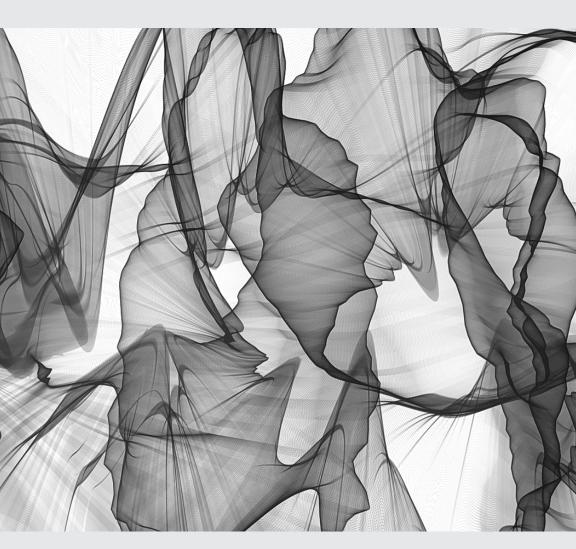# Building Racial Equity in and Across Motherhood

Denise Handlarski, Akanksha Misra, Margarita Levine, Jacqui Getfield, Pooja Bhatia Narang and many more

LAUREN MCCLAIN AND NATASHA GERSTENSCHLAGER

Being an Academic Mother during a Pandemic: The Roles of Home and Work on Mental Health

The COVID-19 pandemic affected life for everyone. However, as mothers tend to be the primary caregivers and default parents, early research has shown that mothers were responsible for a disproportionate share of work related to children during the pandemic. Given the oppositional identities of professional academic work and mothering, this increase in parenting for mothers naturally affected their work as academics and likely negatively affected their mental health. Faculty mothers of colour had the added burden of operating in a racist institution as well as contending with racial unrest, an antagonistic president at the time, and higher rates of mortality among Black and brown people from COVID-19. In this project, we use an intersectional approach to evaluate the effects of COVID-19 on academic mothers through the lens of race and age of youngest child, focusing on heightened anxiety and poorer mental health. We utilized a survey administered to collegiate faculty in the United States. We share results from our mixed-methods study, highlighting both quantitative and qualitative results to better tell the story of academic mothers during the pandemic and how these roles during this time affected their career and mental health.

The COVID-19 pandemic changed life for everyone. From stay-at-home orders, virtual schooling for children, closed childcare facilities, and working from home, our once segmented lives began to co-exist in the same physical spaces. Most people felt the impact of these changes, but it has been argued that mothers have been affected the most. Mothers tend to be the primary caregivers and the default parents (Collins), and during the time of school shutdowns and daycare closures—combined with work-at-home orders for most professional careers and the impossibility of getting childcare help from grandparents or others outside the home—early research has shown that women took on a disproportionate share of helping children with virtual

school and caring for children during normal work hours, forcing them to cut back their work hours. They were more likely to be working on two tasks at once and more likely to be interrupted during a larger share of the day (see Andrew et al. for a thorough discussion). In the academic arena, where balancing research, teaching, and service was already a challenge, the pandemic exacerbated the varying abilities of mothers with children at home to spend their time on what is often needed most for tenure and promotion—research (Sallee, Ward, and Wolf-Wendel; Tambling, Tomkunas et al.; Langin). Professional academic work and mothering are oppositional identities: "The attributes and behaviors that define the ideal fulfillment of one identity are in direct conflict with those that optimally fulfill a second, also important, identity" (Hodges and Park, 2). Oppositional identities are associated with poorer mental health, as individuals, in this case academic mothers, struggle to be successful in both roles. This is especially true in the context of a pandemic, which places increased demands on academic mothers.

Simultaneously, the nation reckoned with racial injustice in the wake of the murders of George Floyd, Ahmaud Arbery, and Brianna Taylor, which heighted anxiety for people of colour (Burch and Jacobs). Furthermore, COVID-19 and the response to it have been racialized. Chinese Americans were more likely to experience racism in the form of microaggressions and violence, since the virus was first discovered in China. COVID-19 mortality rates are higher for racial and ethnic minorities than for whites (Gross et al.) due to comorbidities, such as higher rates of hypertension in Blacks and diabetes in South Asians (Chung and Li; Devakumar et al.; Go et al.). Although faculty of colour may be more insulated from racialized factors that have hurt communities of colour during the pandemic—such as not having health insurance, becoming unemployed, working frontline jobs that increase exposure, living in congested households, or being undocumented and thus less likely to seek care for a COVID-19 infection—they may be more likely to have family and friends who are contending with those issues. All of this adds to the stress and worry faculty of colour feel (Goldmann et al.). These pandemic-related and current event factors coexist among the backdrop of academia, which has been characterized for its underrepresentation of racial minorities and the more challenging ladder faculty of colour have to climb to get to the higher ranks (Griffin; Perna; Webber and Gonzalez Canche). In this project, we use an intersectional approach to evaluate the effects of COVID-19 on academic mothers through the lens of race and age of youngest child, focusing on heightened anxiety and poorer mental health. We utilized a survey administered to collegiate faculty in the United States. This dataset employs both quantitative and qualitative questions and uses a mixed-methods approach. We also use an intersectional lens to examine the ways in which faculty mothers of colour fare compared to faculty mothers who are white,

considering they work in racist and sexist institutions and live in a racist and sexist country (i.e., the US). To build racial equity, we need to examine how race and gender operate simultaneously to affect the experiences of mothers in the academy. We anticipate readers of this research to be academic mothers, particularly those of marginalized communities, and academic administrators. We want to present the results and ask this community to consider how the stories presented resonate with them, how their personal stories are incongruous with the stories shared, and why we generally saw similar stories presented across races for academic mothers. We invite you to continue this conversation with us and in your institutions to inspire change.

Race, Gender, and Parenthood in Academia

As of 2018, of the 1.5 million faculty in degree-granting postsecondary institutions in the US, 40 per cent were white men, 35 per cent were white women, 7 per cent were Asian/Pacific Islander men, 5 per cent were Asian/Pacific Islander women, and 3 per cent each were Black men, Black women, Hispanic men, and Hispanic women (U.S. Department of Education, National Center for Education Statistics). Although it is clear that there is a racial and gender imbalance in university faculty overall, it is even more telling by rank in that women outnumber men in the role of assistant professor (54 per cent), instructor (56 per cent), and lecturer (55 per cent) positions, and whites hold 80 per cent of professor positions. Research has shown that women and faculty of colour are less likely to be promoted and are more likely to leave university positions than are white men due to barriers in retention and advancement (see Griffin for full review of literature). Women and faculty of colour are often not taken as seriously as white men. For faculty women of colour in particular, research shows that they spend more time dealing with students who challenge their authority (Martinez et al.; Pittman; Tuitt et al.), colleagues who are not as supportive or devalue their work (Gonzales and Terosky; Turner and Myers), and administration who demand they engage in more service work to satisfy diversity requirements on committees or tackle diversity initiatives (Padilla; Tierney and Bensimon; Turne; Turner et al.), in addition to thinking about their clothing, hair, or tone so they are seen as scholarly (Ford). Women and faculty of colour spend more time on teaching, service, and advising and less time on research than white male faculty (Bellas and Toutkoushian; Misra et al.; Thompson; Turner et al.), although that distribution in time is often not preferred by them (Winslow). Women receive requests for internal (department, college, and university) service more often than men and white faculty (Guarino and Borden; O'Meara et al.) and often take on a mothering role with students who seek them out for emotional support (Griffin).

Historically, the academy has been designed by and for white men who are childfree or who have stay-at-home wives to tend to housework and childcare so that their sole focus is on their work (Williams). For women who intend to become or who are mothers, navigating academia can be especially challenging. Lewis Coser argues that universities are "greedy institutions" that "seek exclusive and undivided loyalty" (6). Wolf-Wendel and Ward argue that along with universities, parenthood is also a greedy institution. Women's biological clock and the tenure clock are ticking at the same time for most women who intend to have children, presenting competing demands on women's time and attention (Wolf-Wendel and Ward), especially early in women's careers and when their children are young. Taking an intersectional approach, we can understand that faculty women of colour experience the dual burdens of serving in an institution that marginalizes them as women and scholars of colour (Perna).

The COVID-19 Pandemic and Changes to Work-Home Life

Extensive literature shows that prior to the pandemic, women who are mothers experience a motherhood penalty, even in academia (Wolf-Wendel and Ward), in terms of salary, retention, promotion, research productivity, and demands on their time (Griffin; Guarino and Borden; Kitchener; Misra, Lundquist, and Templer). The business model of academia (Bunds and Giardina) has resulted in mothers in particular feeling like they "have to do more, be more, and struggle to feel 'enough' in any of their roles" (Burk, Mausolf, and Oakleaf, 226). The pandemic heightened anxiety among mothers, who also took on the disproportionate share of caring for children and helping school-aged children with virtual school or homeschooling (Collins et al.). Mothers also saw an increase in time spent doing housework and less time enjoying leisure activities (Burk, Mausolf, and Oakleaf). Dealing with a global pandemic full of uncertainty, a shift in work responsibilities via online teaching and a hampered ability to conduct research, a greater set of demands at home, and a lack of boundary between work and home life and has been overwhelming for mothers.

Fathers and childfree women and men experienced some of this, too, especially if they are caretakers of aging parents, and their experience is important as well. However, our focus here is on academic mothers with children living in their household. As academic mothers of young children ourselves, we felt the strains of the pandemic on our home and work lives. The vast literature that has emerged in just two years on the impact of the pandemic clearly shows that academic mothers have bore its brunt, so our focus here is to examine their stories through a mixed-methods study, which focuses on academic mothers' mental health. We specifically examine the various

experiences of mothers by considering the age of their youngest child and their race.

The Current Study

The current study uses a mixed-method approach to examine the relationship between home and work experiences during the pandemic and the mental health of academic mothers while specifically examining the age of the women's youngest child as well as their race. We expect that academic mothers, regardless of race, will have experienced declines in mental health and increases in anxiety during the pandemic. We also expect mothers of young children and mothers of colour to experience poorer mental health than mothers of older children and white mothers. Finally, we anticipate mothers of colour and mothers of Black and Brown children will be more likely to make references to the racial environment in the country as contributing factors to their anxiety and mental health.

Methodology

In this study, we sought to comprehensively understand the ways in which the COVID-19 pandemic affected academic mothers through the lens of race regarding their anxiety, mental health, and career. Although quantitative data provide a numerical understanding of a situation, we also use qualitative data to offer more nuance to academic mothers' experiences and to better describe the context (Bryman). Additionally, as white faculty outnumber faculty of colour in the academy and in our data, we want to amplify the voices of faculty of colour through their qualitative narratives, given that their smaller numbers yield less statistical power in quantitative analyses. For these reasons, a mixed methodology is appropriate for this research. Particularly, we utilized a convergent parallel design, whereby quantitative and qualitative data were implemented concurrently (via the survey described later), analyzed independently, and mixed during an analysis of the results (Creswell and Plano Clark). In the following section, we describe our participants and then the quantitative and qualitative strands for data collection.

Survey Design and Participants

In the spring of 2021, pandemic and academic work–life data were collected from academics in the US through an online survey (via Qualtrics). IRB approval (1720396-2) was obtained from Western Kentucky University. We recruited a convenience sample of faculty in the US through email listservs at our university and through professional associations as well as social media posts on our personal pages and in groups for academics. We also asked

colleagues at our and other universities to share our study with their networks. An online survey link was provided, which included forty-five closed-ended and nine open-ended questions about the pandemic and academic work-life balance. These questions measured the following areas: work productivity, changes in workload and work-time allocation, university policy changes, university support in favour of positive family functioning, information on household and childcare labour distribution, changes in time spent with children (including help with virtual education), other caregiving responsibilities, satisfaction with work-life balance, mental and emotional health, help seeking thoughts and behaviours, self-care, changes in financial status, and questions on a variety of sociodemographic characteristics. As an incentive to participate, we entered participants into a raffle for one of nine fifty-dollar Amazon gift cards upon the survey's completion. The survey took an average of fifteen minutes to complete. After cleaning our data, our sample size was 734. Faculty at all ranks from forty-eight states participated. For this analysis, we limited our analytic sample to academic mothers with children in the household (n = 314).

Thirty-three per cent of mothers in our sample had a youngest child between the ages of zero and four; 37 per cent between five and twelve; 19 per cent between thirteen and seventeen; and 10 per cent aged eighteen and over. The academy has never been an inclusive environment, and, unfortunately, our sample reflects that. The race distribution of our sample was highly skewed: 87 per cent identified as non-Hispanic white; 1 per cent as non-Hispanic Black; 4 per cent as Hispanic; 2 per cent as Asian or Pacific Islander; 1 per cent as another race; and 5 per cent as biracial or multiracial. These percentages were a bit more over representative of whites and under representative of faculty of colour for women faculty at degree-granting institutions nationwide. As of 2020, the race distribution of said faculty was 75 per cent white; 12 per cent Asian/Pacific Islander; 6 per cent Black; 6 per cent Hispanic; and 1 per cent or less American Indian/Alaska Native or individuals of two or more races (National Center for Education Statistics). Of note, twenty-nine of the 313 mothers (almost 10 per cent) did not report their race/ethnicity. We can only speculate on this pattern of participation by race. Perhaps faculty of colour, who have been particularly overburdened during the pandemic simply, had less capacity (e.g., time, headspace, and interest) to take the survey. Perhaps we did not do a good enough job of advertising the survey in spaces carved out by faculty of colour. Perhaps people chose not to report their race even if they did take the survey because they did not think their race was important to their story or experience or were uncomfortable sharing their race. We cannot be sure.

Sample Description

Variable	N	Proportion of sample in category or mean	SD	Min	Max
Youngest Child is					
0 - 4	308	0.33		0	1
5 - 12	308	0.37		0	1
13 - 17	308	0.19		0	1
18+	308	0.10		0	1
Race/Ethnicity					
Black	285	0.01		0	1
White	285	0.87		0	1
Hispanic	285	0.04		0	1
Asian/Pacific Islander	285	0.02		0	1
Other Race	285	0.01		0	1
Biracial	285	0.05		0	1
Union Status					
Married	313	0.85		0	1
Cohabiting	313	0.08		0	2
Dating	313	0.05		0	3
Divorced	313	0.28		0	4
Never Married	313	0.14		0	5
Same-Sex Union	313	0.02		0	1
Partner in Household	313	0.88		0	1
Rank					
Adjunct	313	0.10		0	1
Full-Time Instructor	313	0.13		0	1
Assistant Professor	313	0.28		0	1
Associate Professor	313	0.29		0	1
Professor	313	0.14		0	1
Administrator	313	0.01		0	1
Annual Household Income (in thousands)	274	119.60	34.73	25	155

Table 1. Participant Descriptive Statistics

As for union status, 85 per cent of the sample were married; 8 per cent were cohabiting (living with a romantic partner but were not married); 5 per cent were dating; 28 per cent were divorced; and 14 per cent had never been married. Only 2 per cent of those in unions were in same-sex unions. Overall, 88 per cent of the sample had a partner in the household. Ten per cent of the sample were adjunct faculty; 13 per cent were full-time instructors; 28 per cent were assistant professors; 29 per cent were associate professors; 14 per cent were full professors; and 1 per cent were administrators. Annual household income was measured in $10,000 ranges and was recoded to the midpoint of each range in thousands of dollars. For example, the range of $30,001-$40,000 was recoded to thirty-five, and the highest category of over $140,000 was coded to 155. This coding strategy creates a continuous approximate annual household income variable. For this sample, average annual household income was $121,569 with a standard deviation of $36,786. About 30 per cent of the sample had an annual household income less than $80,000; about 42 per cent were between $80,000 to $140,000; and 28 per cent were over $140,000.

Quantitative Approach

Dependent Variables

Depression and anxiety (referred to here as depressive symptomology) were measured with four items through the following question: "Over the last seven days, how often have you been bothered by the following problems: feeling nervous, anxious, or on edge; not being able to stop or control worrying; having little interest or pleasure in doing things; feeling down, depressed, or hopeless?" Responses were as follows: nearly everyday (3); more than half the days (2); several days (1); or not at all (0). Responses were summed to create an index that ranges from 0 to 12, with higher scores indicating more depressive symptomology. This scale has been shown to be valid and reliable for use with a general sample (Löwe et al.).

Overall happiness was measured with a single item and through the following question: "Overall, how would you rate your level of happiness?" The responses were extremely happy (5); somewhat happy (4); neither happy or unhappy (3); somewhat unhappy (2); or extremely unhappy (1).

Focal Independent Variables

Satisfaction with work-life balance was measured with a single question: "How satisfied are you with your work-life balance currently?" Responses ranged from very satisfied (5) to very unsatisfied (1). Changes in time spent at home is a series of questions asking respondents whether they spend a lot more time (5), a little more time (4), the same amount of time (3), a little less time (2), or much less to no time (1) in each of the following areas since the pandemic

began: spending positive, quality time with children (direct play, outings, enjoyable conversation, etc.); spending time directly engaging with children's school activities (virtual school, homeschool, school work, etc.); spending time with children that is not as enjoyable (disciplining, supervising, etc.); spending time with partner; daily housework (cooking, cleaning up after meals, snack prep, etc.), other housework (sweeping, mopping, vacuuming, laundry, etc.); exercise; and self-care (however they define that). For each category, if the respondent reported the area does not apply to their life (time with partner, for example), they were coded at 3, indicating that there has been no change in that area. The correlation between exercise and self-care (which could include exercise) was 0.67, so we decided to keep both measures in the model. Respondents were asked whether they are responsible for caring for elders in their family to which they could respond yes, regularly (3), yes, occasionally (2), yes, as needed (1), no (0).

Changes in time spent at work was a series of questions measured the same way as changes in time spent at home but in the areas of teaching, research, service to the university, service to the discipline, and administrative work. If respondents reported that an area was not part of their job, we coded them as 3, indicating that there has been no change in that area. Each area was included separately in the analysis. On a scale of strongly agree (5) to strongly disagree (1), respondents reported their level of agreement with the following statements: I have input on the modality of my course offerings; I teach the courses I want to teach; and the amount of time I spend dealing with student issues has increased since before the pandemic (answering questions, responding to emails, etc.). Each item was included separately in the analysis. Respondents were asked "How supported do you feel by your university during the COVID-19 pandemic?" to which they could respond very supported (4) to not supported at all (0). Sociodemographic controls included a categorical measure of age of the youngest child in the household, the number of children in the household, race/ethnicity, union status, professional rank, and annual household income (in thousands).

Analytic Strategy

Quantitative Analysis

Descriptive statistics for all variables can be found in Table 2. OLS regression is employed to examine depressive symptomology. Both models include all sociodemographic controls. Model 1 includes satisfaction with work-life balance as well as the home-related variables, and Model 2 then adds the work-related variables. The full results are presented in Table 4 and are discussed throughout the results section by theme with the qualitative results.

Variable	N	Mean	SD	Min	Max
Depression (Sum)	287	4.23	3.36	0	12
Took Medication for Mental Health	285	0.30	-	0	1
Saw a MH Professional	286	0.24	-	0	1
Overall Happiness	287	3.39	1.04	1	5
Satisfaction with Current Work-Life Balance	287	2.27	1.26	1	5
Home-Related Variables					
Changes in Time Spent at Home					
Positive Time Spent with Children	300	3.45	1.27	1	5
Time Spent on Kids' School Work	299	3.79	1.14	1	5
Negative Time Spent with Children	300	3.78	1.01	1	5
Time Spent with Partner	299	3.09	1.39	1	5
Time Spent on Daily Housework	300	3.93	1.14	1	5
Time Spent on Other Housework	299	3.56	1.24	1	5
Time Spent Exercising	300	2.44	1.38	1	5
Time Spent in Self-Care	299	2.07	1.14	1	5
Responsible for Elder Care	288	3.40	1.00	1	4
Work-Related Variables					
Changes in Time Spent at Work					
Time Spent on Teaching	313	4.13	1.10	1	5
Time Spent on Research	312	2.19	1.09	1	5
Time Spent on University Service	309	3.26	1.19	1	5
Time Spent on Disciplinary Service	311	2.56	1.13	1	5
Time Spent on Administrative Work	313	3.33	1.07	1	5
Have Input on Course Modality	308	3.84	1.25	1	5
Teach Classes I Want to Teach	307	3.86	1.01	1	5
Time Spent Dealing with Student Issues Increased	308	4.27	0.92	1	5

Table 2. Descriptive Statistics

Qualitative Approach

As previously mentioned, nine open-ended questions were included in the survey that asked about the following: work productivity; changes in workload and work-time allocation; university policy changes; university support in favour of positive family functioning; information on household and childcare labour distribution; changes in time spent with children; other caregiving responsibilities; satisfaction with work-life balance, mental and emotional health; help-seeking thoughts and behaviours; self-care; changes in financial status; and questions on a variety of sociodemographic characteristics. These nine questions were analyzed qualitatively utilizing a cyclical approach to analysis. In this cycle, the authors first took time to engage themselves in the data, which were uploaded to the qualitative analysis software Atlas.ti. During this initial read, the authors were looking to "immerse [themselves] in the details, trying to get a sense of the [data] as a whole" (Agar 103). Each author reflected on the responses individually, documenting "short phrases, ideas, or key concepts that occur[ed] to the reader" (Creswell 183).

After that initial read, the authors met to discuss these findings. This led to the development of an initial codebook. As such, this initial codebook included many in vivo codes, utilizing language as expressed by the participants. After the initial codebook was developed, we each applied these initial codes to the same subset of the data to achieve interrater reliability to "mitigate interpretative bias" (Walther et al. 650). For this subset of data, we randomly selected thirty responses from six of the free-response questions to code individually. We cycled through this process twice and reached agreement on codes in nearly all responses. This result led to a refined codebook, in which new codes were added, some previous codes were deleted, and many codes were merged. (The final codebook is available upon request.) We also created definitions and descriptions of the code to ensure reliability in subsequent individual coding.

After this, we split the entire data set evenly among the three authors to code responses to all questions. This article focuses on coding for six of the nine questions from the free response part of the survey (see Table 3 below). After this individual coding was completed for this subset of the qualitative data, the authors met to discuss the codes applied and what themes—which are "broad units of information that consist of several codes aggregated to form a common idea" (Creswell 186)—emerged from this process. The remainder of the free response questions are currently being analyzed.

Question Wording	Response Was Used in the Current Analysis (*)
Please use this space to discuss your productivity and how it has changed since the start of the COVID-19 pandemic.	*
Please use this space to discuss changes that have been made [at your university], whether those are positive or negative changes in your opinion, and whether and how they impact you.	*
Please use this space to discuss how your university handled this academic year (2020-2021) and your feelings about how it impacted you.	
Please use this space to discuss how your university plans to handle the next academic year (2021-2022) and your feelings about how it will impact you.	
Please use this space to discuss your childcare arrangements and how they may have changed as a result of the pandemic. You may also use this space to discuss how your time with your children has changed as a result of changes to childcare and your feelings about that.	*
Please use this space to discuss any caregiving responsibilities you have beyond caring for your children.	*
Please use this space to discuss your physical, mental, emotional, and/or psychological state during this pandemic.	*
Please use this space to discuss any changes to your financial situation as a result of the pandemic.	
Please use this space to address any other issues or concerns you may have with work-life during the pandemic.	*

Table 3. Open-Ended Survey Questions

Results

In this section, we present the results of our quantitative data set and a large subset of our qualitative dataset and develop a more robust understanding of the struggles of academic mothers affected by the COVID-19 pandemic through the lens of race regarding their anxiety, mental health, and career-related struggles.

Quantitative Findings

We first present the results of the OLS regression models found in Table 4. In Model 1, greater satisfaction with work-life balance is associated with lower levels of depressive symptomology (-.70). An increase in time spent with a partner is marginally significant (at .10 level) and indicates that more time spent with partner is associated with less depression. An increase in time spent on other household chores—such as sweeping, mopping, vacuuming, and laundry—is associated with higher levels of depressive symptomology. In Model 2, when work-related variables are added, the magnitude of satisfaction with work-life balance declines slightly but remains significant, and time spent in other housework remains unchanged. A reduction in time spent in research is marginally associated with depression. An increase in time spent dealing with student issues is associated with higher levels of depression, whereas feeling supported by the university is associated with lower levels of depression. Interestingly, the intercept in Model 2 increases over Model 1 (8.25 v. 6.43). It seems that work-related factors may have a more negative relationship with depressive symptomology and that feeling supported by the university can mitigate that relationship. In both models, we do not see that the sociodemographic controls, including race, are related to reported depressive symptomology, except for the number of children in the household but in an unexpected direction. In Model 2, having more children is associated with lower levels of depression than having fewer children. This could perhaps reflect higher levels of postpartum depression with a first child, having help from older children, or more confidence in mothering after having more than one child. These are simply speculations.

Variable	Model 1			Model 2		
	B		SE	B		SE
Intercept	6.43	***	1.61	8.25	***	2.40
Satisfaction with Current Work-Life Balance	-0.70	***	0.19	-0.47	**	0.20
Home-Related Variables						
Changes in Time Spent at Home						
Positive Time Spent with Children	-0.28		0.18	-0.22		0.18
Time Spent on Kids' School Work	-0.15		0.18	-0.06		0.18
Negative Time Spent with Children	0.30		0.23	0.15	†	0.22
Time Spent with Partner	-0.29	†	0.15	-0.29		0.15
Time Spent on Daily Housework	0.06		0.25	0.10		0.25
Time Spent on Other Housework	0.51	*	0.23	0.50	*	0.22
Time Spent Exercising	-0.15		0.17	-0.12		0.17
Time Spent in Self-Care	-0.28		0.23	-0.25		0.23
Responsible for Elder Care	0.29		0.20	-0.23		0.20
Work-Related Variables						
Changes in Time Spent at Work						
Time Spent on Teaching				-0.12		0.20
Time Spent on Research				-0.37	†	0.20
Time Spent on University Service				-0.06		0.18
Time Spent on Disciplinary Service				0.04		0.19
Time Spent on Administrative Work				-0.26		0.18
Have Input on Course Modality				-0.09		0.16
Teach Classes I Want to Teach				-0.01		0.21
Time Spent Dealing with Student Issues Increased				0.51	*	0.23
Supported by University				-0.48	**	0.18
Sociodemographic Characteristics						
Youngest Child Age	0.21		0.22	0.21		0.22
Number of Children in Household	-0.46	†	0.25	-0.53	*	0.25
White (v. Not White)	0.32		0.55	0.26		0.54
Union Status	-0.10		0.11	-0.06		0.11
Professional Rank	-0.01		0.01	-0.01		0.01
Annual Household Income (in Thousands)	0.22		0.15	0.19		0.15
R^2	0.26			0.34		
Model F	***			***		

Table 4. OLS Regression Analyses of the Depressive Symptomology Scale (n=259)

In a subsequent analysis (full table available upon request) using overall happiness as the dependent variable and all of the variables in Model 2 here, the only variable that was highly significant (.0001) was satisfaction with work-life balance—in that those who reported more satisfaction with work-life balance also reported higher levels of overall happiness. Those who spent more time on research than they did before the pandemic also reported a higher level of overall happiness (b=0.30, p<.05). In the qualitative results discussed below, we explore the extent to which age of youngest child and race/ethnicity have an impact on academic mothers' narratives about their experiences with the pandemic and their mental health.

Qualitative Findings

We present the qualitative data according to themes that emerged from our analysis of the subset of questions that enhance what the quantitative results show. The two themes we present are negative mental health and career-related struggles. The themes are presented according to the age of the youngest child and by the mother's race/ethnicity. We categorized the age of the child as 0–4 years, 5–12 years, 13–17 years, and eighteen and older. For those who have multiple children, we classified their overall response as being that of the younger child, as we assumed that younger children often require more attention and parenting. For example, if a person stated that they had an eighteen-year-old and a three-year old, we classified them as having children under the age of five. We recognize this as a delimitation of the study and encourage readers to take this into consideration as they review the data.

Negative Mental Health

A theme that emerged was that of negative mental health, and we share the most saturated codes related to this theme in Tables 5 and 6. The frequencies in the tables represent the number of times each code was assigned to respondents in the groups in the columns. In Table 5, we see eight different negative mental health codes, as they are distributed among mothers by age of youngest child, and Table 6 shows the same distribution of codes among mothers by race.

Interestingly, as seen in Table 5, parents with their youngest child under the age of five were coded with these particular codes most often (126 instances). Additionally, these parents expressed the most burnout, feelings of depression, and feeling overwhelmed. Parents with the youngest child between ages five and twelve expressed the most anxiety, distress and worry, and lack of energy or motivation. As age of the youngest child increases, we see the frequency of these codes decrease.

When looking at non-white mothers in Table 6, Hispanic mothers received the most amount of the negative mental health codes (sixteen instances)

followed by biracial or multiracial mothers (ten instances). Hispanic mothers most discussed feeling burnt out or overwhelmed in their responses. Biracial or multiracial mothers had a more even distribution of these negative mental health codes.

	Youngest Under Age 5 (n=126)	Youngest Age 5-12 (n=149)	Youngest Age 13-17 (n=70)	Youngest Age Eighteen or Older (n=47)	Totals
Negative MH Overall	13	8	5	1	27
Anxiety	17	18	11	2	48
Burnout	36	27	16	8	87
Depression	11	8	6	2	27
Distress or Worry	15	22	6	9	52
Lack of Motivation/Energy	6	12	6	3	27
Overwhelmed	16	10	5	3	34
Total Number of Codes	126	116	57	30	329

Table 5. Number of Mental Health Codes by Age of Youngest Child for Mental Health

	Asian Mothers (n=6)	Biracial or Multiracial Mothers (n=14)	Black Mothers (n=4)	Hispanic Mothers (n=10)	Native or Other Mothers (n=3)	Missing Race Mothers (n=29)	White Mothers (n=248)	Totals (n=314)
Negative MH Overall	0	2	0	0	1	1	19	23
Anxiety	1	1	0	2	0	0	39	43
Burnout	1	1	3	7	0	2	66	80
Depression	0	2	0	0	0	0	22	23
Distress or Worry	0	1	1	1	0	0	40	43
Lack of Energy/ Motivation	0	2	0	2	0	0	22	26
Overwhelmed	0	2	1	4	0	0	28	35
Total Number of Codes	2	10	5	16	1	3	236	273

Table 6. Number of Mental Health Codes by Race for Mental Health

A Hispanic female with two children, of which the youngest is under age five stated: "I am exhausted and hanging by a thread. I feel so overwhelmed that I find myself postponing a lot of small tasks for work, which adds to my anxiety and stress." Another Hispanic mother with their youngest child under the age of five expressed similar upset:

> [During] lockdown daycare was closed; both kids home; husband works outside home, thus low productivity. The level of exhaustion during this time was like nothing I had ever experienced. even more than when dealing with an infant. My mom was sick for one month, early in the pandemic, likely COVID. So it's not just the fact that I was busier. The exhaustion and anxiety about what's to come also lead to insomnia and made everything worse. Having the oldest child doing virtual learning at home is also extremely distracting. Writing grants and papers with these distractions plus constant childcare responsibilities is impossible.

A white transwoman with one child between the ages of five and twelve expressed a gut-wrenching sentiment that demonstrates how difficult the pandemic was for them: "I have been depressed and anxious for nearly a year, with very little relief. I have had two complete nervous breakdowns. This has been the hardest year of my life, and I feel lucky to have made it through alive."

A Black female with the youngest child aged five to twelve discussed the struggle of mothers during the pandemic and emphasized the difficulty of managing their own stress and anxiety as well as that of others:

> I'm tired of managing student stress and anxiety related to COVID and online classes—juxtaposed against my own worries and anxiety about COVID, teaching online, and managing my children's worries and anxiety. I can't focus or muster the energy to give anyone, including myself, the energy they need to be sustainable much less successful. I can't or don't want to spend time crafting cogent responses or emails in this pseudo professional environment.

A white woman with one child between the ages of five and twelve talked about the added level of stress and anxiety that their family experienced during the pandemic due to their child being Black: "My child is Black, so the events of summer 2020 added another layer of stress and anxiety."

When looking across nonwhite and white academic mothers, the responses are similar and equally revealing—academic mothers' mental health was overwhelmingly negatively affected as a result of the pandemic. It is important to observe that although we saw similar responses across nonwhite and white academic mothers, this does not discount the added stress and anxiety related

to being a Black female and hearing about the murders of George Floyd, Breonna Taylor, and other Black Americans on the news or being a Chinese American and dealing with increased anti-Asian racism. Additionally, given the sparse nonwhite responses overall in the survey, the cases that are highlighted here indicate that mothers of all backgrounds suffered greatly during the pandemic. A white female with one child under the age of five succinctly summarized the feeling: "What happens going forward? We are never going to be able to make up for this lost time. How will mothers ever catch up?"

Career-Related Struggles

A second theme that resulted from our qualitative analysis was that of career-related struggles. For this theme, we share a subset of our negatively-coded career-related themes: extra work, increase in workload, lack of support, blurred boundaries, and decrease in productivity. Similar to the previous theme, overwhelmingly, academic mothers with their youngest child under the age of twelve were coded with these codes most often (fifty-two total instances) as we can see in Table 7. Similar to the previous theme, we see that as age of the youngest child increases, the application of these codes decreases.

When we examine these codes against the mother's race, we see again that Hispanic mothers received the most instances of these codes (fourteen instances), followed by biracial or multiracial mothers (ten instances; Table 8). The story continues to support the narrative that academic mothers faced unparalleled struggles during the pandemic.

	Youngest Under Age 5 (n=126)	Youngest Age 5-12 (n=149)	Youngest Age 13-17 (n=70)	Youngest Age 18 or older (n=47)	Totals (n = 314)
Extra Work	28	25	14	28	95
Increase in Workload	17	15	5	5	42
Lack of Support	6	2	2	0	10
Blurred Boundaries	12	11	2	2	27
Decrease In Productivity	37	47	14	5	103
Total Number of Codes	100	100	37	40	277

Table 7. Number of Codes by Age of Youngest Child for Career-Related Struggles

	Asian Mothers (n=6)	Biracial or Multiracial Mothers (n=14)	Black Mothers (n=4)	Hispanic Mothers (n=10)	Native or Other Mothers (n=3)	Missing Race Mothers (n=29)	White Mothers (n=248)	Totals (n=314)
Extra Work	1	4	1	4	0	3	75	88
Increase in Work Hours	0	0	0	3	0	1	33	37
Lack of Support	0	1	0	3	0	0	5	9
Blurred Boundaries	0	1	0	0	0	0	27	28
Decrease in Productivity	0	4	1	4	0	2	79	90
Total Number of Codes	1	10	2	14	0	6	219	252

Table 8. Number of Codes by Race/Ethnicity for Career-Related Struggles

An Asian mother with youngest children aged five to twelve shared the following:

> Balance has shifted to the immediate/most urgent (teaching, committee work) and away from longer term commitments (research, writing, program building). The burden of the former has actually increased, with new teaching technologies or tasks entering the mix and new committee obligations to help the institution adapt to the times pop up. As a result, there is no time or energy left for the latter, and productivity has dropped to almost zero.

A Hispanic mother with one child under the age of five indicated the overwhelming struggle they faced career wise:

> Starting fall semester, I was required to teach synchronously on Zoom and in the classroom. These ate up enormous amounts of my time and increased stress. Over the summer, I was "strongly encouraged" (read: required) to complete training on pivotal pedagogy and spent the entire time rebuilding my courses from scratch and teaching online. It was exhausting and terrible. All of my productivity screeched to a halt…. There is no time for self care … I can't keep doing this and am actively and aggressively seeking new employment and to get out of academia altogether. I've never felt [so] unsupported and unsafe at a job before (and I had some pretty crappy jobs before I became an instructor).

A white female with the youngest child aged five to twelve captured clearly the blurred boundaries codes that we used to describe responses in which respondents discussed the blurring between home and work life: "Our kids are home all of the time. We have no childcare. Our time has no clear division between work and home, and it's miserable. Nothing ever gets complete attention. Kids interrupt meetings and classes; emails interrupt home life. Five minutes into this survey, and my son has asked me for help three times." This frustration and sentiment were found often throughout the survey results. An interesting case to end with is a nonbinary white mother with the youngest child under the age of five. They discussed many of the struggles academic mothers faced during the pandemic as it related to the academy:

> The pandemic caused a high tide of work planned for spring 2020 to surge into summer and created a massive amount of work to adjust to academic year 2020-2021. It took me until winter break (Dec. 2020) to finally have things level off. Now, I'm actively trying to not take on new work and in desperate need of some time off, which I cannot afford over the summer because of the financial impact the pandemic has had on our family. We are down two income sources (my partner, and my eldest child) because of COVID and promised jobs that never materialized amid the financial crisis. I'm doing a ton of emotional labour for my students, past and present, and my colleagues who have lost jobs or are facing the potential of job loss. I'm also doing emotional labour for my family, who feel trapped at home and isolated, which has dramatically impacted my ability to work. Because we were pressured to teach in person, but not given classrooms big enough to assemble as a group, I've had to redesign all my undergraduate courses this year to work in hybrid forms. It's been phenomenally time consuming, and I am unable to fully keep up. The experience has been miserable enough that I'd be content to leave a TT [tenure-track] position and never return to university work.

These responses reveal many of the struggles academic mothers saw: an increase in workload and stress without any support from their university, blurred boundaries between work and home life, and a decrease in overall productivity that is needed to be successful in academia. Unfortunately, we also see that these experiences led some of our respondents to consider jobs "actively and aggressively" outside the academy, a true tragedy for students and universities, particularly if those leaving are traditionally marginalized mothers.

Discussion

Our goal for this study was to highlight the experiences of academic mothers during the pandemic by age of youngest child and race/ethnicity using an intersectional approach, with the goal of finding ways universities can build racial equity into their policies and procedures to help mothers succeed. Using an online survey of US university faculty in March of 2021, we examined quantitative and qualitative data that show poorer mental health is associated with being overwhelmed at work and at home. Mothers of young children (under the age of twelve) express more concern than mothers with older children about their decrease in productivity, their increase in workload, blurred boundaries between work and home, and feeling less support from their universities. Seventy-two per cent of these codes were among mothers with young children. They also expressed more negative mental health issues as a result. In fact, mothers with their youngest child under the age of twelve accounted for 74 per cent of the negative mental health codes among academic mothers, and for each of the seven negative mental health codes, these mothers accounted for 70 per cent or more (except lack of energy/motivation for which they accounted for 66 per cent of the codes). The quantitative results mirror that and show satisfaction with work-life balance to be the primary factor associated with overall happiness and level of depression. Additionally, feeling supported by the university is associated with lower levels of depression.

Research prior to the pandemic warned of a "leaky pipeline," whereby women are hired by universities in equal numbers to men but are less likely to be promoted and more likely to leave academia altogether. Women's early years in their academic careers pre-tenure are also prime childbearing years, but women with young children experience reduced time in research and increased time in teaching and service, whether they want that distribution or not, which makes them less competitive for tenure. As greedy institutions, universities have not traditionally been supportive of faculty with family obligations, creating a less supportive environment, which women are more likely to leave. The pandemic has exacerbated these problems. Women have taken on a disproportionate share of the work at home and with children, coupled with the increased demands of transitioning classes online and helping needy students. Unfortunately, this has led to many academic mothers expressing disdain for their university or academia in general or expressing that they are actively trying to leave the academy. Universities need to acknowledge the unique challenges their faculty are facing and work to be more supportive environments. This might mean changing tenure and promotion requirements for a few years to acknowledge that faculty have had to cut back on research to increase their time spent on teaching. This might mean holding off on making time-consuming changes that require heavy

committee work. It might also mean hiring more faculty to share the teaching load burden, offering raises to compensate people for the extra time they are putting into their jobs, or providing other incentives to ease their burden. We encourage academic administrators to seriously consider these and other solutions to help retain mother-scholars.

In terms of race, our sample includes a slightly lower proportion of women of colour than what actually exists in institutions of higher education in the US (13 per cent in our sample versus 24 per cent in the US, although the distribution of women who are mothers nationally is unknown). Furthermore, 9 per cent of mothers in our sample did not report their race. This result from our convenience sample is not surprising. Minority racial and ethnic faculty are underrepresented among university faculty, as the academy is still a white institution full of systemic racism (see Griffin for full review). Faculty of colour are asked to serve on more committees to ensure they are diverse, although with fewer faculty of colour available to fill those spots, these faculty are overburdened. Students of colour are more likely to seek mentorship and support from faculty of colour, again placing a difficult burden on those faculty. Finally, given the events of the summer of 2020, the continual need for people of colour to fight for their lives to matter in our society, coupled with the higher rate of mortality due to COVID-19 among people of colour, it is not surprising that faculty of colour would be less likely to have the time, energy, or headspace to complete our survey. This argument could also be made for mothers in general in that the most overwhelmed, anxious, and burnt-out mothers are the least likely to participate in our study. What this says to us is that we are likely underestimating negative mental health for all academic mothers and especially faculty mothers of colour. Nonetheless, our findings are supported by other research that showed that non-Hispanic Blacks in general in the US South were less likely to experience worsened mental health and symptoms of anxiety than were their non-Hispanic white counterparts during the pandemic (Goldmann et al.). Their results and ours could be showing the strength and resiliency of people of colour to handle extreme life challenges, given their history of dealing with discrimination and other race-related challenges. The lack of difference between white mothers and mothers of colour in our study is a fascinating finding. We would expect faculty mothers of colour to experience even more negative mental health consequences due to the intersectional challenges of the last few years; however, it seems that these challenges have been difficult for everyone to navigate. That does not mean that everyone has had the same experience, but it does mean that, for this sample, faculty women of colour and white mothers are faring similarly.

Despite the likely underestimation of negative mental health and challenging home and work circumstances of academic mothers, what we have shown here

is that academic mothers, especially those with young children, are struggling. Their jobs are demanding more of them and adding new tasks without taking any tasks away. They have also been challenged at home to provide regular care to their children and help school-aged children with virtual school. They lost the physical boundary between work and home during that first year of the pandemic and were pulled in multiple directions all day long, often working late into the evening, on weekends, and over breaks to get it all done, yet they still feel behind. Research productivity halted for many, yet research requirements for tenure and promotion have not changed. As one academic mother said, "How will mothers ever catch up?" Universities need to do better by looking at the lived experiences of faculty and making accommodations in the years to come, as the effects of the pandemic will last longer than masks will.

Acknowledgments

Endnotes

1. After data quality checks, we deleted cases who were in the survey for five minutes or less and then if their progress was less than 40 per cent. An additional four cases were deleted due to seemingly poor quality responses.

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