

Gendered experiences of software engineers during the COVID-19 crisis

- (1) Federal University of Pará, Brazil
- (2) Getúlio Vargas Foundation, Brazil



Career & Success

The New Work-Life Reality Raises Equity and Inclusion Concerns

Beware of letting the COVID-19 crisis exacerbate established biases, warns a focus group of corporate and nonprofit leaders.

June 8, 2020 | by Sandra Feder



Science Contents News

Does it really happens???

I do not see how...

COVID-19 has worsened gender inequality. These charts show what we can do about it



The pandemic has increased the burden of unpaid care on women. Image: REUTERS/Michaela Rehle

Gender, race and parenthood impact academic productivity during the COVID-19 pandemic: from survey to action (*Parent in Science*)

<https://www.biorxiv.org/content/10.1101/2020.07.04.187583v1.full.pdf>



LETTERS

Impact of COVID-19 on academic mothers

Deadlines for grant proposals, reports, and renewal requests must be postponed. Funding agencies should consider creating granting programs designed around the reality of academics with families. By instituting more flexible policies, we can make science

COVID-19 stay-at-home orders could exacerbate challenges faced by mothers in academia.

1. *In the Ivory Tower* (Rutgers University Press, New Brunswick, NJ, 2015).
2. Huang et al. *Proc. Natl. Acad. Sci. U.S.A.* 117, 4502 (2020).
3. E. A. Cochran & Blair-Loy. *Proc. Natl. Acad. Sci. U.S.A.* 116, 4182 (2019).
4. V. A. Jaan et al. in *Gender and the Work-Family Experience*, M. Mills, Ed. (Springer, 2018), pp. 291-311.
5. *Parent in Science* (www.parentinscience.com).
6. *Mothers in Science* (www.mothersinscience.com).
7. *Mama is an Academic* (<https://mamaisanacademic.wordpress.com/>).
8. 10.1126/science.abc2740

Support early-career field researchers

Pandemic-induced restrictions on research are now ubiquitous. We urge administrators and policy-makers to recognize that field researchers—especially those early in their careers—face unique challenges, even if restrictions last only a month or two. Bans on travel, hiring, and facility use are forcing many researchers to abandon the entire field season, losing a full year of irreplaceable data and research-training opportunities. The loss of data is most damaging for

Background & Method

Framework Distance Matters by Olson & Olson, 2000

- Common Ground
- Collaboration Readiness
- Coupling of work
- Collaboration Technology Readiness
- Organization Management

Survey study in Brazil, 366 valid responses

- Early in social isolation (median = 40 days)
31 questions
- **Technology roles** (N= 233)
 - Men (149) - 64%
 - Women (86) - 36%
- Logistic regression, Chi-square and T-tests to compare groups with positive & negative wellbeing

How do known theoretical concepts
impact the wellbeing of remote workers
during COVID-19?

1. Workers with positive wellbeing

Received more incentives from the employer

- (Team engagement, virtual happy hour)



Experienced less challenges with technology

Organization

Team

Individual



Reported less interruptions

Described co-workers as more collaborative



Had less challenges with **common ground**

i.e., reaching a common understanding among co-workers



No Difference in coupling of work
Tech workers



Had no difference in remote work experience

Before pandemic (years)
Social isolation (days)



Remote workers' wellbeing in the age of COVID-19

Clara Caldeira, Letícia S. Machado, Marcelo G. Perin, Cleidson R. B. de Souza
August 2020

[Download BibTex](#)

ABSTRACT

Social isolation measures used worldwide to reduce the impacts of COVID-19 led many office workers to work remotely with little notice. While researchers have studied remote collaboration for more than two decades, the scale and context of remote work during a pandemic is unprecedented and has changed personal and work dynamics. In this paper, we discuss the results of a survey study investigating the impact of remote work during the COVID-19 pandemic in Brazil, informed by Olson & Olson's framework for distributed collaboration. We report preliminary findings from this study, focusing specifically on workers' wellbeing. Our results suggest that the main factors influencing workers' well beings are Common Ground Challenges, Collaboration Readiness, Collaboration Technology Readiness, Organizational Management, and Interruptions.

[View Publication](#)

Events

[New Future of Work](#)

Research Areas

[Human-computer in](#)
[Social sciences](#)

2. Gender Wellbeing / Insights into 3 categories

Interruptions (at home and by co-workers)

Negative for both

Female respondents: *“difficulty in **managing various tasks** (home, children, appointments) together with isolation and work from home.*

*“I work on the breaks that I take in the middle of the routine for taking care of the **child** and the **house** at the **same time** which makes me usually work after my kid sleeps, so as not to have interruptions and less stress.”*

Male respondents: *“I don’t have an **isolated office in the house**. [there is] a **lot of noise**.”*

*“it was necessary to **reorganize my house** so that there is a **place for me to work**.”*

Gendered experiences of software engineers during the COVID-19 crisis

Leticia S. Machado
Federal University of Pará
Clara Caldeira
Federal University of Pará
Marcelo Perin
Fundação Getulio Vargas
Cleudson R. B. de Souza
Federal University of Pará

Submitted on
August 2020

Abstract—The social distance measures adopted to reduce the impacts of the COVID-19 crisis led many information workers into a remote work emergency plan. Most in-person work, education, and recreational activities were suspended, creating a radical change in work arrangements, personal lives and social roles. While gender divides are largely due to cultural and environmental conditions, changes in the nature of professional and domestic work due to

Working at home (e.g., private space, organizational incentives, and childcare responsibilities)

→ **Positive for Men:** organizational incentives

(-) Women: flexible working hours, additional day off during the week, and changes in scheduling meetings.

Distributed and remote collaboration (e.g., common ground, and coupling of work).

→ **Positive for Women:** collaboration readiness

(-) Men: lack of informal conversations, i.e., the need to schedule meetings to talk to their colleagues.

2. Gender Wellbeing

Opportunities to better support women software engineers in remote work

- Organizational incentives that reduce the burden of domestic work, such as vouchers for meal delivery, cleaning services or tools (e.g., robotic vacuum cleaner), and childcare.
- Flexibility to account for the demands of childcare and domestic work (e.g. scheduling that prioritizes **parents**)
- Carefully account for special circumstances when evaluating work performance
- Communication policies that allow co-workers to freely ask questions



Research insights

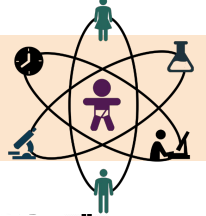
- To receive people with different kind of experiences -- Diversity & Inclusivity
- To recognize that there are differences -- Evidences
- To think about policies and programs -- More flexible and empathetic workplace

Gender-Inclusive Software - “This is not a women problem is a software engineering problem”
(Margaret Burnett/CibSe 2020)



Twitter image

Moving forward



PARENT IN SCIENCE

Espaço Infantil em eventos da Sociedade Brasileira de Computação: uma necessidade ou não?



References

Frieze, C., Quesenberry, J.L., Kemp, E. and Velazquez, A., "Diversity or difference? New research supports the case for a cultural perspective on women in computing," *Journal of Science Education and Technology*, 21(4), pp.423-439, 2012.

<https://www.parentinscience.com/>
The Impact of COVID-19 on Gender Equality
(<https://www.nber.org/papers/w26947.pdf>)

Suitor, J. J., Mecom, D., & Feld, I. S. (2001). Gender, household labor, and scholarly productivity among university professors. *Gender Issues*, 19(4), 50-67.

Mattingly, M. J., & Bianchi, S. M. (2003). Gender differences in the quantity and quality of free time: The US experience. *Social forces*, 81(3), 999-1030.

EMBAIXADORAS E EMBAIXADORES PARENT IN SCIENCE

