CHAPTER 7

The Unequal Ivory Tower

The Effects of COVID-19 on Academic Mothers

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1 Introduction

Millions of professionals around the world switched to remote working in spring 2020 when nearly every country had imposed some form of lockdown as a result of the COVID-19 pandemic. For academics, this meant that campuses were abandoned, research labs were closed, teaching was moved online, and writing had to be done at home. Almost immediately, popular media outlets began publishing stories about the obstacles women encountered as a result of this abrupt shift.[1] While essential workers continued to work outside the home and faced their own challenges around childcare, "non-essential" working parents had to cope with a sudden spatial and temporal collision of their work with their domestic responsibilities.[2] For academic mothers, this meant redeveloping courses and teaching them online, continuing to perform administrative tasks and service work within their departments, and struggling to find the time to pursue their research agendas and to concentrate on writing academic texts. Since teaching and departmental commitments cannot be postponed, it was the research and writing that had to be put on hold when childcare and household duties became a priority during the workday.[3] Several articles in the popular press focused specifically on academic mothers who

1 Nancy Jo Sales, 'Dispatches from the Gender Gap: Work-From-Home Moms in the Time of Coronavirus' *Vanity Fair* (3 April 2020). Patricia Cohen and Tiffany Hsu, 'Pandemic Could Scar a Generation of Working Mothers' *The New York Times* (3 June 2020). Nora Ellmann et al., 'What Women Need in Response to the Coronavirus Pandemic' *Center for American Progress* (8 June 2020).

2 Lidia KC Manzo and Alessandra Minello, 'Mothers, Childcare Duties, and Remote Working under COVID-19 Lockdown in Italy: Cultivating Communities of Care' (2020) 10(2) Dialogues in Human Geography.

3 Kyle R Myers et al., 'Unequal Effects of the COVID-19 Pandemic on Scientists' (2020) 4 Nature Human Behavior 880. Sara Martucci, 'He's Working from Home and I'm at Home Trying to Work: Experiences of Childcare and the Work-Family Balance Among Mothers During Covid' *Journal of Family Issues* (2021).

struggled to fit the time for research and writing into their schedule of teaching, childcare, cooking, and other domestic chores.[4] These reports exposed a fact that was later confirmed by scientific research, namely that fewer article manuscripts were submitted by women than men during the lockdown across a broad range of disciplines, and that numbers of submissions from women were lower in 2020 than in 2019.[5] The consequences of this are material. Within academia, publications are needed for job appointments, promotion, and tenure. Beyond these external requirements, research and publication are important aspects of professional identity: both are needed for academics to be recognised within their intellectual communities, and are even necessary for their recognition of themselves as scholars. With these concerns in mind, we asked: how did the lack of time available for research and writing affect the careers of academic mothers during lockdown?

This chapter focuses on the daily experiences of academic mothers in the United States of America (USA) and Italy during the lockdown imposed in spring 2020 to curtail the pandemic of COVID-19. It is part of a 'larger research project, the Smart-Mama study, where the social effects of the COVID-19 crisis are explored through the lens of domestic rearrangements of parenting duties as a result of the increase in remote working during the lockdown in the USA and Italy'.[6] At the beginning of this project, in late March 2020, Italy was the

4 Colleen Flaherty, 'Early Journal Submission Data Suggest COVID-19 Is Tanking Women's Research Productivity' *Inside Higher Ed* (21 April 2020). Trisalyn Nelson and Jessica Early, 'Covid-19 and the Academic Parent' *The Chronicle of Higher Ed* (27 April 2020). Megan Frederickson, 'Women Are Getting Less Research Done than Men during This Coronavirus Pandemic' *The Conversation* (18 May 2020).

5 National Academies of Sciences, Engineering, and Medicine, 'Impact of COVID-19 on the Careers of Women in Academic Sciences, Engineering, and Medicine' <https://www.nap.edu/catalog/26061/impact-of-covid-19-on-the-careers-of-women-in-academic-sciences-engineering-and-medicine> accessed 29 November 2021. Rebecca A Krukowski et al., 'Academic Productivity Differences by Gender and Child Age in Science, Technology, Engineering, Mathematics, and Medicine Faculty during the Covid-19 Pandemic' (2021) 30 (3) Journal of Women's Health 341.

6 The Smart-Mama study was initially designed as a non-funded research project with the aim of getting an immediate, firsthand account of the lived experiences of working mothers during the Spring 2020 COVID-19 lockdown in Italy, the second country facing the spread of the COVID-19 after China. The US followed quite immediately in March 2020. Consequently, the Italian research team decided to include the US as a comparative country to explore how both Italian and American working mothers were dealing with the limitations in their job activities and the management of childcare at home. This project had approval from the Institutional Review Board at Mercy College. There were a total of 45 American and 23 Italian participants between April 2020–August 2020. Alessandra Minello, Sara Martucci, Lidia KC Manzo 'The Pandemic and the Academic Mothers: Present Hardships and Future Perspectives' (2020) 23 (1) European Societies 1.

worst affected country in the Western hemisphere. At this time, Americans were looking to Italy as the prime example of how the virus might unfold in the USA. Italian schools and universities were closed on the fourth of March while in the USA, states, counties, and individual schools made decisions to close at different times, with most closing in mid- to late March. Interviews with women from both countries allowed us to find out about their experiences during different moments in the lockdown timeline – beginning, middle, and in the Italian case, nearly to the end of the Phase 1 lockdown.

Women's experiences during the lockdown were directly affected by the amount of childcare and domestic labour they were responsible for in the home. We wanted to understand the effects of the gendered division of unpaid labour on academic mothers. For this reason, we focused on women who are currently in domestic partnerships with men. According to the Organisation for Economic Co-operation and Development, American women spent 241 minutes per day doing unpaid labour in 2019, compared with 145 minutes for men. In Italy, these numbers were 306 minutes and 130 minutes per day, respectively.[7] When we take paid and unpaid labour into account, women in the USA worked 22 minutes more per day than men; in Italy women worked 90 minutes more per day. Research demonstrates that during the lockdown the gender gap in care was not closed; overall, women spent more time on necessities – e.g., household chores and caring responsibilities – than men.[8] Among academics, mothers spent more time on childcare and housework than fathers.[9]

The preliminary reports about mothers' reduced output during the lockdown, and the quantitative data demonstrating that mothers spent more time providing care, raised several new research questions for understanding the everyday realities during this unprecedented situation. The following is an exploratory account of academic mothers' experiences specifically at the time of the COVID-19 spring 2020 lockdown. We focus on the following questions: First, how did academic mothers feel about their simultaneous work and home duties during the COVID-19 lockdown in spring 2020? Second, how did the reduction of productivity due to care duties impact their perception of

7 Organisation for Economic Cooperation and Development, 'Employment: Time Spent in Paid and Unpaid Work, by Sex' <https://stats.oecd.org/index.aspx?queryid=54757> accessed 29 November 2021.

8 Laura M Giurge et al., 'Why Time Poverty Matters for Individuals, Organisations and Nations' (2021) 118 (12) Proceedings of the National Academy of Sciences of the United States of America.

9 Katie Langin, 'Pandemic Hit Academic Mothers Especially Hard, New Data Confirm' (2021) Science 660.

their career trajectories in the long term? Third, what are some of the strategies women adopted to keep up with their research agenda and produce scholarship?

2 Gendered Division of Labour in the Home and at Work

Ample research has exposed the hardships that women face when balancing an academic career and a family.[10] Ward & Wolf-Wendel refer to both academia and parenting as intensive, even "greedy", contexts that require an individual's full dedication.[11] Prestigious or research-oriented academic jobs have garnered a reputation for being incompatible with family life, especially for women. According to a 2006 survey of more than 1,000 doctoral students in the University of California system, 46% of women (compared with 21% of men) cited "issues related to children" as a very important factor in their decision not to pursue a research-oriented academic career.[12] It is not news that a good work–family balance – between being a full-time academic and a mother – is hard to achieve. In the home, mothers dedicate more time to childcare, thus reducing their availability for academic tasks.[13] Compared with academic fathers and academics who are not parenting, academic mothers experience a "motherhood penalty" because of time lost due to maternity leave and childcare responsibilities.[14] In academia, women are also more likely to take on certain roles at work – mentoring students, administrative responsibilities to the school – and to prioritise teaching over writing.[15] The COVID-19

10 Rachel H Bassett, *Parenting and Professing: Balancing Family Work with an Academic Career* (Vanderbilt University Press 2005). Maureen Baker, 'Choices or Constraints? Family Responsibilities, Gender and Academic Career' (2010) 41 (1) Journal of Comparative Family Studies 1. Kelly Ward, 'Having it All: Women, Work, Family, and the Academic Career' (2014) 73 Labour / Le Travail 255.

11 Kelly Ward and Lisa Wolf-Wendel, 'Mothering and Professing: Critical Choices and the Academic Career' (2017) 10 (3) NASPA Journal About Women in Higher Education 229.

12 Mary Ann Mason et al., 'Why Graduate Students Reject the Fast Track' (2009) 95 (1) Academe 11.

13 Arlie Hochschild and Anne Machung, *The Second Shift: Working Families and the Revolution at Home* (Viking 1989).

14 J Scott Long, 'The Origins of Sex Differences in Science' (1990) 68 (4) Social Forces 1297. Nicholas H Wolfinger et al., 'Problems in the Pipeline: Gender, Marriage, and Fertility in the Ivory Tower' (2008) 79 (4) The Journal of Higher Education 388. Mary Ann Mason et al., *Do Babies Matter?: Gender and Family in the Ivory Tower* (Rutgers University Press 2013).

15 Johana Kantola, 'Why Do All the Women Disappear? Gendering Processes in a Political Science Department' (2008) 15 (2) Gender, Work & Organization 202.

lockdown of spring 2020 further amplified the gender inequalities present in parenthood and academia.[16]

Women perform more childcare and domestic labour than men, even when they are working full-time outside the home.[17] This domestic workload imbalance has been decreasing since the 1970s, although women still do more of the work and often feel like they are the managers of the household.[18] For academic women, the gendered division of labour at work also plays a role. Some degree of "service", like advising students, working on accreditation, or committee work within a department or campus, is necessary for sustained employment and promotion. However, too much service work can get in the way of publications, professional development, and even promotion, and women are more likely to take on service responsibilities beyond those that are required.[19]

Several studies on the effect of parenting on academic productivity for both men and women have been published. A study of academics in Germany found that having children had a more negative impact on publishing rates for mothers than for fathers, especially if mothers were publishing infrequently before having children.[20] Even academics who were not yet (or never planning on) parenting emphasised the potential impact of having children. A 2017 study of early-career Italian academics found that women were more preoccupied than men with the negative effects of potential work-life interferences that would

16 Alessandra Minello et al., 'The Pandemic and the Academic Mothers: Present Hardships and Future Perspectives' (2021) 23 (1) European Societies S82.

17 Man Yee Kan et al., 'Gender Convergence in Domestic Work: Discerning the Effects of Interactional and Institutional Barriers from Large-scale Data' (2011) 45 (2) Sociology 234. Suzanne M Bianchi et al., 'Housework: Who Did, Does or Will Do it, and How Much Does it Matter?' (2012) 91 (1) Social Forces 55.

18 Shira Offer, 'The Costs of Thinking About Work and Family: Mental Labor, Work–family Spillover, and Gender Inequality Among Parents in Dual-earner Families' (2014) 29 (4) Sociological Forum 916. Tomi Oinas, 'The Division of Labour Within Households: Men's Increased Participation?' in Mia Tammelin (ed.), *Family, Work and Well-Being: Emergence of New Issues, Springer Briefs in Well-Being and Quality of Life Research* (Springer International Publishing 2018). Lindsey G Robertson et al., 'Mothers and Mental Labor: A Phenomenological Focus Group Study of Family-related Thinking Work' (2019) 43 (2) Psychology of Women Quarterly 184.

19 Lisa Wolf-Wendel and Kelly Ward, 'Academic Mothers: Exploring Disciplinary Perspectives' (2015) 40 (1) Innovative Higher Education 19.

20 Mark Lutter and Martin Schröder, 'Is There a Motherhood Penalty in Academia? The Gendered Effect of Children on Academic Publications' (2020) 36 (3) European Sociological Review 442.

result from having children.[21] Examining professional and familial outcomes in the USA, Mason & Goulden confirmed that gender inequality permeates both the work and home environments of academic women.[22] They found that, compared with academic fathers, mothers reported having less time or mental space for writing and were more likely to miss professional development opportunities because of childcare commitments. This double bind of gender inequity at work and at home means that academic mothers gain tenure or promotion less frequently than fathers. In a sample of 30,000 American academics with young children at the beginning of tenure-track jobs, only 53% of women achieved tenure, compared with 77% of men.[23] The authors interpreted this to mean that some women were being denied tenure, but that others had moved to different positions within academia that made fewer demands.

During the global pandemic of COVID-19, all non-essential work was suddenly being done in the home. For academics this meant that childcare, housework, teaching, service work, and research responsibilities were in constant conflict. Because gender equity is already lacking in the home and the workplace, these deficits interacted to the detriment of many women's careers, specifically limiting their capacity for the research and writing that are required for tenure and promotion.

The requirements for tenure vary across disciplines, positions, and between universities. Wolf-Wendel & Ward exemplified how the specific norms of academic disciplines and the requirements of individual departments affected an academic's perceptions of her own productivity, but they found overall that experiences were more similar than they were different across contexts.[24] The present study does not distinguish between disciplines or prestige of the university, although the individual's position within the university is included in the data below.

Professors who are already tenured may have been less concerned with their productivity during the lockdown. In the USA, non-tenure track faculty may not have felt pressured to publish, but may have been more concerned about the precariousness of their positions. In Italy, publications are nearly always

21 Rosella Bozzo et al., 'Work–life Interferences in the Early Stages of Academic Careers: The Case of Precarious Researchers in Italy' (2017) 16 (2–3) European Educational Research Journal 332.

22 Mary Ann Mason and Marc Goulden, 'Marriage and the Baby Blues: Redefining Gender Equity in the Academy' (2004) 596 (1) Annals of the American Academy of Political and Social Science 86.

23 Mary Ann Mason and Marc Goulden, 'Do Babies Matter? The Effects of Family Formation on the Lifelong Careers of Academic Men and Women' (2002) 88 (6) Academe 21.

24 Wolf-Wendel and Ward (n 19).

necessary to obtain promotion, secure long-term employment, and continue professorship. The role of publications became extremely important after 2010, when the Gelmini Law introduced the National Scientific Qualification. This is a complex system of evaluation of an academic's productivity, mainly based on published articles and books, which is necessary to obtain the title of associate or full professor.[25]

Although the variations among departments, institutions, and disciplines are likely to have influenced pressures around productivity during the COVID-19 lockdown, the focus here is on the division of labour in the home that helped or hindered mothers' productivity. In our analysis, we will first examine the new balance between childcare and academic work, and the reorganisation of family life in spring 2020. Then, we will discuss our hypothesis that the reduction in productivity would be perceived by the women as detrimental to their careers. Finally, we explore a new direction: what, if any, childcare strategies did women put in place to ameliorate their workload and assuage fears of long-term career damage?

3 Sample and Methodology

This research is based on 25 in-depth interviews with academic mothers from the USA and 13 from Italy. Because we were interested in the gendered division of domestic labour and its effect on academic mothers, we focused on self-identifying women who were coupled with men and who had children aged 0–5 years. The literature demonstrates that mothers of children aged 0–5 years were the ones who suffered the most from reduced worktime during the early stages of the pandemic.[26] [27] [28] Women of colour have historically

25 The recent university reform introduced the National Scientific Qualification by disciplinary field, based on a series of standardized criteria defined by the MIUR, the Ministry of Education, University and Research. Obtaining the National Scientific Qualification has become a precondition for appointment to the position of associate or full professor. The same reform introduced two categories of fixed-term researchers (type A and type B), one with a three-year contract renewable for a maximum of two further years, the other with a three-year contract that guarantees appointment as an associate professor following a positive evaluation.

26 Myers et al. (n 3).

27 Meghan C Halley et al., 'The Intersection of Work and Home Challenges Faced by Physician Mothers during the Coronavirus Disease 2019 Pandemic: A Mixed-methods Analysis' (2021) 30 (4) Journal of Women's Health 514.

28 Caterina Balenzano et al., 'Families in the Pandemic between Challenges and Opportunities: An Empirical Study of Parents with Preschool and School-age Children' (2020) 10 Italian Sociological Review 777.

TABLE 7.1 Ethnic/Racial background of American respondents versus American female academics overall, from the National Center for Education Statistics (NCES), 2017

	White	Black/African American	Asian	Hispanic	Middle Eastern
Sample, n (percentage)	16 (64%)	3 (12%)	3 (12%)	1 (4%)	2 (8%)
Academics overall	76%	6%	11%	6%	*

*NCES data does not include numbers for Middle Eastern academics: they are often classified as white or Asian; however, two participants in this study identified their ethnic/racial background as Middle Eastern.

been undersampled in research on academic parents. Therefore, we purposely oversampled non-white women among American participants (see Table 7.1). In Italy less than 8% of the population is non-white: all respondents in that sample identified as Italian.

Participants were recruited from various ranks of academia, provided their academic position was a full-time job. This included tenure-track, tenured, and non-tenure track faculty, lecturers, and graduate students. Part-time or adjunct professors were not included in this research. The participants came from teaching – as well as from research-focused institutions in the USA; this distinction is not as prevalent in Italian universities. Most of the women in the sample were considered "early-career" although some were newly tenured.

This study aimed to obtain an immediate, first-hand response to the pandemic conditions. As a result, convenience and snowball sampling methods were used. Three methods of recruitment were used: identifying women who posted content on Twitter about being an academic mother; advertising the study in academic mothers' groups on social media; and contacting personal networks of academics. We acknowledge that mothers particularly affected by the worktime constraints may have been more likely to express interest in the study. However, it is also important to note that the mothers experiencing the worst constraints may not have had time to participate in an interview. Because of these selective recruitment methods, we do not claim to have obtained a representative sample of academic mothers in the USA or in Italy.

All interviews with academics took place during the coronavirus lockdown in the USA and Italy between the 13th of April and 10th of June 2020. The interviews were conducted by the three authors of this paper over tele-conferencing

applications. We each used the same interview script and the interviews lasted from 30 minutes to 1 hour, on average. We asked participants questions about their daily work and childcare schedules both before COVID-19 and during the lockdown. Participants were also asked about their sources of emotional support, as well as positive and negative experiences of the lockdown. An information sheet and a consent form were given to participants prior to conducting the interview, and anonymity was guaranteed.

4 Childcare Organization and Feelings of Despair

Neither the USA nor Italy had put a national plan in place relating to work and childcare during the lockdown. Most mothers in our sample noted that their universities and departments failed to make any arrangements to help parents. The only institutional support given during this time was technical help for getting classes online; any accommodations to ease time constraints were at the discretion of individual research teams or department chairs. Our participants reported considerable variation in the level of sympathy and support offered to them by their institutions, and rarely felt that they had enough time to adequately perform as both an academic and a parent.

The sudden lockdown during the COVID-19 pandemic meant an immediate reorganisation of daily life for everyone, especially parents. Predictably, the bulk of the childcare duties fell to the women: almost half (48%) of the American and 38% of the Italian academics in our sample define themselves as the main caretaker (See Table 7.2). Twenty three percent of the Italian academic mothers interviewed outsourced the care duties to family members or babysitters, compared with 28% of the Americans. It was more common for Italian women to report that they split childcare with their husbands (30%), while American women were more likely to have a husband who took over the bulk of the care (12% compared with 7.7% of Italians). Even when men were more involved with childcare, mothers noted that their children would still come to them for certain needs, for example, emotional comfort. We will explore below how the reorganisation of work and family load affected mothers' perceptions of current and future productivity and which strategies mothers adopted for alleviating the feelings of despair.

Academic mothers prioritised childcare and crucial tasks like teaching or departmental meetings. All other aspects of their academic identity, including research, submitting grant proposals, and writing, were put on hold indefinitely. This sudden loss of part of their academic identity, as well as the uncertainty about when things would return to normal, created a profound sense

TABLE 7.2 Household childcare arrangements for families in our study

	Babysitter/ nanny	Family help	Self-employed/ underemployed partner	Arranged to split care with partner	Mother is the main caretaker	Total
American Sample, n (percentage)	3 (12%)	4 (16%)	3 (12%)	3 (12%)	12 (48%)	25
Italian Sample, n (percentage)	1 (7.7%)	2 (15%)	1 (7.7%)	4 (30%)	5 (38%)	13
Total	4 (10.5%)	6 (15.8%)	4 (10.5%)	7 (18.4%)	17 (44.7%)	38

of despair about their current and future work, for mothers in both the USA and Italy.

Our participants consistently reported a lack of ability to concentrate as a result of being home with their children around the clock. One dual-professor couple who were both at home with their children even conducted a brief experiment during the lockdown, published in *The Washington Post.*[29] They took turns at being the "on duty" parent for three-hour stretches. The on-duty parent, while still working, was the children's go-to person for snacks, questions, help, and other needs. The couple found that the average length of uninterrupted time for the on-duty parent was only 3 minutes and 24 seconds. In their article, the couple explained that: "Our personal responsibilities interrupt our professional ones, which interrupt our personal ones – and we feel we are failing at *all* our jobs". Most of the women in our sample were acting as the on-duty parent for most of the day, meaning that they had very short time windows to complete academic work during their children's waking hours.

Charlotte, an American tenured professor mentioned a "*daily moment of panic"* when she thought about everything that needed to get done. She noted how it was difficult to do any kind of work that requires the time to think: *"It happens so often that I'm like, when am I going to do that … .it's just kind of a constant sense of dread that blankets my day".* Natalie, a tenure-track professor in the USA, was worried that she was only able to work about three hours per day,

29 Suzanne M Edwards and Larry Snyder, 'Perspective: Yes, Balancing Work and Parenting Is Impossible. Here's the Data' *The Washington Post* (10 July 2020).

compared with ten before the lockdown. She said that she felt *"a real cognitive deficit"* from being home with her children all day. Monia, an Italian doctoral student, acknowledged that her husband does help around the house, but only when it fits into his schedule. She complained that this made her work feel very fragmented. Even when her husband helped, it was hard to get intellectual work done at home.

Camilla and Vanda both spoke of the inability to work on academic publications, citing a lack of concentration:

> *I've put aside the whole part of the research … that was, unfortunately, the first to go. In the sense that I didn't have the time, the concentration, the possibility right now.*
>
> CAMILLA, Professor, Italy

> *But in terms of research and concentration, I have to be honest, it was impossible to go on. I recovered a little in the evening but I was also tired.*
>
> VANDA, Professor, Italy

Academic mothers were not just worried about the spring 2020 semester, but also about what the disruption would mean for their future careers, especially if day-care providers and schools remained closed in the summer and even the autumn. Some women felt that they had already "fallen behind" in their careers during maternity leave. Now, with this return to full-time parenting, many women were reminded of their child's infancy in terms of the isolation and the constant demands of motherhood, giving them the impression that they were once again falling behind.

As a mother of four children, it was impossible for Abigail, an American doctoral student studying health, to work during the lockdown. She felt frustrated at night when she read the news, thinking about what she could contribute if she had not had small children: "*I would have more brain space to run with these ideas and take this moment for what it is and what we need to contribute as social scientists … and then it's like 'oh God what are we going to have for dinner' … I feel like I'm going to be even more behind because I'm not doing this cutting edge research that I would want to be doing and I know I have the skills, I just don't have the time, or space, or brainpower".*

This sense of long-term adverse effects on their academic careers was reflected among the Italian and American mothers.

> *I haven't even opened the file … teaching has its urgency … but research is like oh well, I can do this later … and also you need concentration when*

you're doing research and I'm too distracted by this kid. So my plan is postponed probably for another year, which is already nothing new for me. One night I felt this complete sadness of my whole career … sometimes I doubt myself.

OLIVIA, Tenured Professor, USA

This thing will certainly have an impact: I'll publish less. That's a fact. I feel at a disadvantage compared to the others … I don't know if it will affect my career in the long term, but it will certainly have a negative effect on scientific production.

CLAUDIA, Professor, Italy

I'm worried, the longer this lockdown will last, the lower the probability of having a good CV.

FRIDA, Post-doc, Italy

I do appreciate the time I get with my children, but I have to block out the career aspirations and not think about that. I'm really curious about the PTSD [*post-traumatic stress disorder*] *that comes out of this, the retention of female professors with children.*

CINDY, Tenure-track Professor, USA

The constant interruptions prevented the accomplishment of all but the most modest professional tasks by academic mothers. Our respondents reported feeling overwhelmed with the amount of work they needed to do, coupled with the lack of time and space for concentration. Many mothers felt that being home with their children all day affected their ability to do intellectual work and were fearful about how this would affect their future careers.

5 Alternative Strategies for Combining Care and Work

Academic work was already perceived as very flexible before the global pandemic. Except for departmental meetings and teaching obligations, professors and graduate students can complete much of their work on their own schedule. When teaching moved online during the lockdown, this work appeared even more flexible as many professors opted for an asynchronous format, meaning that lectures and other teaching responsibilities could be performed at any time of the day. Most of the participants in our study claimed that they took on the bulk of the childcare because their partners' jobs were less flexible than

their own. It was more common in Italy than in the USA for parents to split the workday. In terms of sharing childcare with their partners, the US women with underemployed partners had the most success with getting their work done.

Brittany's husband is an adjunct professor at the same university where Brittany is on the tenure track. During the lockdown they took turns at childcare, with her husband waking up around 5 am and taking care of the baby until noon. Brittany spent this time writing and on self-care before taking over the childcare in the afternoons. Marlene's husband was self-employed and arranged his schedule so that they could split care during the day. Cora's husband was also self-employed and took care of the children while she taught her classes online or attended meetings. Although none of these women felt that they were doing the same amount of work as before the lockdown, these were some of the cases where academic mothers in the USA were able to continue to be productive.

The women who reported having the most success with maintaining their workload during the lockdown had full-time assistance with childcare which was provided either by members of the extended family or hired help. These arrangements had their own drawbacks: families being separated temporarily, flouting quarantine regulations, or spending a significant portion of their income on hired care.

Ali is a tenure-track professor in the USA with two children. At the beginning of the lockdown, her in-laws made the decision to move in with her. The children were primarily cared for by their grandmother throughout the day. Ali would take breaks with them for meals and to do one planned activity during the day. Unlike most of the women in the sample, Ali was not worried that her work was affected by the lockdown: *"I've been writing grants, doing some research, mostly I've been managing projects and editing. I've been showing up to meetings and disseminating information".* She acknowledged that it was only manageable because she had her in-laws helping out and a staff of mostly childless graduate students who were still able to work. If her in-laws had not taken over the childcare, she said it would have been "*a complete mess".*

Beth's husband worked in IT for a hospital, and at the beginning of lockdown his job was extremely demanding as he spearheaded efforts to set up a telehealth infrastructure. Because of this, Beth, a tenured professor, decided to move in with her parents, several states away. During the lockdown Beth exercised in the mornings and then took care of her children until 10am when her parents took over. Beth was mostly able to get her work done under this arrangement. She did not foresee any long-term negative impacts on her career, and had even been able to support others who did not have assistance

with childcare: *"because of my parents' help, I've been able to do a few additional things to help other people in similar boats that I'm in".*

In Italy, Claudia struggled to complete her research and writing, as described above, but made use of family support to finish her teaching duties. She admitted to having disregarded the Italian lockdown rules in an effort to complete her work: *"Despite the strict limits, my parents live in the same town, in fact, they live very close by … I know very well that we did not respect the rules … but unfortunately, I could not manage both with my little daughter at home … there's never an hour of tranquillity … And so, since the grandparents lived nearby, and they had locked themselves in the house like us, in the end we decided to do as we did".*

Before the lockdown Farah, a doctoral student in the USA, would write for four to five hours per day. During the lockdown her productivity diminished to one to three hours, on a good day. As a result, she had to postpone her grant application and her oral exams: "*It became overwhelming to not have an infrastructure in place".* She said that she did not do well in her qualifying exams because her daughter was going stir crazy. Because of this, and the impending delivery of her second child, Farah ended up sending her daughter to a relative's house so that she could focus on her exams.

When mothers had full-time assistance with childcare, they were able to more or less continue with their career paths. Of course, there were still more interruptions during the day compared to pre-lockdown when mothers were at work and children were cared for outside the home. Even with sitters or grandparents doing the bulk of the childcare, mothers would take breaks to breastfeed babies, soothe toddlers, put children down for naps, and mediate sibling conflict.

6 Discussion

In every country tracked by the Organisation for Economic Co-operation and Development, women spend more time per day on domestic, unpaid labour than men. Since women were already performing more of the domestic labour before the lockdown, it felt "normal" for women to take on the bulk of the childcare during lockdown, especially during the workday. For academics, the increase in domestic duties conflicted with extremely demanding careers.

Most women expressed feelings of panic when trying to balance meeting the day-to-day needs of their families with their job commitments. It was rare that mothers in this sample were able to keep up with their research and writing agendas during the initial phases of the lockdown, and many were overwhelmed with the uncertainty about when schools would reopen and day-care

provisions would resume. This led to fears about how the interruption would affect their career trajectories in the long-term.

All of the women in our sample were able to complete their teaching duties for the semester, but they complained that impaired concentration and the increased cognitive load of full-time childcare impacted their ability to conduct research and write. Before the lockdown, nearly all of these women had some form of full-time care for their children. The shift to caring for their children full-time while still being expected to work full-time, created a sense that none of these tasks could be done properly. The only women who consistently felt successful as academics and mothers during the lockdown had access to full-time assistance from family members, babysitters, or nannies – the ones for whom a more "sustainable" version of life persisted. The lockdown served to expose the concessions women must make when trying to balance an academic career with family life.[30]

7 Future Research and Recommendations

This research focused on academic work and motherhood in only two countries during a nearly worldwide lockdown. We acknowledge that academia is a specific career field, and that focusing on academics, rather than professionals in general, limits the generalizability of our research findings. Since ours was an exploratory study of women's initial lockdown experiences, generalizability was not among our aims – the academic profession has been a subject of robust research in the past, especially with respect to concerns around gender and childcare.[31] This critical and unique moment demanded the timely exploration of the experiences of mothers in academia during the COVID-19 pandemic.

Data from additional countries would enrich our understanding of motherhood in academia during the COVID-19 pandemic. As is often the case, our findings raise more questions: What about single mothers working from home during the lockdown? Did academic fathers experience the lockdown differently than mothers? If we interviewed both members of a couple, how would their responses differ? What were the experiences of mothers who were

30 Candice Harris et al., 'Academic Careers and Parenting: Identity, Performance and Surveillance' (2019) 44 (4) Studies in Higher Education 708.

31 Venitha Pillay, 'Academic Mothers Finding Rhyme and Reason'(2009) 21 (5) Gender and Education 501. Maureen Baker, 'Choices or Constraints? Family Responsibilities, Gender and Academic Career' (2010) 41 (1) Journal of Comparative Family Studies. 16. Ward (n 10).

essential workers? Follow-up research on the long-term effects of the lockdown on women's academic careers will also be necessary.

In the short term, universities need to come up with a plan for assisting parents, and especially mothers, who will struggle to catch up after the COVID-19 lockdown. Some universities have suspended the tenure clock for a year, but many research projects will be delayed for much longer. If academic mothers are facing a two- or three-year delay in their publication pipeline, what sort of protections can be put in place if their tenure is postponed? The publication requirements for tenure and promotion in academia have been steadily increasing: is it time for departments, schools, or entire fields to rethink the 'publish or perish' culture?

The interviews illustrated the various strategies used to reconcile academic work and family care work during the COVID-19 lockdown in both the USA and Italy. As long as unequal division and gendered assumptions of care work prevail, full "citizenship" for the majority of women in academia will remain out of reach.[32] More than two years into the pandemic, it is time to pause and assess the impact that it has had on academic parents – especially on mothers, 'who face disproportionately more caregiving work at home' and corresponding curbs on their productivity.[33]

In the USA, the reliance on adjunct labour means that the shrinking full-time faculty need to take on increasing amounts of the administrative and service work.[34] This is problematic in itself, as adjunct labour is chronically underpaid, precarious, and without benefits. If universities relied less on part-time labour and hired more full-time faculty, there would be a larger "safety net" of faculty members available to pick up the slack when life interrupts work for some of them. In the short-term, departments can consider supporting academic parents by organising a temporary redistribution of tasks, potentially giving work requiring only short periods of concentration to caretakers,

32 Lidia KC Manzo and Sara Martucci, 'Academic Mothers Being Left Behind during Covid-19: Challenges and Opportunities Toward a New Culture of Care and Citizenship' (2021) Working Paper presented at the second international conference of the journal Scuola Democratica <https://www.scuolademocratica-conference.net> accessed 29 November 2021.

33 <https://www.insidehighered.com/news/2021/03/10/covid-19-moment-women-stem> accessed 29 November 2021.

34 Adjuncts are faculty members who teach one or more courses per semester but are not employed full-time by the university. The work is typically low-paid and often without benefits like health care. In the USA, more than half of all faculty appointments are part-time, adjunct labor. While some courses are staffed by specialists who have full-time work in other industries like law firms, non-profits, or corporations, most are taught by graduate students and individuals who have PhDs but have not secured full-time positions.

for the time being. Perhaps faculty who are less burdened by care could take on heavier workloads, in exchange for "credits" that they can take advantage of at a later point in their careers.

Finally, we know from our research that women who had access to full-time childcare support were the most successful during the spring 2020 lockdown. Previous research on the topic has shown the need to consider the lockdown period as a time of leave, as a way of compensating for the loss in productivity.[35] Others have advocated for the increased weighting of teaching in the evaluation of academic careers.[36] Here we ask: what would potential future lockdowns or other interruptions look like if governments funded programmes to pay unemployed or underemployed family members or neighbours to provide childcare during the mother's workday? This perhaps would not alleviate the motherhood penalty, but it would prevent it increasing in the way that we witnessed during the current pandemic.

The pandemic has laid bare many inequalities in our societies concerning race, class, and gender. The plight of a relatively privileged group – highly educated women with professional careers – in the so-called ivory tower of academia may seem trivial, but it reflects wider issues around motherhood and work in modern Western societies. Academia is an especially demanding career and motherhood is a taxing job, especially when the children are young. The COVID-19 lockdown brought to the forefront the gender inequality that exists in the home and at work. It is not enough to acknowledge that the COVID-19 crisis has exposed underlying issues, now is the time for creative alternatives to a system that never worked to begin with.

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