE:** Gênero, estereótipos, desenvolvimento profissional, conflito trabalho-família

Family and work are considered central domains and organizers of adult life. In Brazil, the number of couples in which both perform paid activity is increasing. However, if before, these domains were treated individually, more recently, changes in social structures have led to investigations of work and family, considering the possible impacts of one domain on the other (Aguiar & Bastos, 2017).

Initially, studies focused on the concept of conflict arising from the incompatibility between family life and the exercise of work-related tasks, since both have specific requirements

and norms. This conflict would have a bidirectional form, originating from both the universe of work and family life (Greenhaus & Beutell, 1985). Therefore, when professional demands interfere with the fulfillment of family tasks, work-family conflict arises; and when the family demands interfere with the performance at work, a family-work conflict is configured.

In addition to the bidirectional characteristic, conflict can be operationalized as a function of time, tension, and behavior (Greenhaus & Beutell, 1985). Time refers to the

impact that the hours dedicated to one role exert in terms of the availability of time for the other. Tension refers to the pressure experienced in the performance of one of the roles, which would make it difficult to meet the demands of the other, and, finally, the specific behaviors and expectations of one role can also be divergent from those of the other.

More recently, the possibility of an interrelationship between the domains of work and family that can have positive and enriching influences between these domains has also been considered (Aguiar & Bastos, 2017). Accordingly, the possible positive effects of family functions on work functions were recognized, acknowledging the possibility that relationships and family life increase the quality of life, benefiting work (Brummelhuis & Bakker, 2012).

The assumption is that the interrelationship between work and family, whether of conflict or enrichment, is produced from a combination of contextual and individual factors (Aguiar & Bastos, 2017). Among the contextual factors, support from co-workers emerged as a significant predictor of the work-family interface in the study by Mauno and Rantanen (2013). In this study, the authors found that this support was negatively associated with conflict and positively with work-family enrichment. Among the individual factors, the gender of the individual is highlighted in studies on the subject.

This work focused on the possible conflict between these spheres of life. In addition, as gender has been highlighted as an important individual factor capable of producing conflicts in the work-family and family-work interface, as suggested by Aguiar and Bastos (2017), it was decided to consider gender as a variable that would permeate all work.

For better understanding, in this study, gender is comprehended as a dichotomous perception of hierarchical sexual differences, establishing unequal relationships with gender stereotypes conceived as social constructs that define roles to be fulfilled by men and women (Scott, 1995). Stereotypes, on the other hand, pertain to a set of structured beliefs about the characteristics of members within a particular group. Gender stereotypes encompass the set of beliefs about what it means to be a woman or a man, including attitudes, interests, psychological traits, social relationships, and professional activities (Scott, 1995). In this context, stereotypes encompass beliefs about how men and women are, as well as behaviors considered socially appropriate based on gender and the spaces they should occupy.

It is also necessary to acknowledge that women have gained significantly more autonomy and freedom than ever before in their history, leading to increased participation in the job market, with the occupation of high-skilled professional positions (Barros & Mourão, 2018). Similarly, societal values related to the male figure have also undergone significant social transformations, and, currently, men participate more actively in family routines.

However, although men are called upon to expand their participation in household chores, as well as in all stages

of childcare, male participation is still largely linked to recreational and leisure activities (Bernardi, 2017). Therefore, despite the changes in male and female roles, there is still a set of social practices that maintain traditional and persistent gender stereotypes, naturalizing the lack of equity in the distribution of family-related tasks and reverberating in the equal participation of women in the world of paid work and their professional development.

Despite the social advances evidenced in recent decades, the traditional sexual division of labor remains active, albeit to a lesser degree. Statistics on gender in Brazil, produced by IBGE surveys, show that – among employed people – women dedicate, on average, 72.4% more hours to the care of family members and/or household chores (while men spend a mean of 10.5 hours per week on these tasks, the female mean is 18.1 hours) (IBGE, 2018). This phenomenon does not occur only in Brazil, as a survey by the UNDP (2017) showed that 91% of employed women reported performing domestic tasks, while the percentage of men was only 53%.

The study by Guedes (2016) analyzed the perceptions and representations of men and women about work in public and private productive contexts and concluded that the disproportionate division of activities focused on home and motherhood reduces the time women can dedicate to their careers, impacting their professional development. In addition, the study showed that, despite the increase in women's time for work activities, there are more women than men working part-time. The reason would be their need for greater availability to dedicate themselves to unpaid work (Guedes, 2016). These data may partially explain the findings of Brummelhuis and Bakker (2012), suggesting that women feel more emotionally exhausted due to household chores and the presence of young children, along with a higher number of them, than they do with their paid work tasks.

Specifically in the scientific career, the study by Prado and Fleith (2012) highlighted that the reconciliation of academic activities with family activities is one of the greatest difficulties found for women to develop professionally in the scientific career. The authors argue that gender stereotypes interfere throughout the academic trajectory and that the structure and conditions of scientific work in Brazil are configured as barriers to women's professional development.

More recently, Barros and Mourão (2020) conducted a qualitative study to analyze the perceptions of Brazilian researchers about their professional development strategies and found similar results. The interviewed researchers reported experiencing behavioral and identity issues related to gender stereotypes, such as being forced, as a strategy for career advancement, to develop attitudes attributed to men, such as assertiveness and toughness in the way they relate and make decisions. Therefore, to deal with situations that arose in their careers, some researchers reported having to conceal stereotypically feminine behaviors.

Finally, Barros and Silva (2019) set out to investigate gender disparities in the career development of Brazilian

researchers with CNPq productivity grants. The data revealed a decrease in the number of female scholarship recipients as their careers progress within the system. Additionally, the authors demonstrated that women seem to spend more time on motherhood-related matters before investing in their careers, as the average age of their firstborn children was significantly older than the average age of the firstborn children of male scholarship recipients. The findings of the authors align with the findings of Aguiar and Bastos (2017), who concluded that delaying the arrival of children is one of the strategies employed to reconcile the demands of work and family.

Therefore, even with the fact that Brazilian women quantitatively outperform men in all formal levels of education, including the highest (doctorate) (Barros & Mourão, 2018) and are the majority among graduate course

professors (Barros & Mourão, 2019), they continue to exercise a double working day with more hours of family/domestic dedication than men. Since science can be considered a historical-social construction marked by power relations, as it was historically instituted by and for men (Lino & Mayorga, 2016), it is necessary to problematize the differences between genders in the scientific environment.

Given the above, this study aimed to identify and discuss the perceptions of researchers about their professional development, as well as their perceptions about the possible existence of work-family and family-work conflicts. With this, the intention is to broaden the discussions surrounding the issues related to balancing personal and professional life for those who work in the scientific world, with a particular focus on gender stereotypes as the guiding principle of the research.

## METHOD

This study adopted a mixed design, being divided into two studies: the first of a quantitative nature, and the second utilizing a qualitative method. The first study compared male and female perceptions regarding professional development and potential work-family and family-work conflicts. The second study aimed to gain a better understanding of the dominant ideologies presented by different types of discourse from Brazilian researchers concerning this work-family interface.

### Participants and Selection Criteria

In the first study, the sample consisted of 400 Brazilian researchers, 200 men, and 200 women, all working in public universities across different states. Participant selection had the following inclusion criteria: being a permanent faculty member of a graduate program, having obtained a doctoral degree in the last 30 years, achieving diversity in terms of their areas of expertise, and considering an analysis across different contexts.

With the aim of including researchers at different stages of their scientific careers, half of the faculty members were required to be recipients of research productivity grants (*bolsista de produtividade em pesquisa* – PQ) from the National Council for Scientific and Technological Development – CNPq. Among these, 100 had been awarded the initial-level grant (PQ2), while another 100 were recipients of the highest-level grant within the CNPq career hierarchy (PQ1A). The other half of the sample was not required to hold productivity grants at the time of data collection. At all levels, an equal distribution of men and women was considered within each stratum.

The second study was conducted exclusively with female faculty members, maintaining the same characteristics as the

initial sample. An additional criterion was the requirement for participants to have children, as the literature in the field indicates that motherhood affects the work-family relationship (Aguiar & Bastos, 2017), with a direct impact on the professional lives of researchers (Barros & Mourão, 2019; Barros & Mourão, 2020). The sample was composed of 12 women researchers working in public universities in Rio de Janeiro, São Paulo, and the Federal District. All participants were in an exclusive work regime, of white race, and from middle-class backgrounds. Among them, three participants were in the field of Mathematics (identified here with the pseudonyms Mônica – 39 years of age and 1 child, Maria – 41 years of age and 2 children, and Miriam – 36 years of age and 1 child), another three were in Psychology (referred to in this study as Pâmela – 42 years of age and 1 child, Poliana – 46 years of age and 1 child, and Paola – 49 years of age and 3 children), three worked in Biology (pseudonyms Bianca – 40 years of age and 1 child, Betina – 42 years of age and 1 child, and Betânia – 54 years of age and 2 children), two were in Architecture (Aline – 34 years of age and 1 child, and Amanda – 66 years of age and 2 children), and finally, one participant worked in Speech Therapy (Flávia – 45 years of age and 1 child).

### Instruments

The data collection instrument of the first study contained two scales, one to measure the perception of professional development and the other to measure work-family and family-work conflicts, in addition to some sociodemographic data questions to characterize the sample. The two scales were answered using a five-point Likert-type scale, ranging from 1 = strongly disagree to 5 = strongly agree.

The Current Perception of Professional Development Scale developed by Mourão et al. (2014), which is unifactorial, was used to measure professional development. Some minor language adjustments were made, for example, the item *I have had significant professional development since I started working* was changed to, *I have had significant professional development since I started my research career*. The reliability of the measurement was consistent and considered satisfactory in both the original and the current study (Cronbach's Alpha of .82 in both cases).

To measure the work-family conflict, a reduced version of the original scale by Netemeyer et al. (1996) was applied. This scale is composed of two dimensions (*i*) Interference of work in the family and (*ii*) Interference of the family in the work, from the version adapted for Brazilian samples by Aguiar and Bastos (2013). Both items from the interference of work in the family dimension (degree of reliability in the original study, measured by Cronbach's Alpha,.90 and in the present study .87) and items from the of family interference in the work dimension (Alphas of .86 and .73, respectively) were used. Examples of items on this scale are: *The demands in my career keep me away from family activities more than I would like*; and *The time I spend with my family often prevents me from devoting time to activities at work that could help my career*.

For the second study, the interview script was designed to guide the conversation toward the theme, using stimulus questions to encourage participants to discuss their life trajectories from childhood through adolescence, their choice of field, the challenges encountered along the way, and their scientific career as a profession. Examples of questions and approaches include: *Tell me about your career and your family life*, and *How do/did you manage to balance the demands of family and work?*

## Data Collection Procedures

In Study 1, the questionnaire was distributed via the CNPq Lattes Platform to all individuals registered as 1A researchers and to a stratified sample of PQ2 grant recipients and non-recipients. The process involved specifying the broad research area and the grant recipient/non-recipient status. From the list provided, a random subset of participants was selected and invited via email to respond to the questionnaire, with the questionnaire items presented in the body of the email itself. Invitations were sent out as needed until the defined sample size was reached for each stratum. To indicate acceptance of participation in the study, respondents were required to return the completed instrument via email. The email forwarding the questionnaire provided information about the research theme, the study's proposed objective, the voluntary nature of participation, and the research project's approval details on the Plataforma Brasil (CAAE 55958816.6.0000.5289).

For conducting the interviews, personal invitations were extended with scheduled appointment times. Initial contacts were made via email with individuals who had responded to Study 1. Only one of the interviewees was referred by another researcher in the same field, as is commonly done using snowball sampling techniques. This approach became necessary due to the challenge of completing the sample with area and grant-level stratification. Nine interviews were conducted in person, and three were conducted using the Skype software with video and audio interaction. In all cases, the interviews were pre-scheduled, with the research objective presented, and an estimated duration of the conversation provided. All participants signed the consent form (either in person or electronically) and explicitly agreed to audio recording and the use of their data for research and scientific publication purposes. The conversations were transcribed in full.

Finally, in both stages of the study, any doubts or questions from the participants were clarified by the authors themselves. Communication took place via email, in-person during the interviews, through Skype, or using the phone number provided in the consent form along with the invitation to participate in the research. Although there was an option to provide psychological support services offered by the universities for potential cases of discomfort, only two interviewees reported some unease and spontaneously mentioned that they would discuss the issues during their therapy sessions.

## Data Analysis Procedures

The tabulation and analysis of the data from Study 1 were performed using the SPSS, version 21.0, program. After the basic procedures of cleaning the database by adjusting for possible errors in the data entry process, descriptive analyses and *t*-tests were performed (with Levene's test to evaluate the presumption of assumed variance). To measure the effect, Cohen's *d* was calculated (Espírito-Santo & Daniel, 2015). The chi-square test and Fischer's exact test were also performed to investigate gender differences between groups with lower and higher levels of work-family and family-work conflict. In the second study, following the full transcription of the interviews, the Categorical Content Analysis method was adopted, where the analysis categories emerge from the participants' statements. It is important to note that the selection of statements was based on criteria of relevance and adherence to the proposed objective, to define analysis categories within the established thematic framework. As presented in the next section, the categories that emerged from the narratives were: "Support and chosen timing for motherhood" and "Professional development and work-family balance".

A triangulation analysis of the results obtained in both studies was also conducted. This approach considers the

methodological design involving two integrated data collections, with the qualitative study used to elucidate and facilitate the discussion of the findings from the quantitative

study. Due to this, the discussion of results considering the existing literature was carried out simultaneously with the method-based triangulation of results.

## RESULTS AND DISCUSSION

The results of the first study indicated that Brazilian female and male researchers exhibited high scores in terms of their perception of professional development, with mean scores of 4.34 ( $SD = 0.64$ ) for women and 4.17 ( $SD = 0.47$ ) for men, on a scale ranging from 1 to 5. The fact that both men and women demonstrated high scores in their perception of professional development could be attributed to the extensive education and training required for researchers. Professional development is defined as the process of acquiring and refining knowledge, skills, and attitudes over time, which enhances job performance and individual career advancement (Mourão et al., 2014).

Despite both genders showing high perceptions of professional development, there was a difference in the means between the two groups. The female participants demonstrated a more positive perception of professional development ( $M = 4.34$ ) compared to the male participants ( $M = 4.17$ ). The *t*-test revealed a significant difference between these means ( $t(398) = 2.54; p < .01$ ). Additionally, Cohen's *d* effect size test (0.25) indicated a substantial effect size (above 0.20) (Espírito-Santo & Daniel, 2015), confirming the relevance of this difference. This favorable view that women have of their professional trajectory was further supported by the triangulation of results from both the quantitative and qualitative studies. The statements, in general, demonstrate that the interviewees viewed their professional development positively. One researcher, for instance, expressed contentment with her current career position and did not aspire to progress further since higher positions would require effort, she was not willing to invest. Another researcher mentioned never having dreamt of holding a position like her current one.

However, this alignment of results between the two methods was not confirmed for the evaluation of work-family and family-work conflicts. In the quantitative study, both men and women perceived low levels of family-work conflict ( $M = 1.97$  for both groups,  $SD 0.74$  for women and 0.79 for men). This suggests that the impact of family-related issues on work would be low in their careers. Conversely, work-family conflict exhibited moderate levels ( $M = 3.22$  for women and  $M = 3.06$  for men,  $SD 1.14$  and 1.10, respectively). These results align with the findings of Aguiar and Bastos (2017) and Oliveira et al. (2013). As in the current research, these studies were conducted with Brazilian samples and demonstrated that participants perceived a greater interference of work in their family lives compared to family interference in their work lives.

In the comparison by gender, no significant differences were found between the male and female mean scores for work-family conflict ( $t(398) = 1.48; p > .05$ ) or family-work conflict ( $t(398) = 0.87; p > .05$ ). In contrast, the study by Aguiar and Bastos (2017) revealed significantly different means between men and women concerning the interference of family in the work. However, even though there were no significant mean differences between male and female researchers in the present study regarding work-family and family-work conflicts, gender differences emerged within the group that reported higher levels of work-family conflict (score  $\geq 4.0$ ). This group consisted of 123 individuals, with 71 women (35.5% of the female sample) and 52 men (26% of the male sample), indicating a significant difference in the chi-square test ( $p < .04$ ) and Fisher's exact test ( $p < .03$ ). Accordingly, a higher percentage of women was observed among those who perceived higher work-family conflict. This result emphasizes the importance of a qualitative study with the female researchers to gain a better understanding of why a higher percentage of women than men perceived elevated work-family conflict within this group.

While the quantitative results indicate that women researchers have a low level of conflict between these life domains, the qualitative findings present discourses that reveal contradictions. In this context, two fundamental questions emerged in this triangulation analysis: (i) Why do women researchers, despite having a level of productivity equivalent to that of men (Barros & Silva, 2019) and facing greater difficulties in career advancement, whether through obtaining productivity grants or occupying positions of representation and merit in the academic world (Barros & Mourão, 2020), tend to assess their professional development more favorably than men?; and (ii) Why do female researchers perceive only moderate levels of work-family conflict and low levels of family-work conflict, even though statistics confirm that women are more engaged in tasks of caring for family members and household chores (IBGE, 2018; Guedes, 2016), with greater dedication to the family sphere being socially expected of them?

Therefore, it is disconcerting to find that women scientists assess their professional development more favorably than men, even though they must navigate unique challenges in their professional trajectories that are not encountered by their male counterparts. The statements collected during the interviews helped shed light on these issues. The two categories that emerged from the qualitative analysis not only intertwined with each other but also intertwined with

the constructs investigated in Study 1. The categories that emerged were: (i) Support and chosen timing for motherhood; and (ii) Professional development and work-family balance. These two categories will be presented and discussed in the following section.

### Support and chosen timing for motherhood

Discussions about the decision to become a mother are centered on the process of choosing the ideal timing for realizing the goal of parenthood and the contextual support received or not by couples. Through these discussions, it became evident that nine out of the 12 interviewed researchers became mothers only after completing their doctoral degrees, and only three of them were mothers during their doctoral studies. A generational phenomenon was also observed, as those who planned the birth of their children after obtaining their doctoral degrees were the younger participants, confirming that younger women have been prioritizing their academic education and career establishment before embarking on the path of motherhood (Lopes et al., 2014).

This evidence can be attributed to transformations in the roles assumed by women and men in contemporary society, which have led to changes in the perception of motherhood and fatherhood (Lopes et al., 2014). The findings from Matos and Magalhães (2014) reveal that people perceive having children as a substantial investment, leading them to increasingly reconsider their decision about parenthood. The authors' study indicates that if a couple chooses to have children, the focus shifts to determining the optimal timing to realize this project, ensuring that other areas of life are not compromised.

Accordingly, the triangulation of quantitative and qualitative results might suggest that postponing motherhood could be a potential strategy to mitigate greater conflicts in balancing work and family life. This perspective is supported by the researchers' narratives, as some explained that they decided to have children only after their careers as educators/researchers were well-established. They explicitly indicated that it would have been more challenging to have children and balance those maternal responsibilities during the phase when they were still constructing their professional foundation.

The existence of a conflict between periods of higher female fertility and greater career advancement opportunities (Barros & Mourão, 2020) could be particularly relevant for researchers, given the extensive training required for a scientific career. Beyond completing the doctoral degree, establishing oneself as a researcher and a faculty member in graduate programs involves investments in publications and student development that require a longer professional trajectory compared to many other professions.

Besides planning the ideal time, one of the researchers mentioned preparing a "queue of articles" to be published during her maternity leave. However, she emphasized that

she didn't anticipate that her scientific productivity would continue to be affected in the years following childbirth. This decision to postpone having children until after achieving career stability was highlighted as a process of vicarious learning by the interviewee Betina (Bandura, 1977). She observed numerous other female researchers who chose not to have children to safeguard their careers yet saw their productivity decline after becoming mothers. Based on the experiences of these women, Betina was not caught off guard by the drop in her productivity, precisely because she expected this phenomenon.

The researchers' concern about work-family reconciliation also emerged in discussions about the number of children they chose to have. One of them decided to have only one child due to her professional commitments, and in line with the concept of vicarious learning, she reflected that this is the reality for most women in her field. She regarded this decision to have just one child to "preserve her mental health", considering all the demands that come with a child's first five years. These findings corroborate the findings of Bernardi et al. (2018), who also studied middle-class and higher-educated couples. The author identified that the loss of autonomy and freedom has influenced the number of children contemporary couples decide to have. The following excerpt reveals a perspective on motherhood.

*When I got pregnant, I realized that I needed to have a queue of articles ready to be published while I was on maternity leave. What I didn't know was that it wasn't just about maternity leave. So, I thought, naively, that it would only be in the first six months or the first year of the child's life that would hinder me from working. But, for me, it turned out to be the first three years (Betina).*

As can be seen from the above, despite the quantitative results showing low scores for the women in terms of the perception of work-family conflict ( $M = 1.97$ ;  $SD = 0.79$ ), the statements of the researchers revealed high levels of concern about balancing their personal and work lives. Therefore, since having children was established as an inclusion criterion for the qualitative study in this research, all the interviewees had dealt with maternity-related issues. On one hand, their narratives underscore a preoccupation with work-family balance, while on the other hand, the questionnaire results indicate low levels of conflict.

One explanation for the contradiction highlighted in the method triangulation might be related to the contextual support that many of these researchers received. It became evident that having access to a support and collaboration network during pregnancy and after childbirth played a pivotal role in ensuring that their careers were not negatively impacted. The reports of these researchers confirm the significance of contextual support in addressing the challenges associated with balancing work and family spheres (Brummelhuis & Bakker, 2012).

The support received within the family context, whether from relatives, domestic employees, or daycare services, was experienced by the researchers as a way to moderate the relationship between work and the specific demands of motherhood. The perception of the importance of this type of support is also aligned with the Family-Work Resources Model (Brummelhuis & Bakker, 2012), as a strategy present in the lives of women in various other professions. The following excerpt contains one researcher's account of the support she received when she had children or when her children were still young.

*My mother and father helped me a lot when I was in Brazil and, when I was abroad, where my in-laws lived and I taught for a while, my mother-in-law would take my daughter so I could breastfeed. There were times when my father-in-law would take care of my children and, when it was necessary, I could just work (Miriam).*

Regarding the support received from spouses, the division of tasks and family demands emerged as an important contextual resource for balancing work. The demographic profile revealed that ten out of twelve interviewees were married to men who also worked in the scientific field.

Although the researchers did not directly mention an imbalance in the distribution of household and caregiving tasks, their statements indicate that they were the primary individuals responsible for these activities, reinforcing stereotypes related to the social roles of men and women. One researcher portrayed her husband's involvement as "help", while another considered herself "lucky" to have a husband who participated in the child's routine. These remarks reveal the naturalization of the predominant role of the female figure and a secondary role for men in household and childcare tasks, demonstrating that the gendered division of labor continues to persist implicitly (Lima et al., 2017).

Regarding the contradictions highlighted by the method of triangulation, it is worth considering the analysis by Rocha-Coutinho (1998), which suggests that the language process occurs without the person necessarily being aware of it. According to the author, the fact that an individual is embedded in a social context where certain beliefs are ingrained causes their discourse to spontaneously reflect these perceptions. The following excerpts confirm this process of naturalization of the female role in household and caregiving tasks.

*I think my husband helps me a lot, really a lot, and he helps not only with our daughter, but he's the one who cooks. During the week, I like to cook if it's something different, but if it's about taking care of the kitchen, that's on him. But he helps a lot with her (Paola).*

*I was very lucky to have a husband who provided me with a lot of support when she was still very little, and he continues*

*to do so even today. Without the support I received from him, it would have been unfeasible because my family isn't from here (Pâmela).*

In addition to family support, the significance of support within the work context was also highlighted in the narratives, corroborating the findings of Aguiar and Bastos (2017). One of the researchers emphasized that the collaboration of her students was crucial to ensure that the group's projects didn't come to a halt during her absence and to facilitate a smoother return to activities after her maternity leave. In this specific case, the research group's support was feasible because the researcher already held a well-established position in her academic career and could rely on the assistance of doctoral and postdoctoral candidates. The acknowledgment of support from peers was also evident in the account of another researcher who mentioned that her absence was covered by colleagues within the graduate program and the broader academic community.

Along with the received support, the unique characteristics of scientific activity also emerged in the discussions about balancing work and family. Flexibility was mentioned by two researchers as a resource for reconciling family and work spheres. Researcher Flávia highlighted that being able to carry out certain research tasks from home contributed to balancing her personal life with work. While Aline also mentioned this flexibility in a positive light, she made a point to spontaneously explain that this characteristic did not influence her career choice.

In addition to these researchers, others also viewed the increased time spent at home and greater flexibility positively, however, they also recognize that this work characteristic is perilous, as there is no fixed time to start and finish tasks, leading to an intense work routine. Establishing limits regarding work hours was highlighted as a necessary condition for a healthy family life. These perceptions corroborate the discussion that remote work can concurrently lead to increased family time and an escalation of "excessive" work goals (Columbu & Massoni, 2017).

*Flexibility is very positive. Many jobs don't have that, but sometimes having a set schedule helps you set limits and have a healthy family life, because when you're flexible all the time, sometimes you work until the early hours of the morning (Monica).*

Beyond the specific considerations about the timing of experiencing motherhood, the researchers also addressed other aspects of the work-family balance. On one hand, the decision to become mothers impacted their career trajectories; on the other hand, simply being women brought about societal expectations regarding their professional development, as the work environment is intertwined with gender relations and stereotypes.

## Professional Development and Work-Family Reconciliation

The triangulation of methods highlighted certain contradictions concerning the results of the quantitative study, where the female researchers assessed their professional development more positively than the men. However, in the narratives of the qualitative study, they indicated professional difficulties due to their gender. Some participants reported, for instance, that assuming significant positions in their careers elicited surprise from male colleagues, while others emphasized the low representation of women in decision-making bodies within the scientific world.

Accordingly, the more positive perception that the women had of their career development may have been associated with a lower societal expectation regarding their professional “success”. The fact that the mean perception of female professional development was higher than that of males does not align with official statistics indicating a prevalence of men among the highest levels of CNPq scholars and in higher positions within universities and research funding institutions, as demonstrated in the studies by Barros and Mourão (2018), Barros and Silva (2019) and Barros and Mourão (2019).

Possibly, a perception of a greater need for work-family balance on the part of women could also impact the expectations they – and society – hold regarding their professional development. At various points during the interviews, they treated changes in their career trajectories after the birth of their children as natural, revealing the existence of these expectations. The literature also confirms the influence of motherhood and other tasks related to the family environment on the professional development of researchers, due to the reduced time available for scientific production (Aguiar, 2017; Barros & Silva, 2019).

While on one hand, the quantitative research conducted and the findings of Aguiar and Bastos (2017) and Oliveira et al. (2013) indicate moderate levels of work-family conflict, on the other hand, the interviews indicate evidence that motherhood had affected the careers of the researchers, even though all initially claimed they had not been affected. Rocha-Coutinho (1998) emphasized that a certain degree of contradiction is common in gender studies, and for this reason, the author underscores the importance of using research methods that consider oral narratives. In this way, women can become aware of themselves as they recount their trajectories.

A careful analysis of the language used to describe their experiences reveals female adaptation strategies for work-family balance in the academic context. Some of the participants employed strategies such as reducing the number of trips after the birth of their child, and one of them explicitly

mentioned that she began to consider whether a particular trip or event justified her absence from home.

Other researchers attributed the reduction in travel to choices in favor of the family. Mônica reported that when she discovered her pregnancy, she was traveling to conduct research after winning an international award, however, she chose to give up the award and return to Brazil to be closer to her family, as she “started to see possibilities from a different perspective”. Similarly, Maria stated that she used to travel extensively, but after her child was born, she traveled less, emphasizing that this reduction made sense to her because she was aware that it was connected to the choices she made. Additionally, it can be seen that they draw comparisons with their spouses. For example, Betina reported that her husband did not stop traveling after the birth of their child.

*My trips decreased significantly, there's no way around it. But my husband didn't stop traveling and he goes to anything. It would be fair to say that I haven't stopped traveling, but for me to go, it has to be worth it. I think there's a big difference between the two of us (Betina).*

For the analysis of professional development in the scientific career, it is essential to consider the indicators valued by research funding agencies and the institution responsible for evaluating the performance of graduate programs, such as internationalization, holding political-administrative decision-making positions within academia, and the scientific production itself. These three parameters emerged in the narratives of the interviewed researchers.

The researcher Amanda evaluated that her limited international involvement was linked to not being able to efficiently balance family and work, and as a form of compensation, she sent all her children abroad for exchange programs. However, while she contemplated the consequences of not pursuing a postdoctoral position abroad, she made it clear that it was a personal choice, and that this choice was “compensated” by the opportunity to have three grandchildren. To her, colleagues who prioritized internationalization didn't have the chance to experience the role of being grandmothers and “seeing the sequence of their life”.

Regarding scientific production, two researchers mentioned a decline after becoming mothers. One of them acknowledged that she would produce more if she didn't have children, although she also expressed satisfaction with her output. On the other hand, interviewee Paola attributed the drop in her production to having a family, maintaining the argument of personal choice and emphasizing that learning to manage time after motherhood is a matter of “survival”. These statements confirm the phenomenon of reduced scientific production in women when their children are young, as highlighted in the study conducted by Barros and Silva (2019).

*The fact that I have a family makes me produce less, and that's obvious to me. I have much less time; I've learned to use my time much more effectively than before I had a child. I make choices now, perhaps because I've already reached a certain position, but I don't believe I've done everything I could have done (Paola).*

The method triangulation therefore highlights an apparent contradiction between women's narratives about the decline in their scientific production or the relinquishment of professional opportunities (qualitative study) and the

moderate levels of perceived work-family conflict and the absence of gender differences in the mean scores (quantitative study). This divergence might be associated with the fact that the researchers were well aware that motherhood would have consequences for their professional lives, and they made this decision consciously. Accordingly, the low perception of work-family conflict doesn't seem to stem from the absence of professional losses due to taking on family tasks, but rather from the fact that the women chose family and were content with the choices they had made.

## FINAL CONSIDERATIONS

The present study aimed to identify and discuss the perceptions of female and male researchers about their professional development, as well as their perceptions regarding the potential existence of work-family and family-work conflicts. To delve deeper into the analysis, the research was conducted using two distinct methods. The first study involved surveying researchers regarding the perception of their professional development and the balance between their work and family life. Subsequently, a group of female researchers was invited to discuss the topic. The aim was to carry out a method triangulation, which would simultaneously allow the identification and discussion of the phenomenon of professional development and work-family and family-work conflicts among Brazilian researchers.

This triangulation revealed that the female scientists perceived moderate levels of work-family conflict and that they developed strategies to mitigate these conflicts. One of these strategies was planning or delaying pregnancy with the intention that childbirth would occur after a certain degree of professional stability. Another strategy was the creation of a support network that could minimize the effects of household and childcare tasks on work activities. Lastly, these women also consciously decided to make certain sacrifices for the sake of their families (such as reducing travel and declining opportunities abroad or managerial positions).

This set of female strategies certainly contributed to the reduction of conflict at the work-family interface, either because motherhood occurred at a more suitable time or because they managed to organize support systems that facilitated the balance between work and family spheres. Furthermore, the fact that they were aware that motherhood would somehow impact their professional lives also diminished the perception of conflict. Therefore, despite recognizing inequality in the division of responsibilities with their partners, they were clear that prioritizing family was a personal choice, and they felt rewarded without displaying distress or regret for their decisions.

Therefore, the decision to employ a multimethod study proved valuable in this research as it provided a clearer

understanding of the phenomenon under investigation and facilitated the discussion of potential contradictions in the study results. While the quantitative comparison with men revealed differences, such as the perception of greater professional development among women, the analysis of narratives allowed for a discussion of the reasons behind these perceptions.

In this way, the findings from the interviews align with the existing literature, indicating that there is still a prevalent attribution of family responsibilities to women. However, even with this convergence, no significant differences between genders were found in perceptions of work-family and family-work conflict. The explanation arrived at for this result does not negate gender differences in the distribution of family tasks but rather expands the understanding of the phenomenon, suggesting that women are aware of these differences and willingly prioritize family without this causing internal conflict for them.

Therefore, this study contributes to the discussion on the work-family balance in women's careers, not only by highlighting the challenges they face but also by presenting strategies they have developed to cope with these challenges. In terms of practical contributions, this article encourages the scientific community to reflect on a merit evaluation system that considers the unique paths of women and men. An example of this could be the existence of maternity leave for female researchers, accompanied by a reduction in production metrics during that period. Deliberately planned actions to reduce the existing disparities in positions within the scientific context would also help rectify deeply ingrained social practices supported by historical social inequalities.

Despite these contributions, some limitations need to be taken into consideration. One of them pertains to not including the perspectives of men regarding the phenomena studied. Hearing from men could contribute not only to the understanding of these phenomena but also to comprehending the changes happening in terms of increased demand for male involvement in household and family care tasks.

It is therefore suggested that future quantitative studies compare results by age concerning the decision to have children or not, regardless of gender. Studies involving multivariate comparisons between groups of women with children versus men with children, and women with children versus women without children, would also be relevant to comprehending the work-family and family-work phenomena. Investigations comparing the results of female scientists and non-scientists would also contribute to understanding this phenomenon within the context of different occupational categories.

In terms of qualitative studies, there is a need to conduct interviews with male researchers, comparing narratives with gender intersections. Studies involving women without children should also be carried out, as the literature does not restrict the female burden in domestic tasks solely to childcare but extends to family demands in general (such as caring for older adults or dependent family members, or even managing the overall family routine). Therefore, investigations involving female researchers without children would be valuable to expand this discussion.

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**Data availability statement**

Research data is available on request from the corresponding author.

**Submitted on**

03/12/2020

**Accepted on**

07/11/2022

**Responsible editor**

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