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# Gender Differences in Couples' Division of Childcare, Work and Mental Health During COVID-19

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## **ABSTRACT**

The current COVID-19 crisis, with its associated school and daycare closures as well as social-distancing requirements, has the potential to magnify gender differences both in terms of childcare arrangements within the household and at work. We use data from a nationally representative sample of the United States from the Understanding Coronavirus in America tracking survey to understand gender differences within households on the impact of the COVID-19 crisis. We study how fathers and mothers are coping with this crisis in terms of childcare provision, employment, working arrangements, and psychological distress levels. We find that women have carried a heavier load than men in the provision of childcare during the COVID-19 crisis, even while still working. Mothers' current working situations appear to have a limited influence on their provision of childcare. This division of childcare is, however, associated with a reduction in working hours and an increased probability of transitioning out of employment for working mothers. Finally, we observe a small but new gap in psychological distress that emerged between mothers and women without school-age children in the household in early April. This new gap appears to be driven by higher levels of psychological distress reported by mothers of elementary school-age and younger children.

**Keywords:** Gender, childcare, labor participation, working hours, mental health, COVID-19.

**JEL Codes:** J13, J21, I1

## 1. Introduction

The COVID-19 pandemic is greatly affecting American households in several important dimensions. The response to the public health crisis almost brought the economy to a halt and the unemployment rate jumped to a historical high of 14.7% in April 2020.<sup>1</sup> Work conditions for those who remained employed changed abruptly, with many being forced to work from home. Additionally, the closure of schools and childcare centers has meant that households with children are experiencing increased time demands at home. This situation is challenging for workers who work from home as well as for those who continue working outside the house. And, added to the mix is the uncertainty about the resolution of the economic and public health crises.

In this paper, we use data from a nationally representative sample of the United States from the USC Dornsife Center for Economic Research Understanding Coronavirus in America tracking survey to understand the gender differences within households on the impact of the COVID-19 crisis. In particular, we compare how fathers and mothers are coping during this crisis in terms of childcare provision, employment, working arrangements, and psychological distress levels. While there is emerging literature using survey data to study the gender effects of the COVID-19 crisis, we are the first ones to look at rich tracking survey data collected every two weeks during four months of the COVID-19 crisis in the U.S. to study the impact of the pandemic on gender equity.

There are several reasons to believe this pandemic would disproportionately affect working women compared to men in the U.S. (Alon et al., 2020). First, while prior recessions have affected traditionally male-dominated sectors like manufacturing, construction, or trade, the COVID-19 crisis, and its social distancing requirements, had its biggest effect on more female-dominated sectors, namely the service industry (Mongey and Weinberg 2020). As a result, women's employment appears to have suffered at least as much as men's during this crisis (Montenovo et al. 2020, Adams-Prassel et al. 2020; and for the U.K.: Orefice and Quintana-Domeque 2020). The possibility to work remotely, however, mitigated some of the negative effects on employment and work hours, especially for self-employed workers (Kalenkoski and Pabilonia 2020).

Second, as schools and daycare centers have closed around the country, childcare needs have soared. Given that women already carried a heavier load than men in the provision of childcare before the crisis (Aguiar and Hurst 2007, Schoonbroodt 2018), and given that the employment shock in the present crisis initially hit both genders similarly, it is expected that women will continue to carry a heavier load due to the increased childcare responsibilities that have resulted from the crisis.<sup>2</sup> Finally, social-distancing recommendations and stay-at-home orders have made it difficult, if not impossible, for informal care providers, such as grandparents

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<sup>1</sup> U.S. Bureau of Labor Statistics.

<sup>2</sup> It is worth noting that even in an extreme case of the 2007-2009 recession when men's employment was hit harder than women's, and when fathers increased their time devoted to childcare, mothers did not experience significant changes in their time spent in childcare (Gorsuch 2016).

or other family members, to help with childcare responsibilities. For all these reasons, the COVID-19 crisis could likely have a major impact on women, especially on their career trajectories and the wellbeing of working mothers.

We document gender differences in terms of childcare arrangements, employment loss, reduction of working hours, and mental health among married respondents and those living together with a partner. We find that the increased need for childcare has put a strain on working parents of both genders, but overall, mothers have been carrying a heavier load on the provision of childcare during this COVID-19 crisis than fathers. Moreover, mothers' current working situations appear to have limited influence on their childcare responsibilities. In households with children, 44% of women report being the sole provider of care for their children as compared to 14% of men. Even while currently working, women are 27 percentage points more likely to be the only providers of childcare than working men, and 41 percentage points less likely to report that their partner is the only provider of care. Not only do mothers more often declare to be the only one providing care for their children, but they are also more likely to become the sole provider of care even if they were not at the beginning of the crisis. Among working parents who are married or living with a partner, women were 17 percentage points more likely than men to become the sole childcare provider during the pandemic in our U.S. sample.

We find that the effects of the crisis on gender differences in labor and mental health outcomes depend on whether or not there are children in the household. 42% of working mothers reduced their working hours at some point between March and July 2020, as compared to 30% of working fathers. Overall, no statistically significant gender differences were observed on the proportion who reported reducing working hours among those without school-age children in the household. Additionally, our data show that increased childcare responsibilities within the household are associated with a reduction of working hours and an increased probability of transitioning out of employment during this downturn. Respondents who reported always being the sole provider of childcare for their school-age children in the household were 20 percentage points more likely to declare to have reduced their working hours and 5 percentage points more likely to transition out of employment. Working mothers are about 17 percentage points more likely to have reduced their working hours during the pandemic, compared with working women without children and with working fathers.

The emotional consequences of working from home or the sudden loss of employment, the changes to behavior imposed by physical distancing, and the alteration of everyday life given by the additional time demands for parents can have consequences on mental health and wellbeing in the short and medium-term. We look at the impact on psychological distress combining a measure of feelings of anxiety and depression, and we find that psychological distress increased significantly early during the crisis, with 49% of mothers showing at least mild symptoms of psychological distress in early April, as compared to 41% of women without school-age children. (In the U.S., schools closed in all states between March 16<sup>th</sup> and March 24<sup>th</sup>.<sup>3</sup>) This new gap in psychological distress observed between mothers and women without

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<sup>3</sup> <https://www.edweek.org/ew/section/multimedia/map-coronavirus-and-school-closures.html>

school-age children appears to be driven by higher levels of psychological distress among mothers of elementary school-age and younger children.

Our paper is related to several strands of literature. First, our paper contributes to the emerging but prolific literature on the economic and health effects of the COVID pandemic. Specifically, it relates to the heterogeneous labor market effects of the crisis (Adams-Prassl et al. 2020, Beland et al. 2020, Mongey and Weinberg 2020) and mental health effects by gender (for the UK: Davillas and Jones 2020, Etheridge and Spantig 2020, and Oreffice and Quintana-Domeque 2020). One important contribution of our paper is the richness of our U.S. survey data. First, our large sample size allows us to look at subpopulations by gender, educational attainment, and household composition (i.e. whether school-age children are living in the household). Second, the tracking survey data allow us to evaluate the evolution of work engagement and the labor market attachment of workers over time. And lastly, we have four months of data, collected from March 10<sup>th</sup> to July 21<sup>st</sup>, 2020. Therefore, we not only look at the initial impact of the lockdown on employment and household arrangements, but we assess the medium-term effects of the pandemic on households' employment and wellbeing from March to July. Additionally, to our knowledge, this paper is the first one that looks at gender differences in mental health within the household in the U.S. during the pandemic.

In this literature, only a few studies looking at the (mostly short-term) employment effects of the COVID crisis use survey data collected during the pandemic (Farre et al. 2020 for Spain; Sevilla and Smith 2020, Andrew et al. 2020, and Oreffice and Domeque-Quintana 2020 for the U.K.; Adams-Prassl et al. 2020 for U.S., U.K., and Germany). Of these studies, only Adams-Prassl et al. (2020) use survey data for the U.S., collected in late March and early April 2020, to compare the short-term labor market effects across countries for the U.S., U.K., and Germany, as well as to look at heterogeneity within countries by type of job, education, and gender. They find that occupation fixed effects and the percentage of tasks a worker can do from home can account for all of the gap in job loss between college-educated workers and workers without a college degree, but the gender gap persists even after controlling for these job characteristics.

In our data for the U.S., among those who are married or living with a partner, we find that there were no significant gender differences in employment loss probability between mid-March 2020 and early April 2020 when we compare workers of similar educational attainment.<sup>4</sup> However, we do find that the evolution of employment between March and July 2020 differed by subpopulation as defined by gender and education. After an initial drop in employment of about 15 percentage points for our non-college sample and 10 percentage points for our college sample, by July 2020, the employment rate of all workers (except women with college degrees) was significantly higher than in early April 2020. Women with college degrees are still 12 percentage points less likely to be employed in July 2020 than in March. Men with college

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<sup>4</sup> Even though, on average, women and workers without a college degree were more likely to lose their jobs at that point in early April, by 4 and 10 percent respectively. When we include in our sample respondents who are not married or not living with a partner, in line with the available literature for the U.S., we do find that women with no college degree are more likely to lose their jobs in early April 2020 than other workers. We also find that college workers were less likely to lose their jobs at that point. Results available from the authors upon request.

degrees saw the largest recovery in employment rates in July 2020, getting close to their level from March 2020. When we look at workers who kept their jobs since March 2020, we find that mothers were more likely to reduce their working hours during this period than women without school-age children or men. These facts paint a much starker picture of the labor market than in previous economic downturns, as women's employment is usually less volatile than men's (Doepke and Tertilt 2016).

Concerning the effects of the COVID-19 pandemic on mental health, research on different countries has found that women report worse mental health than men at different points during the pandemic (de Pedraza et al. 2020 for several countries, Davillas and Jones 2020, Oreffice and Domeque-Quintana 2020, Etheridge and Spantig 2020 for the U.K.). Similarly, to this literature, we find that women in the U.S. also report symptoms of psychological distress more often than men. Data from 25 countries collected from March 23 to April 30, 2020, show that the presence of children in the household did not affect how often women report feelings of anxiety (de Pedraza et al., 2020). However, our findings for women with children do not line up with these country averages, thus suggesting that different labor market and family policies and norms across countries may affect psychological distress levels in parents. We find that a small gap emerged between mothers and women without school-age children in the household in early April. This new gap appears to be driven by higher levels of psychological distress reported by mothers of elementary school-age and younger children.

Second, our paper is closely related to the literature on home production and household labor supply. It is well known that, on average, married or partnered women tend to be in charge of home production and childcare more than men (Aguiar and Hurst 2007, Schoonbroodt 2018) and that childcare arrangements are crucial for female labor supply (Heckman 1974, Backer, Gruber and Milligan 2008, Domeij and Klein 2013, Bick 2016, among others). As a consequence, family policies like parental leave and childcare are important determinants of gender outcomes (Olivetti and Petrongolo 2017). In the U.S., women spent more time taking care of children during March and April 2020 (Adams-Prassl et al. 2020); mothers with jobs in early school-closure states were more likely than mothers in late school-closure states to have a job but not be working; mothers who continued working in early closure states worked more weekly hours than mothers in late closure states in April and May 2020 (Heggeness 2020); and, mothers reduced their work hours more than fathers (Collins et al. 2020). For Spain, Farré et al. (2020) find that, until May 2020, men increased their participation in housework and childcare slightly, but most of the additional burden fell on women, who were already doing most of the housework before the lockdown. In the U.K., women have also increased their childcare duties (Sevilla and Smith 2020, Andrew et al. 2020, Oreffice and Domeneque-Quintana 2020, Villadsen et al 2020).<sup>5</sup>

Unlike previous recessions, when men's employment suffered more than women's, in this downturn, both genders are experiencing large reductions in employment. Moreover, due to

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<sup>5</sup> Interestingly, Sevilla and Smith (2020) find that in the UK, even though women have been doing the greater share of childcare during the pandemic, the gender gap for the additional childcare hours is narrower now than what it was pre-pandemic.

the social distancing requirements, more parents are working from home than before. With more parents of both genders spending more time at home during the pandemic, it was not clear, a priori, what this would imply for the gender balance in the division of childcare between parents. In our data, one out of three working mothers reported they were the only provider of care for their children in early April 2020, compared with one out of ten working fathers. We address the question of how the pandemic changed the allocation of time between work and childcare within the household. We also bring attention to the importance of work arrangements for the organization of home production in the form of childcare. We find that parents who were asked to work from home during the pandemic were 10 percentage points more likely to become the main caregiver for their children in two-parent households. We find that mothers are in general more likely to become the main childcare provider during the crisis. Even when currently working, working mothers continue to be 27 percentage points more likely to be the only providers of care than working fathers.

Third, our paper also contributes to the literature on gender equality in the labor market. We provide evidence about the channels through which the pandemic is affecting gender equality in the labor market and about the effects on labor market outcomes like employment and attachment. We show that working conditions and labor division at home are associated with gender differences in labor outcomes. This is important beyond the pandemic, as working from home has become more ubiquitous over the past few years (Bloom et al. 2015). Both compared to working women without children and working fathers, working mothers are about 17 percentage points more likely to declare they reduced their working hours. We find that being the sole childcare provider in the household makes it more likely to transition out of employment (5 percentage points) and to reduce working hours (20 percentage points).

The conclusion of the rapidly evolving literature on the effects of the COVID-19 crisis is that working women have been affected in different ways by the pandemic, depending on their demographics and job characteristics. Less-educated women are more likely to work in sectors where remote work is not possible, and thus employment loss has been larger. More highly educated women are more likely to be able to work from home, which has protected their employment in the short run. Parents in general have had to increase their hours caring for their children. Mothers used to do disproportionately more housework and childcare than fathers before the crisis, and the pattern remains during the pandemic. This finding implies that mothers who continue working have new demands on their time during the pandemic, notably caring for their children and helping them with their homework and remote learning, especially the mothers of young children. These additional tasks can put a strain on mothers' time. We find evidence of that, as we see that mothers are more likely to reduce their hours worked and to suffer psychological distress.

The empirical facts we document are in line with some findings from this emerging literature on the gender effects of the COVID-19 crisis and connect some of the facts that have been studied in isolation in previous work. We observe significant gender differences in the reduction of working hours among parents, especially for college-educated respondents, and a positive association between childcare responsibilities and a reduction of working hours and



increased transitions out of employment. Given that there are high returns to experience, especially for women (Olivetti 2006), our findings suggest that women may bear the consequences of this crisis even after it is over. Alon et al. (2020) conjecture that perhaps the increased prevalence of flexible work arrangements and fathers taking increasing responsibility for childcare, compared to previous recessions, are forces that could promote gender equality in the labor market in the medium or long term. Our findings are not very optimistic in this respect, as mothers continue to shoulder the bulk of the increased time demands, potentially at the expense of their work prospects. The facts we find raise concerns about the implications of this crisis for the evolution of the careers of American workers, particularly the mothers of young children.

This paper is organized as follows. Section 2 describes the data. Section 3 presents our analysis of the gender differences within the household in childcare provision during the crisis. Section 4 presents our results concerning gender effects on working hours and employment. Section 5 describes our results on gender differences in psychological distress, and, Section 6 concludes our work.

## 2. Data

This paper uses data from eight waves of the Understanding Coronavirus in America Tracking Survey,<sup>6</sup> collected approximately every two weeks from March 10<sup>th</sup> to July 22<sup>nd</sup>, 2020,<sup>7</sup> administered by the USC Dornsife Center for Economic and Social Research (CESR). Participants in this study are members of the Understanding America Study (UAS)<sup>8</sup>. The UAS is a probability-based household internet panel, comprising a nationally representative sample of approximately 9,000 US respondents.<sup>9</sup> All active respondents in the UAS were asked to participate in the ongoing Understanding Coronavirus in America Tracking Surveys. Around 7,000 respondents agreed to participate in the Coronavirus ongoing surveys.

As we are interested in studying gender differences on the effects of COVID-19 within households, we focus our analysis on those respondents who reported being married or living together with their partners in the same household. About 66% of our original sample reported being currently married or living together with a partner. We also restrict our sample to working-age respondents who are between 18 and 65 years old, leading to a total of 26,052 observations

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<sup>6</sup> <https://covid19pulse.usc.edu/>

<sup>7</sup> Wave 1 (March) was collected from March 10, 2020 to March 31, 2020; Wave 2 (Early April) was collected from April 1 to April 28, 2020; Wave 3 (April) was collected from April 15, 2020 to May 12, 2020; Wave 4 (Early May) was collected from April 29, 2020 to May 26, 2020; Wave 5 (Late May) was collected from May 13 to June 9, 2020; Wave 6 (Early June) was collected from May 27 to June 23, 2020; Wave 7 (Late June) was collected from June 10 to July 8, 2020; Wave 8 (Early July) was collected from June 24 to July 22, 2020.

<sup>8</sup> The data are publicly available upon registration here: <https://uasdata.usc.edu/index.php>

<sup>9</sup> It is important to note that the UAS research team provides internet access and hardware, such as tablets, to those respondents who do not have computer hardware or internet access, so that all households in the sample may participate. UAS respondents usually complete up to 30-minute surveys in waves that occur once or twice per month. Respondents receive compensation for their time spent answering questions at a rate of \$20 per 30 minutes of interview time. The surveys are conducted both in English and Spanish.

across the eight waves of data (3,980 unique respondents). Sample sizes varied by waves from a minimum of 2,826 respondents in wave 2 (Early April) to a maximum of 3,605 in wave 1 (March).

Table 1 presents descriptive statistics for our analytical sample of respondents who are married or living together with a partner and who are between 18 and 65 years old. All of our results are weighted to the Current Population Survey (CPS) benchmarks, accounting for sample design and non-response to maintain national representation to the American population. Our sample represents all areas of the country with about half of respondents being women and half of the respondents being men. The average age of respondents in the sample is about 44 years old with a majority (65%) being white. Ten percent are African American, 20 percent are Hispanic or Latino and 6 percent are of other races. About 47% of respondents in our sample reported having school-age children. A respondent is considered to have children in the household if he/she reports living with a school-age child (Kindergarten to 12th grade) or with a child enrolled in daycare or preschool.<sup>10</sup> About 41 percent of respondents reported holding an Associates College degree or higher college education and about 72 percent reported having a job as of March 2020. For some of our analysis, we further restrict our sample to those respondents who were employed in the same job since March 2020. Among those employed in March 2020, a majority of respondents, about 91%, kept their jobs in April and subsequent waves. Finally, 40% of respondents reported in March that they had a job that allows them to work from home while 42% of respondents reported having been asked by their employer to work from home in the subsequent months. Interestingly, we do not find statistically significant gender differences in either the capacity to work from home in March or having ever been asked by their employer to work from home in the following months.<sup>11</sup>

### **3. Gender Differences in Childcare Provision During the COVID-19 Crisis**

We first look at parental arrangements of childcare responsibilities in the face of school closures and changes in work status derived from the COVID-19 crisis. Respondents in the UAS who reported living with school-age children were asked in three waves (early April, April, and early May) about childcare responsibilities within the household. In particular, they were asked to identify who was primarily responsible for providing care while schools were closed. Respondents could answer within the following categories: “mostly I,” “mostly my partner,” “only both my partner and I,” or “we have others help.” Figure 1a shows the responses provided in early April, by respondents’ gender among those living in two-partner households. Similar patterns were observed in later April and early May. Overall, mothers are taking a heavier load than fathers in providing childcare after schools closed. 44% of women report being the sole provider of care for their children compared with 14% of men. These patterns continue even when we condition on those respondents currently working, as it is shown in Figure 1.b. In this

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<sup>10</sup> Throughout this article, we refer to women and men who are part of a couple living with children in the household as mothers and fathers.

<sup>11</sup> These results are available from the authors upon request.

case, 33 percent of working mothers report that they are the only provider of care for their children compared with about 11 percent of working fathers.

### 3.1 Methods

We use a multinomial discrete choice logit model to study the provision of childcare within two-parent households with school-age children. In particular, we estimate models with the following type of specification:

$$\begin{aligned} \Pr(\text{Care}_{it} = j|X) &= \Lambda(\beta_0 + \gamma_t + \beta_1 \text{Race}_i + \beta_2 \text{Region}_i + \beta_3 \text{Age}_i + \beta_4 \text{Female}_i + \beta_5 \text{College}_i \\ &+ \beta_6 \text{Female} * \text{College}_i + \beta_7 \text{Working}_i + \beta_4 \text{Female} * \text{Working}_i) \end{aligned}$$

$$j = \text{Only Me}; \text{Only My Partner}; \text{Only Both}; \text{Others Help} \quad (1)$$

$$t = 3,4$$

The dependent variable  $\text{Care}_{it}$  can take four different values depending on the respondent reporting that they were primarily responsible for the provision of care to their children during the time of school closures, whether or not their partner was primarily responsible, both they and their partner was responsible or whether they had help from others. For this analysis, we pool data for the three waves (early April, April, and early May) when information on the division of childcare within the household is available. Under the assumption of independence of irrelevant alternatives and error terms that are independently and identically extreme value distributed, we estimate the model using maximum likelihood. We include wave fixed effects in the model to take into account the evolution over time of the COVID-19 crisis. We include three regional dummies for the region of residence of the respondent (Midwest, Northeast, and South), four dummies for the respondent's age group (age 18-29, age 30-39, age 40-49 and age 50-59), and three dummies for the respondent's race/ethnicity (African American, Hispanic and other non-white). We control for the respondent having a college degree or higher education allowing for a different effect for women. Our estimated coefficients of interest are those for a female dummy, a dummy for the respondent currently working, and the interaction of female and currently working. These coefficients help us respond to the question of to what extent mothers are providing more care than fathers and to what extent they are combining care with work. Estimated coefficients are presented as average marginal effects in Table 2 and explained in Section 3.2. Additionally, we estimate separate models for those respondents currently working that control for having been asked by the employer to work from home and an interaction term between female and working from home (Table 3).

Because being the only childcare provider is challenging for working parents, we also estimate a discrete duration model for the probability of becoming the sole provider of childcare in the household. A respondent is considered to transition into the sole provider role in the current wave if they did not declare to be the only person providing childcare in early April and the preceding wave but reported doing so in the current wave  $t$  (April or early May). In particular, we follow this logistic discrete duration model:

$$\begin{aligned} \Pr(\text{Only } Me_{it}|X) \\ = \Lambda(\beta_0 + \gamma_t + \beta_1 \text{Race}_i + \beta_2 \text{Region}_i + \beta_3 \text{Age}_i + \beta_4 \text{Female}_i + \beta_5 \text{College}_i \\ + \beta_6 \text{Female} * \text{College}_i + \beta_7 \text{Working}_i + \beta_4 \text{Female} * \text{Working}_i) \end{aligned}$$

$t = 3,4$

(2)

This discrete-time hazard model can be interpreted as the probability of transitioning in wave  $t$  given the respondent has survived not being the sole provider of care to that point. The dependent variable *Only Me<sub>t</sub>* takes value one if a respondent is observed transitioning into the role of the sole provider of childcare in the household in wave  $t$ . The control variables are as those defined in (1) above. We also estimate separate models for those currently working with explanatory variables working from home and the interaction of this variable with the female dummy. Estimated coefficients are presented as average marginal effects in Tables 4 and 5. In both models (1) and (2), we obtained cluster robust standard errors at the individual level to take into account the fact that we have multiple observations per respondent.

### 3.2 Results

Tables 2 and 3 show average marginal effects from the multinomial logit models for the provision of childcare across the three waves of data available, following the specification explained in (1) above. Table 2 focuses on the childcare provision of working-age respondents, living in two-parent households, with school-age children. Overall, women in couples are 23 percentage points more likely than men to say they are the only provider of care for their children, and 14 percentage points less likely to say that their partner is the only provider of care. Having a college degree increases the fathers' probability of reporting being the only provider of childcare by 11 percentage points and reduces the probability of having a partner who provides all the care by 10 percentage points. Having a college degree, however, has no significant effect, for women, on the probability of being the sole provider of care or having a partner who is. Finally, having a college degree increases the probability of both partners providing childcare together by 12 percentage points and reduces the probability of receiving outside help by 14 percentage points. Those currently working have a lower probability of reporting being the only providers of care for their children and a higher probability of reporting that their partner is the sole provider of care. However, this effect is bigger for men than for women. Working men have a 30 percentage points lower probability of reporting being the sole provider of care and a 23 percentage points higher likelihood of having a partner who is the sole provider of childcare. In contrast, working women only have an 18 percentage point lower probability of being the sole provider of care and a non-significantly higher probability of having a partner who is the sole provider. This result suggests that working mothers are combining childcare and work more so than working fathers.

Table 3 presents the results for working parents, controlling for whether or not they work from home. Even while currently working, working mothers continue to be 27 percentage points more likely to be the only providers of care than working fathers are and 41 percentage points less likely to report that their partner is the only provider of care. Having a college degree increases the probability of reporting that both members of the couple are providing childcare

together by 11 percentage points and it increases the probability of working women having a partner who provides all the childcare by 17 percentage points. Parents who were required to work from home, provide more of the care, are 10 percentage points more likely to be the sole provider of care and 11 percentage points less likely to have a partner who provides all of the care. These effects were very similar for working mothers as well as working fathers. Working from home, fathers are also 15 percentage points more likely to report that both partners provide childcare together. There is no equivalent significant effect, however, for mothers who work from home. Parents working from home, however, do report receiving less help from others outside the household. Controlling for whether or not the respondents are working from home dissipates some of the effects of education. This fact is consistent with the fact that college-educated workers are more likely to be able to work from home.<sup>12</sup>

Table 4 presents the results of a discrete duration model for the probability of becoming the sole provider of childcare in the household as described in (2) above. The first column of this table presents the overall results for two-parent households with school-age children. The second and third columns present results for the sample of working parents and the sample of working parents who held the same job since March, respectively. Women not only have a higher probability of being the only ones in the household providing care to their children, as we saw above, but they are also more likely to have become the sole provider of care even if they were not at the beginning of the COVID-19 crisis in early April. Women in couples are 8 percentage points more likely to become the sole provider of childcare than men. This effect is bigger for working parents: Working mothers are 17 percentage points more likely to become the only providers of care and 26 percentage points more likely among those holding the same job since March. Being currently employed reduces the probability of fathers becoming the sole provider of childcare by 17 percentage points. However, this scenario is not the case for mothers; they experience the same probability of becoming the sole childcare provider independent of whether or not they are currently working. Having a college degree reduces the probability of becoming the sole provider of care for women, but this effect is not statistically significant for working mothers. Working from home increases the probability of fathers becoming the only provider of childcare, but less so for mothers. Overall, we find that mothers have been carrying a heavier load of childcare during this COVID-19 crisis than fathers have, and the current working situation appears to have a limited influence on the childcare mothers are providing.

#### **4. Gender Effects in Working Hours and Employment During the COVID-19 Crisis**

To accommodate the drastic increase in childcare needs during this COVID-19 crisis, some parents might have had to reduce their working hours. This fact could be especially the case for working mothers, as discussed above because they are carrying a heavier load of childcare needs for the couple despite their current work status. UAS respondents answered questions about their

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<sup>12</sup> In our sample, 58.5% of workers with a college degree report being able to work from home to perform their job, while only 22.6% of non-college degree workers report being able to do so.

employment in every wave of this study, including a question about whether or not they had to reduce their working hours.

Figure 2 shows the proportion of respondents, among those who held the same job since March, that declared to have reduced their working hours at any time from March to July 2020, by gender, level of education, and whether school-age children are living in the household. As we can see in this figure, a higher proportion of working mothers than working fathers declared having reduced their working hours. Overall, 42% of working mothers declared to have reduced their hours as compared with 30% of working fathers. This difference appears to be driven by college-educated parents. No statistically significant gender differences are observed among non-college-educated parents. Among working men and women without school-age children in the household, overall, we do not find a statistically significant gender difference in the proportion of those declaring having to reduce their hours. Around 30 to 35% of men and women declared having reduced hours in this case. There is, however, a statistically significant gender difference between non-college-educated respondents without young children in the household. About 46% of women reported having reduced hours in this case, as compared to 35% of men.

Changes in employment status might also help accommodate childcare needs. Figure 3 presents the percentage of respondents who declare being employed by wave, gender, and level of education. Overall, we do not find statistically significant gender differences in drops of employment during this COVID-19 crisis among those respondents who are married or living together with a partner.<sup>13</sup> Respondents without a college degree suffer larger drops in employment during this crisis. We observe around a 14 and 15 percentage points drop in the proportion of non-college-educated women and men, respectively, declaring being employed in April 2020 compared with March (from 55% to 41% for women and from 74% to 59% for men). The drops in employment were much smaller for those holding a college degree. In this case, both college-educated men and women suffered comparable drops of about 9 and 10 percentage points respectively (from 80% to 72% for women and from 90% to 81% for men).

Employment rates have started to partially recover since April for all groups except for college-educated women. Although the levels of employment in July 2020 remain statistically significantly lower at the 95% significance level than in March 2020 for all groups, college-educated men and non-college-educated respondents experienced statistically significant recoveries in their levels of employment by July, compared to those observed after the largest initial shock in April. Employment rates for college-educated men appear to have almost fully recovered by July. However, employment levels for those non-college-educated respondents and college-educated women remain around 10 percentage points lower as of July than those observed in March (46% for non-college-educated women, 70% for college-educated women, 66% for non-college-educated men), and we do not observe a statistically significant recovery in employment by July for college-educated women.

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<sup>13</sup> On average, women were 4 percentage points more likely than men to lose their jobs in April 2020, but the difference is not significant once we control for education and gender-education interactions.

## 4.1 Methods

To further study to what extent respondents have had to reduce their working hours to cope with the increase childcare needs imposed by social-distancing requirements and school closures as a consequence of the COVID-19 crisis, we focus the analysis on those respondents who held the same job since March 2020 and build a variable that takes value one if the respondent reports anytime from April to July that they had to reduce their working hours. We do so to avoid effects derived from changes in employment. We then estimate the following logistic regression:

$$\begin{aligned}
 \Pr(\text{Reducing Hours}_i | X) &= \Lambda(\beta_0 + \beta_1 \text{Race}_i + \beta_2 \text{Region}_i + \beta_3 \text{Age}_i + \beta_4 \text{Female}_i * \text{College}_i \\
 &+ \beta_5 \text{Male} * \text{College}_i + \beta_6 \text{Female} * \text{NoCollege}_i \\
 &+ \beta_7 \text{Female} * \text{College} * \text{Kids}_i + \beta_8 \text{Male} * \text{College} * \text{Kids}_i \\
 &+ \beta_9 \text{Female} * \text{NoCollege} * \text{NoKids}_i + \beta_{10} \text{Male} * \text{NoCollege} * \text{NoKids}_i \\
 &+ \beta_{11} \text{EverWorkFromHome}_i)
 \end{aligned}
 \tag{3}$$

The main coefficients of interest are those of the interaction terms of gender, education, and whether school-aged children are living in the household. Estimated coefficients are presented as average marginal effects where the reference category is non-college-educated men without young children in the household in Table 5, column 1. We controlled for age, race/ethnicity, and region of residence with the same variables as described in (1) above. We also include a control variable for respondents reporting if they have ever been required by their employer to work from home.

We run separate specifications for those respondents living with school-age children in the household and replace the interaction terms of gender, education, and whether school children are living in the household in (3) by variables representing the division of childcare duties in the household, in Table 5, column 2. In particular, we first include dummies indicating whether the respondent ever reported being the only provider of childcare, whether the respondent reported his partner was ever the only provider of care, and whether they ever had help from others for childcare. We estimate an additional specification that includes an indicator variable for the respondent reporting being the only provider of child-care in the household in all waves, instead. (Table 5, column 3)

Among those employed in March, we further study the determinants of transitions out of employment in subsequent waves of data from April to July. To do so, we estimate a discrete duration model for the probability of leaving employment in a subsequent wave. A respondent is considered to transition out of employment in the current wave if he/she was observed holding a job in March and the preceding wave but reported being laid off or on leave or another job status in the current wave. Those respondents who find a new job after being observed transitioning out of employment are considered as a new employment duration spell. In particular, we estimate the following logistic discrete duration model:

$$\begin{aligned}
& \Pr(\textit{Leaving Employment}_{it}|X) \\
& = \Lambda(\beta_0 + \gamma^{\textit{Wave}} + \beta_1 \textit{Race}_i + \beta_2 \textit{Region}_i + \beta_3 \textit{Age}_i \\
& + \beta_4 \textit{CanWorkHome}_i + \beta_5 \textit{Female} * \textit{CanWorkHome}_i + \beta_6 \textit{Kids}_i \\
& + \beta_7 \textit{Female} * \textit{Kids}_i + \beta_3^W \textit{Female} * \textit{College}_i + \beta_4^W \textit{Male} * \textit{College}_i \\
& + \beta_5^W \textit{Female} * \textit{NoCollege}_i)
\end{aligned}$$

(4)

t=2,3,4,5,6

The dependent variable *Leaving Employment* takes value one if a respondent is observed transitioning out of employment because of losing their job, being laid off, taking leave, or another job status in wave  $t$ . We include wave fixed effects in the model to account for the evolution over time of the COVID-19 crisis. We included interaction terms between gender and education (college or no-college) and allowed for different effects by wave to account for the different evolution of employment for these groups. We include race, the region of residence, and age controls as described in (1) above. We also control for whether the respondent reported in March that they had a job that could be performed from home and an interaction of this variable with the respondent being female. Finally, the main coefficients of interest are those for whether school-age kids are living in the household and its interaction with the respondent being female. These estimated coefficients would help us understand to what extent respondents might be transitioning out of employment to take care of their children. Estimated coefficients are presented as average marginal effects in Table 6, column 1. We obtained cluster robust standard errors at the individual level to account for the fact that we have multiple observations per respondent.

We estimate equivalent models to (4) but focusing only on those respondents who declare they are living with school-age children in the household and substitute the variables about kids in the household for variables representing the actual division of child-care in the household. Like we did for (3), described above, we first include dummies indicating whether the respondent ever reported being the only provider of childcare, whether the respondent reported his partner was ever the only provider of care and whether they ever had help from others for childcare (Table 6, column 2). We, then, also estimate a separate specification including a variable for the respondent being always the only provider of child-care in the household. (Table 6, column 3)

## 4.2 Results

The first column of Table 5 shows the estimated marginal effects of a logit model for the probability of a respondent declaring having reduced their working hours since March among those who kept the same job since then, following the specification described in (3) above. After controlling for age, race, the region of residence, and working from home, we find that college-educated mothers are significantly more likely to report that they had to reduce their working hours during this COVID-19 crisis. Both compared with working women without children and with working fathers, working mothers are about 17 percentage points more likely to declare they reduced their working hours (relative to a mean of 35%).



The second and third columns of Table 5 present estimates for respondents living together with school-age children in the household as a function of child-care arrangements. We find that those parents receiving help from others presented a 13 percentage points lower probability of reducing their working hours. In contrast, those parents who always reported being the only provider of childcare presented a 20 percentage points higher probability of declaring having reduced their working hours.

When focusing on those reporting having a job in March 2020, Table 6 shows the results of discrete logistic durations models for the probability of leaving employment in subsequent waves following the specification in (4) above. The first column focuses on the analysis using the information of all respondents who are married or living together with a partner. Overall, we observe that most of the employment transitions occurred during April. The probability of transitioning out of employment was 22 percentage points higher in early April and 14 percentage points in later April than in July. Generally, we do not find significant gender differences in transitions out of employment until July when college-educated and non-college-educated women are 15 and 11 percentage points more likely to transition out of employment than men, respectively. Having school-age children in the household, however, is associated with a reduction in the probability of fathers leaving the employment of 3 percentage points. We do not find a significant effect on the probability of transitioning out of employment for mothers if they have school-age children in the household. The second and third columns of Table 5 present estimates for parents living together with school-age children and including variables about the division of childcare in the household. Respondents who at some point declared being the only provider of childcare in the household present a 3 percentage points higher probability of transitioning out of employment while having a partner who at some point was the only provider of care is associated with a 2 percentage points lower probability of transitioning out of employment (relative to a mean of 6%). Finally, being always the sole provider of childcare in the household is associated with 5 percentage points higher probability of transitioning out of employment.

## **5. Gender Differences in Psychological Distress During the COVID-19 Crisis**

So far, we showed that women have carried a heavier load than men in the provision of childcare during the COVID-19 crisis, even while still working. This division of childcare is associated with a reduction of working hours and an increased probability of transitioning out of employment. In this section, we explore the possible consequences that the current childcare arrangements could have in terms of gender differences on the psychological effects of the COVID-19 crisis.

The UAS Understanding Coronavirus in America tracking Survey collected information on respondents' psychological distress in every survey wave through the Patient Health Questionnaire-4 (PHQ-4) scale of psychological distress (Kroenke et al., 2009a). The PHQ-4

was drawn from the Generalized Anxiety Disorder-7 scale (GAD-7; Spitzer et al., 2006) and the Patient Health Questionnaire-8 (PHQ-8; Kroenke et al., 2009b) and found to accurately measure symptoms of depression and anxiety with just a four-item scale (Kroenke et al., 2009a; Lowe et al., 2010). The four items of the PHQ-4 scale include the respondent's frequency of feelings of anxiety, not being able to control worrying, little interest, or pleasure in doing things, and feelings of depression and hopelessness. Respondents reported the frequency of these feelings in four response categories: "0. Not at all"; "1. Several days"; "2. More than half the days" and "3. Nearly every day". Anxiety and depression subscales, ranging from 0 to 6, are calculated by adding the scores for the two anxiety and two depression related questions, respectively. The PHQ-4 psychological distress score is then calculated by adding the anxiety and depression subscales. For each subscale, as well as for the PHQ-4 scale, a respondent with a score of 3 or more is considered to have at least mild symptoms.

Figure 4 shows the evolution of the percentage of respondents with at least mild symptoms of psychological distress from March to July 2020. Psychological distress symptoms peaked in April with mothers of school-age children in the household presenting the highest rates of psychological distress. 49% of mothers presented at least mild symptoms of psychological distress in early April. A new gap in psychological distress emerged between mothers and women without school-age children in the household which persisted throughout April. This gap seems to have reappeared in late June and July, although the difference in psychological distress between mothers and women without school-age children is only marginally significant at the 10% significance level in this case. Fathers of school-age children also experienced higher levels of psychological distress during April but this jump only helped to equate them to the levels of men without children in the household. As of July, fathers presented lower levels of psychological distress than men not living with school-age children in the household.

## 5.1 Methods

To further study gender differences on how couples, with and without school-age children in the household, are coping in terms of psychological distress during the COVID-19 crisis, we use the following logistic regression model:

$$\begin{aligned}
 & \Pr(\text{Psychological Distress}_{it} | X) \\
 & = \Lambda(\beta_0 + \gamma^{Wave} + \beta_1 \text{Region}_i + \beta_2 \text{Race}_i + \beta_3 \text{Female}_i + \beta_4 \text{College}_i \\
 & \quad + \beta_5 \text{Working}_i + \beta_6 \text{Working} * \text{From Home}_i + \beta_7^W \text{Female} * \text{Kids}_i \\
 & \quad + \beta_8^W \text{Male} * \text{Kids}_i)
 \end{aligned}
 \tag{5}$$

The dependent variable *Psychological Distress* is an indicator variable that takes value one if the respondent reported at least mild symptoms of psychological distress. Additionally, we estimate separate models using indicators for at least mild anxiety and mild depression symptoms using the anxiety and depression subscales separately. Our model controls for wave,

respondent's race, and region of residence as described in (1) above. We also include controls for respondents being female, having a college degree, currently working, and currently working from home. Finally, our main coefficients of interest correspond to interaction terms between gender and having school-age children in the household, allowing for different effects by the survey wave. We estimate cluster robust standard errors at the respondent level and present estimates as average marginal effects.

We estimate additional models, following the one described in (5), but allowing for an overall interaction of gender and school-age children in the household depending on the age of the children. In particular, we created three indicator variables that take value one if the respondent indicated that they had elementary school-age or younger children living in the household, another variable that takes value one if the respondent indicated they had middle-school-age children in the household, and a separate variable indicating if the respondent reported living with high school-age children. We estimate these models for all respondents who are married or living together with a partner, as well as just for those respondents who reported living with school-age children. For respondents who live in the household with school-age children, we also estimated models that include care arrangements as independent variables, equivalent to those we estimated for working hours and transitions out of employment presented above.

## 5.2 Results

Table 7 shows average marginal effects for the probability of experiencing at least mild psychological distress, at least mild anxiety or at least mild symptoms of depression, separately. As it was shown in Figure 4, we observe that psychological distress and anxiety symptoms peaked during April 2020. This finding does not appear to be so much the case for depression when we look at it separately. Overall, women present higher levels of psychological distress than men, a result that has been well documented in the literature (see, e.g. Lowe et al., 2010). Importantly, women with school-age children in the household experienced a higher probability of psychological distress than those without children, and they experienced a 7 percentage point increase in early April and a 5 percentage point increase later in April (relative to a mean of 30%), as compared to female respondents without school-age children in the household. This effect corresponds with a 3 percentage points increase in both anxiety and depression symptoms in early April for women with school-age children in the household. Mothers also presented a marginally statistically significant increase of 5 percentage points on the probability of presenting at least mild symptoms of psychological distress in late June. Fathers of school-age children, however, didn't experience significantly different levels of psychological distress than men without children. If anything, fathers of school-age children experienced a lower probability of at least mild symptoms of anxiety than men without school-age children by July. Having a job reduced the probability of at least mild symptoms of psychological distress by almost 10 percentage points but this effect is reduced by half when being required to work at home.

The first column of Table 8 presents, for all respondents who are married or living together with a partner, overall estimates of the effects of living with school-age children in the household by age of the children (elementary school-age children, middle-school-age children or high

school-age children) as compared to not having school-age children in the household. In contrast, column 2 of Table 8 presents results only for those living with school-age in the household using men with high school-age children as the comparison. In both cases, we observe that the higher levels of psychological distress observed for mothers of school-age children appear to be driven by those who reported living with elementary school-age or younger children in the household. Mothers of elementary school-age or younger children present an almost 5 percentage points increase in the probability of presenting at least mild psychological distress symptoms when compared to women without children and almost a 7 percentage points increase when focusing on parents and compared with fathers of high school children. Fathers of elementary school-age and younger children also experience a 7 percentage points higher probability of at least mild symptoms of psychological distress when compared with fathers of high school-age children. Finally, columns 3 and 4 of Table 8 study the relationship between care arrangements and psychological distress among respondents living with school-age children in the household. In this case, we do not observe a significant relationship between psychological distress and who is responsible for providing most of the childcare.

## **6. Conclusions**

The unprecedented school-closures, social distancing measures, and stay-at-home orders to contain the COVID-19 pandemic have the potential to drastically magnify gender differences in terms of both childcare arrangements and work. In this paper, we used unique and rich nationally representative longitudinal data for the U.S. collected every two weeks during the past four months from March to July 2020 to document how couples are coping with this crisis in terms of childcare provision, employment, working arrangements, and psychological distress levels. We document important gender differences in childcare arrangements of school-age children in the household. Childcare arrangements are in turn associated with changes in working hours and lower levels of employment attachment. We also document a new small gap in psychological distress that emerged between mothers and women without school-age children in the household in early April, which appears to be driven by higher levels of psychological distress reported by mothers of elementary school-age and younger children.

Among working mothers, one out of three reports being the only provider of care for their school-age children, as compared to one out of ten working fathers. This is a sizable difference. Also, working mothers were 17 percentage points more likely than working fathers to become the sole provider of childcare during this crisis even when they were not initially in April. Mothers appear to provide more childcare despite their current working status. Being “currently working” appears to have a more limited influence on the childcare that mothers provide than on the childcare that fathers provide.

Childcare responsibilities are related to changes in working hours and an increased probability of transitioning out of employment. College-educated mothers are significantly more likely to report that they had to reduce their working hours during the COVID-19 crisis. Parents who always reported being the sole provider of childcare presented a 17 percentage points higher

probability of declaring having reduced their working hours, a 48% increase relative to a mean of 35%. In terms of transitioning out of employment, parents who at some point declared being the only provider of childcare in the household present a 3 percentage points higher probability of transitioning out of employment, while being always the sole provider of childcare in the household is associated with 5 percentage points higher probability of transitioning out of employment. Relative to a mean of 6% transitions out of employment, these are both sizeable effects.

In terms of psychological distress, we observe a new gap in psychological distress that emerged between mothers and women without school-age children in the household in early April. The gap appears to reappear by late June and early July, although the differences with working women without children are only marginally significant. These effects appear to be driven by those who reported living with elementary school-age children in the household. Fathers of school-age children, however, didn't experience significantly different levels of psychological distress than men without children. If anything, fathers of school-age children experienced a lower probability of at least mild symptoms of psychological distress than men without school-age children by July. We do not observe, however, a significant relationship between psychological distress and childcare arrangements in the household.

As this crisis persists over time, and the future of school reopening plans are unclear, the middle-term gender differences reported in this paper could have longer-term implications and represent a step back in terms of gender equality. The fact that we observe significant gender differences in the reduction of working hours among parents, especially for college-educated respondents and a positive association between childcare responsibilities and a reduction of working hours and increased transitions out of employment is worrisome as these job interruptions could have negative effects on working mothers' wages and careers (see, e.g. Baum 2003). Also, documented differences in the prevalence of psychological distress among mothers and women without school-age children could have important longer-term implications not only for the health of mothers but also for their children's health and development (see, e.g. Farahati, Marcotte, and Wilcox-Gök 2003; Frank and Meara 2009; Bratti and Mendola 2014; Le and Nguyen 2017). In future work, we plan to continue studying the longer-term effects that the COVID-19 crisis is having on working mothers.

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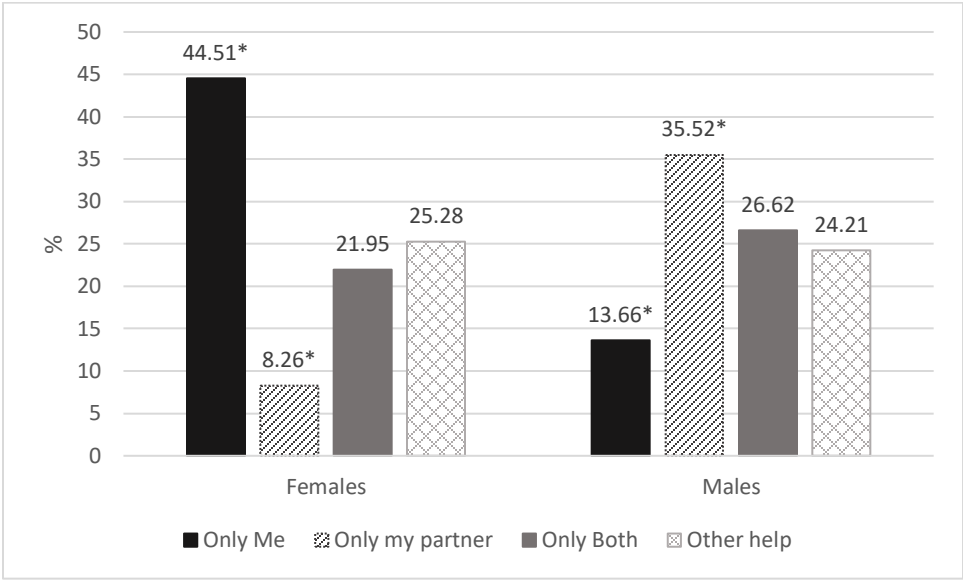
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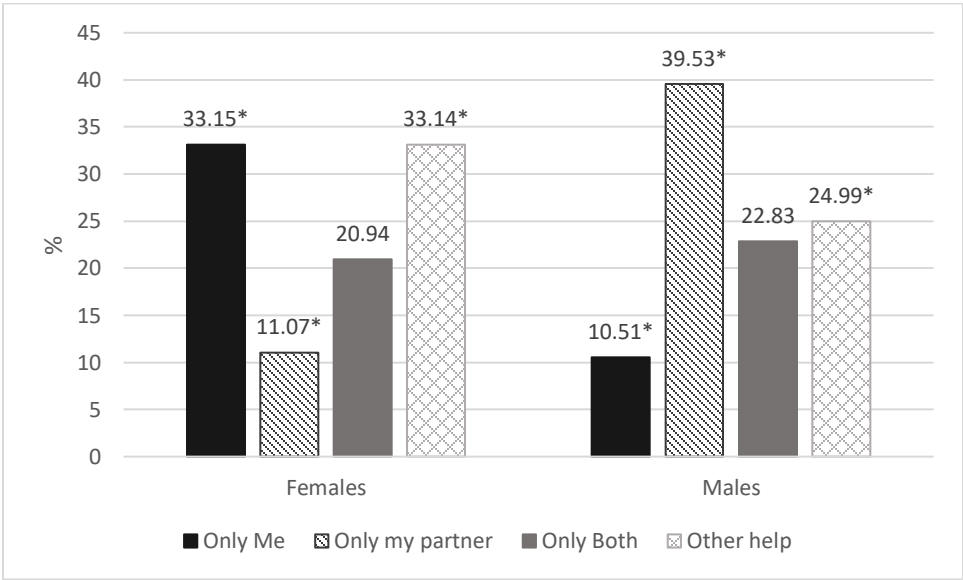
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**Figure 1.a: “Who is Primary Responsible for Providing Care When School is Closed?” – April 2020, Full Sample**

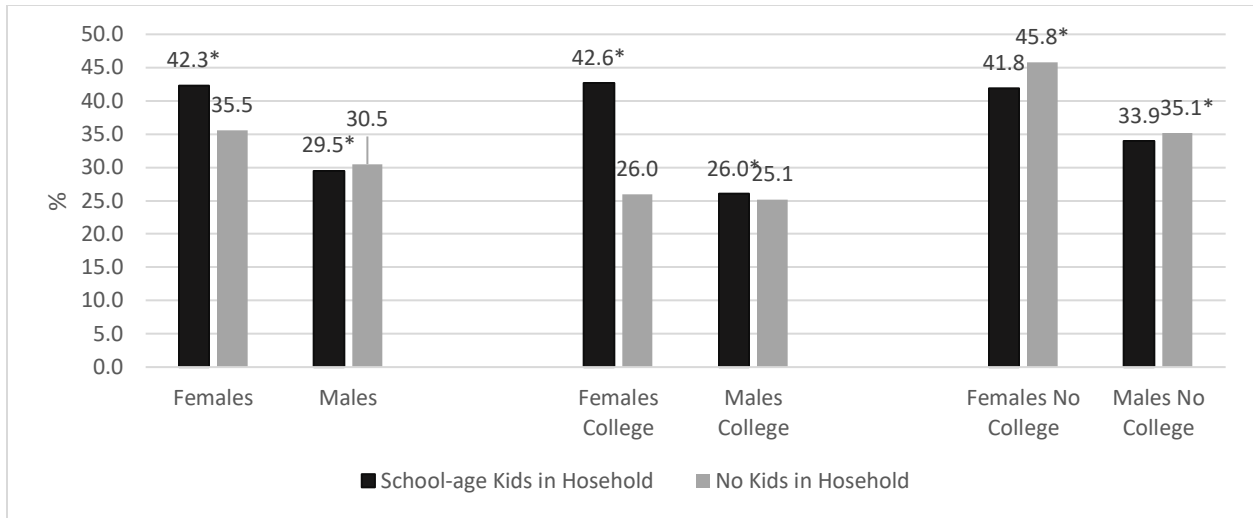


**Figure 1.b: “Who is Primary Responsible for Providing Care When School is Closed?”- April 2020, Only Those Currently Working**



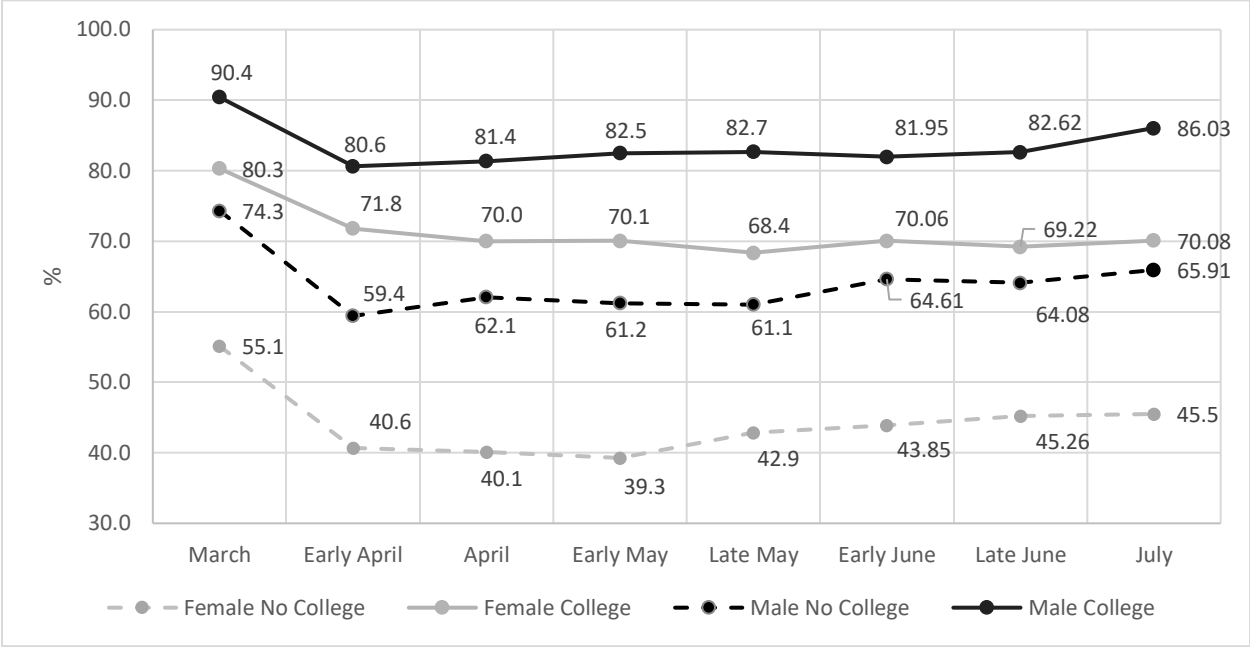
Note: \* Denotes statistically significant gender differences at the 95% confidence level. Results weighted using population weights to the CPS benchmarks.

**Figure 2. Ever Reduced Work Hours since March – By Whether Kids in Household**



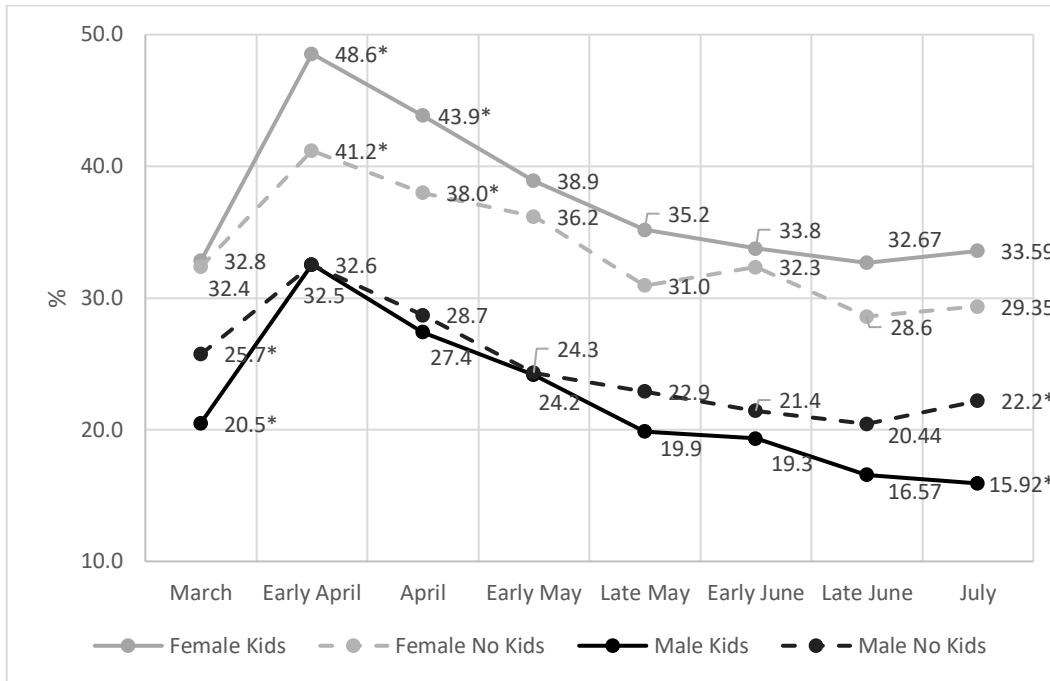
Note: \* Denotes statistically significant gender differences at the 95% confidence level. Results weighted using population weights to the CPS benchmarks

**Figure 3: Percentage of Respondents, Married Or Living Together, Who Declare Being Employed During the COVID-19 Crisis By Gender And Level Of Education**



Note: Results weighted using population weights to the CPS benchmarks.

**Figure 4. Psychological Distress During the COVID-19 Crisis-Among Those Married or Living Together - By Gender and Whether There Are School Age Kids in the Household**



Note: \* Denotes statistically significant differences within gender among those with and without school-age children in the household at the 95% confidence level. Results weighted using population weights to the CPS benchmarks

*Table 1: Descriptive Statistics-Respondents Who are Married or Living Together with a Partner, Ages 18 to 65 Years Old*

	<i>Mean</i>	<i>Standard Deviation</i>
<i>Wave size</i>		
<i>Wave 1-March</i>	0.14	0.34
<i>Wave 2- Early April</i>	0.11	0.31
<i>Wave 3-April</i>	0.13	0.33
<i>Wave 4- Early May</i>	0.13	0.33
<i>Wave 5-Late May</i>	0.13	0.33
<i>Wave 6- Early June</i>	0.13	0.33
<i>Wave 7- Late June</i>	0.13	0.33
<i>Wave 8- July</i>	0.12	0.33
<i>Respondents' characteristics</i>		
<i>Female</i>	0.51	0.50
<i>Age</i>	44.30	11.74
<i>West</i>	0.23	0.42
<i>Midwest</i>	0.21	0.40
<i>Northeast</i>	0.17	0.37
<i>South</i>	0.40	0.49
<i>White</i>	0.65	0.48
<i>African American</i>	0.10	0.29
<i>Hispanic</i>	0.20	0.40
<i>Other Race</i>	0.06	0.23
<i>College</i>	0.41	0.49
<i>Working in March</i>	0.72	0.45
<i>Can Work from Home</i>	0.40	0.49
<i>Asked to Work from Home</i>	0.42	0.49
<i>School Age Kids</i>	0.47	0.50

Note: Total number of observations was 26,052 observations across the eight waves of data (3,980 unique respondents). Results weighted using population weights to the CPS benchmarks.

*Table 2: Who is Primary Responsible of Providing Care While Schools Are Closed?-Among Two Parents Households (Marginal Effects)*

	Only Me	Only My Partner	Only Both	Others Help
Female	0.232*** (0.045)	-0.135*** (0.049)	-0.057 (0.048)	-0.040 (0.049)
College	0.117** (0.046)	-0.104*** (0.030)	0.124*** (0.032)	-0.137*** (0.039)
Female*College	-0.107* (0.055)	0.123** (0.050)	-0.011 (0.046)	-0.006 (0.052)
Working	-0.307*** (0.046)	0.227*** (0.038)	-0.008 (0.038)	0.089** (0.042)
Female*Working	0.124** (0.055)	-0.173*** (0.054)	-0.005 (0.050)	0.053 (0.056)

Note: Standard Errors in parenthesis. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

Number of Observations: 3,821. Wave, race, age, and region of residence controls included. Results weighted using population weights to the CPS benchmarks.

*Table 3: Who is Primary Responsible of Providing Care While Schools Are Closed?-Among Those Currently Working and in Two Parent Households (Marginal Effects)*

	Only Me	Only My Partner	Only Both	Others Help
Female	0.272*** (0.048)	-0.407*** (0.063)	0.066 (0.050)	0.069 (0.048)
College	0.019 (0.052)	-0.065 (0.044)	0.107** (0.046)	-0.061 (0.044)
Female*College	-0.081 (0.064)	0.172** (0.076)	-0.040 (0.069)	-0.051 (0.070)
Working at Home	0.100* (0.053)	-0.108** (0.044)	0.148*** (0.044)	-0.140*** (0.046)
Female*Working at Home	-0.011 (0.066)	0.091 (0.076)	-0.118* (0.063)	0.037 (0.070)

Note: N. Obs. 2,137. Standard Errors in parenthesis. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Wave, race, age, and region of residence controls included. Results weighted using population weights to the CPS benchmarks.

Table 4: Probability of Becoming the Sole Provider of Child Care (Marginal Effects)

	<i>All Parents</i>	<i>Working Parents</i>	<i>Same Job</i>
	(1)	(2)	(3)
Female	0.081** (0.033)	0.172*** (0.042)	0.258*** (0.052)
College	0.045 (0.032)	-0.043 (0.031)	-0.051 (0.040)
Female*College	-0.100** (0.041)	-0.033 (0.041)	-0.043 (0.050)
Working	-0.170*** (0.035)		
Female*Working	0.115*** (0.041)		
Working from Home		0.131*** (0.041)	0.189*** (0.054)
Female* Working Home		-0.107** (0.047)	-0.180*** (0.061)
Observations	1,951	1,262	965

Note: Standard Errors in parenthesis. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Wave, race, age, and region of residence controls included. Results weighted using population weights to the CPS benchmarks.

Table 5: Probability of Reducing Hours Among Those Holding the Same Job Since March  
(Marginal Effects)

	<i>All</i>	<i>Parents</i>	<i>Parents</i>
	(1)	(2)	(3)
Female * College	-0.089 (0.067)	0.058 (0.072)	0.048 (0.069)
Male * College	-0.144** (0.073)	-0.103 (0.071)	-0.097 (0.069)
Female* No College	0.080 (0.065)	-0.076 (0.080)	-0.074 (0.073)
Female * College * Kids	0.174*** (0.061)		
Male* College * Kids	0.089 (0.067)		
Female * No College * Kids	-0.076 (0.071)		
Male* No College * Kids	0.000 (0.067)		
Ever Work from home	-0.041 (0.037)	-0.044 (0.053)	-0.033 (0.053)
Ever Only Me		0.044 (0.057)	
Ever Only Partner		-0.063 (0.055)	
Ever Others Help		-0.134*** (0.051)	
Always Me			0.202*** (0.068)
Observations	1,442	669	669

Note: Standard Errors in parenthesis. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Race, age, and region of residence controls included. Results weighted using population weights to the CPS benchmarks.



Table 6: Probability of Leaving Employment (Marginal Effects)

	<i>All</i>	<i>Parents</i>	<i>Parents</i>
	(1)	(2)	(3)
Early April	0.220*** (0.049)	0.123*** (0.045)	0.127*** (0.045)
April	0.144*** (0.050)	0.046 (0.046)	0.051 (0.046)
Early May	0.095* (0.051)	0.057 (0.047)	0.062 (0.046)
Late May	0.101* (0.052)	-0.007 (0.058)	-0.001 (0.058)
Early June	0.053 (0.060)	0.033 (0.053)	0.038 (0.053)
Late June	0.106* (0.059)	0.069 (0.059)	0.070 (0.058)
Can Work from Home	-0.047*** (0.012)	-0.047*** (0.018)	-0.048*** (0.017)
Female* Can Work Home	0.005 (0.016)	-0.000 (0.021)	-0.003 (0.021)
Female*College*Early April	-0.027* (0.014)	-0.009 (0.016)	-0.001 (0.016)
Male*College*EarlyApril	-0.007 (0.013)	-0.016 (0.018)	-0.013 (0.017)
Female*NoCollege*Early April	-0.002 (0.012)	0.021 (0.015)	0.031** (0.014)
Female*College*April	-0.011 (0.023)	0.001 (0.032)	0.005 (0.033)
Male*College*April	-0.010 (0.024)	-0.012 (0.028)	-0.011 (0.028)
Female* NoCollege*April	0.001 (0.020)	0.044* (0.026)	0.053** (0.025)
Female*College*Early May	-0.002 (0.026)	-0.025 (0.030)	-0.021 (0.030)
Male* College* Early May	0.005 (0.036)	-0.062 (0.041)	-0.060 (0.041)
Female*NoCollege*Early May	0.029 (0.026)	-0.005 (0.032)	0.004 (0.031)
Female*College*Late May	0.034 (0.029)	0.087* (0.046)	0.088* (0.045)

Male* College* Late May	-0.060*	-0.051	-0.050
	(0.035)	(0.057)	(0.057)
Female* NoCollege*Late May	0.001	0.036	0.043
	(0.031)	(0.045)	(0.045)
Female*College*Early June	0.036	-0.021	-0.017
	(0.041)	(0.038)	(0.038)
Male*College*Early June	0.107**	0.056	0.057
	(0.042)	(0.040)	(0.039)
Female*NoCollege*Early June	-0.006	-0.160***	-0.152***
	(0.050)	(0.054)	(0.054)
Female*College*Late June	0.022	-0.004	-0.004
	(0.046)	(0.054)	(0.054)
Male*College* Late June	-0.008	-0.028	-0.021
	(0.053)	(0.054)	(0.054)
Female*NoCollege* Late June	0.022	-0.005	0.001
	(0.044)	(0.052)	(0.053)
Female*College*July	0.151**	0.100	0.118*
	(0.061)	(0.064)	(0.063)
Female*NoCollege*July	0.110*	0.074	0.085
	(0.063)	(0.063)	(0.061)
Kids	-0.031***		
	(0.010)		
Female* Kids	0.039***		
	(0.013)		
Care Only Me Ever		0.029***	
		(0.009)	
Care Only My Partner Ever		-0.020*	
		(0.010)	
Care Others Help		-0.013	
		(0.010)	
Care Always Me			0.051***
			(0.010)
Observations	9,658	4,329	4,329

Note: Standard Errors in parenthesis. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Race, age, and region of residence controls included. Results weighted using population weights to the CPS benchmarks.

*Table 7: Probability of Showing Psychological Distress, Anxiety or Depression Symptoms Among Those Married or Living Together with a Partner (Marginal Effects)*

	<i>Psychological Distress</i>	<i>Anxiety</i>	<i>Depression</i>
Early April	0.086*** (0.021)	0.058*** (0.016)	0.011 (0.014)
April	0.054*** (0.020)	0.039** (0.016)	0.013 (0.014)
Early May	0.023 (0.020)	0.003 (0.016)	0.006 (0.013)
Late May	-0.006 (0.021)	-0.024 (0.017)	0.002 (0.014)
Early June	-0.008 (0.022)	-0.028 (0.017)	0.005 (0.015)
Late June	-0.028 (0.021)	-0.023 (0.017)	-0.006 (0.014)
July	-0.011 (0.021)	-0.023 (0.018)	-0.000 (0.014)
Female	0.087*** (0.024)	0.048*** (0.018)	0.034** (0.017)
Working	-0.095*** (0.020)	-0.062*** (0.014)	-0.084*** (0.013)
Work from Home	0.043** (0.022)	0.022 (0.016)	0.016 (0.016)
College	0.006 (0.018)	0.002 (0.013)	-0.008 (0.012)
Female*Kids*Early April	0.068** (0.028)	0.031* (0.019)	0.031* (0.018)
Female*Kids*April	0.051* (0.026)	0.000 (0.018)	0.011 (0.017)
Female*Kids*Early May	0.043 (0.027)	-0.008 (0.020)	0.013 (0.017)
Female*Kids*Late May	0.040 (0.028)	-0.005 (0.022)	0.014 (0.018)
Female*Kids*Early June	0.036 (0.029)	0.003 (0.023)	-0.009 (0.020)
Female*Kids*Late June	0.050* (0.029)	-0.009 (0.023)	-0.003 (0.019)
Female*Kids*July	0.029 (0.029)	0.019 (0.022)	0.009 (0.019)
Male*Kids*Early April	0.023 (0.033)	0.001 (0.025)	0.051** (0.023)

Male*Kids*April	0.016 (0.032)	-0.014 (0.025)	0.012 (0.023)
Male*Kids*Early May	0.002 (0.033)	-0.008 (0.027)	-0.018 (0.026)
Male*Kids*Late May	-0.015 (0.035)	-0.040 (0.032)	-0.032 (0.029)
Male*Kids*Early June	-0.013 (0.035)	-0.054* (0.031)	-0.011 (0.026)
Male*Kids*Late June	-0.034 (0.037)	-0.099*** (0.035)	0.013 (0.026)
Male*Kids*July	-0.063* (0.038)	-0.068** (0.034)	-0.028 (0.029)
Observations	20,935	20,938	20,950

Note: Standard Errors in parenthesis. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Wave, race, and region of residence controls included. Results weighted using population weights to the CPS benchmarks.

Table 8: Probability of Showing Psychological Distress Among Those Married or Living Together with a Partner and Those Living with School Age Children (Marginal Effects)

	<i>All</i>	<i>Parents</i>	<i>Parents</i>	<i>Parents</i>
	(1)	(2)	(3)	(4)
Early April	0.113*** (0.018)	0.146*** (0.030)	0.145*** (0.031)	0.145*** (0.031)
April	0.075*** (0.018)	0.102*** (0.030)	0.093*** (0.031)	0.093*** (0.031)
Early May	0.039** (0.018)	0.061** (0.031)	0.054* (0.032)	0.055* (0.032)
Late May	0.005 (0.018)	0.022 (0.031)	0.014 (0.032)	0.014 (0.032)
Early June	0.003 (0.019)	0.019 (0.030)	0.009 (0.032)	0.008 (0.031)
Late June	-0.017 (0.018)	-0.001 (0.030)	-0.011 (0.031)	-0.012 (0.031)
July	-0.012 (0.019)	-0.008 (0.032)	-0.010 (0.033)	-0.011 (0.033)
Female	0.096*** (0.024)	0.125** (0.056)	0.142*** (0.031)	0.134*** (0.028)
Working	-0.097*** (0.020)	-0.093*** (0.027)	-0.097*** (0.029)	-0.095*** (0.028)
Working from Home	0.042* (0.022)	0.019 (0.029)	0.020 (0.030)	0.019 (0.030)
College	0.007 (0.018)	0.009 (0.026)	0.017 (0.026)	0.015 (0.026)
Female*Kids Elementary	0.049** (0.024)	0.069* (0.039)		
Female* Kids Middle	0.026 (0.032)	0.032 (0.034)		
Female*Kids High School	0.004 (0.031)	0.014 (0.036)		
Male*Kids Elementary	0.019 (0.028)	0.072* (0.040)		
Male* Kids Middle	-0.008 (0.042)	0.019 (0.041)		
Male* Kids High	0.020 (0.036)			
Care Only Me Ever			0.031 (0.030)	
Care Only Partner Ever			0.043 (0.032)	

Care Others Help			-0.008	
			(0.030)	
Care Always Me				0.019
				(0.032)
<u>Observations</u>	<u>20,935</u>	<u>9,587</u>	<u>8,821</u>	<u>8,821</u>

Note: Standard Errors in parenthesis. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Wave, race, and region of residence controls included. Results weighted using population weights to the CPS benchmarks.