

# GENDER DIFFERENCES IN COUPLES' DIVISION OF CHILDCARE, WORK AND MENTAL HEALTH DURING COVID-19

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USC CESR

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# BACKGROUND

Reasons to believe this pandemic could affect working women more than working men in the U.S.

## **Service industry largest sectoral impact**

- Due to social distancing.
- Unlike prior recessions (manufacturing, construction, or trade)

## **Increased need for childcare**

- School and daycare closures, virtual classes.
- Health risks prevent informal childcare providers.

## **Mothers do most of childcare**

- Even in two-parent households.
- Childcare arrangements are crucial determinants of female labor supply (Heckman, 1974; Domeij and Klein, 2012)

# THE COVID-19 CRISIS COULD MAGNIFY GENDER DIFFERENCES WITHIN HOUSEHOLDS

- Measure gender differences in terms of:
  - Childcare provision,
  - Employment and working arrangements, and
  - Psychological distress.
- Sample: Adults married or living with a partner.
  - Parents of school-age children (Kindergarten to 12th grade)

# DATA

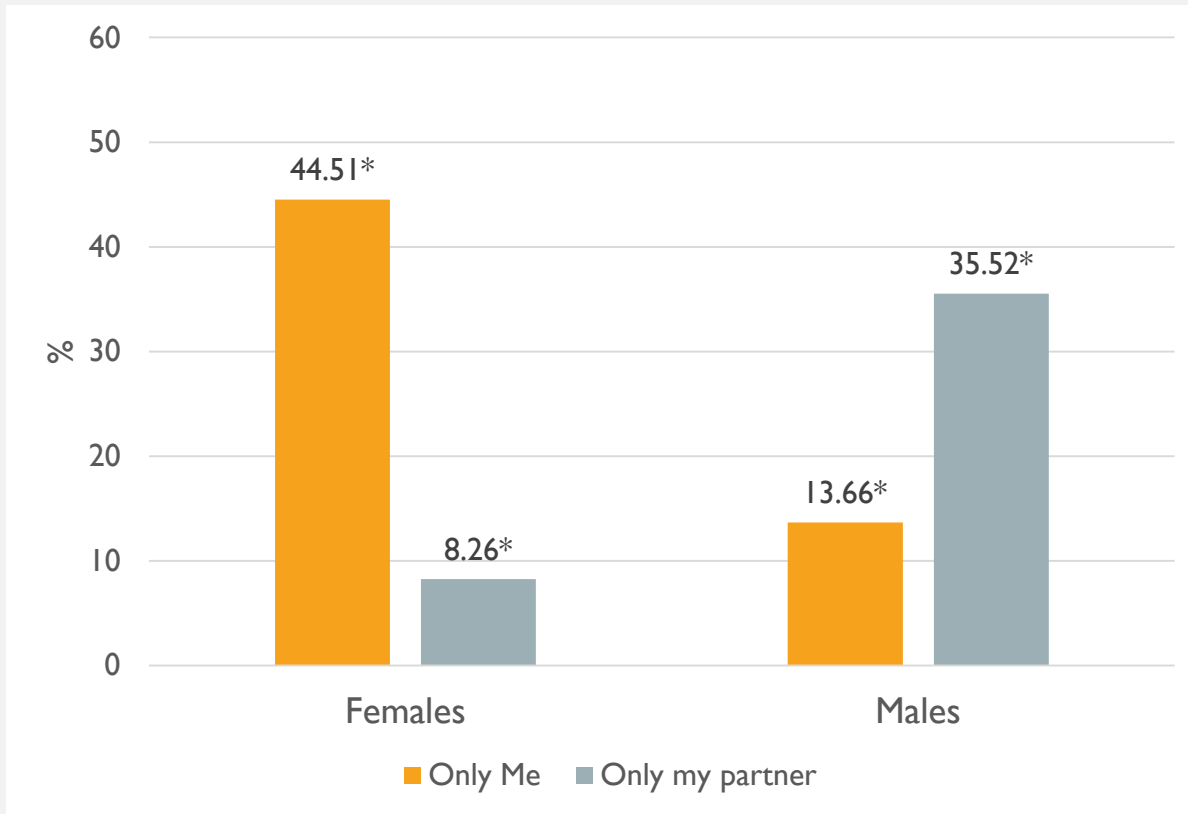


- Participants are members of the Understanding America Study (UAS)
  - The UAS is a probability-based household internet panel, comprising a nationally representative sample of approximately 9,000 US respondents
  - Around 7,000 respondents agreed to participate in the Coronavirus ongoing surveys
- Tracking Survey
- Collected approximately every two weeks since pandemic started
- Our main sample:
  - 8 waves from March 10th to July 21st, 2020
  - Married/partnered, 18-65 y-o. 3,980 unique respondents (26,052 obs. )
- Full sample: March-October 2020

# GENDER DIFFERENCES IN CHILDCARE PROVISION APRIL 2020

Who is Primary Responsible for Providing Care When School is Closed?

All Parents



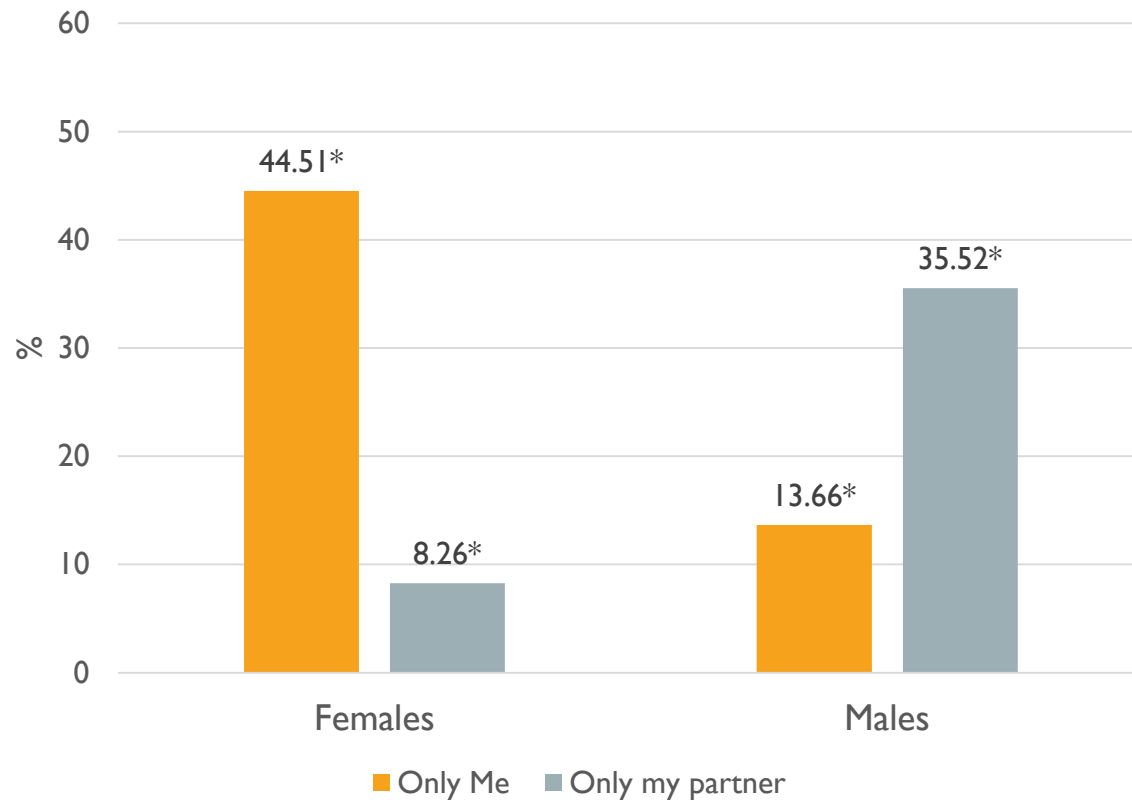
Note: Categories “Both responsible” and “Other people help” omitted from charts.

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

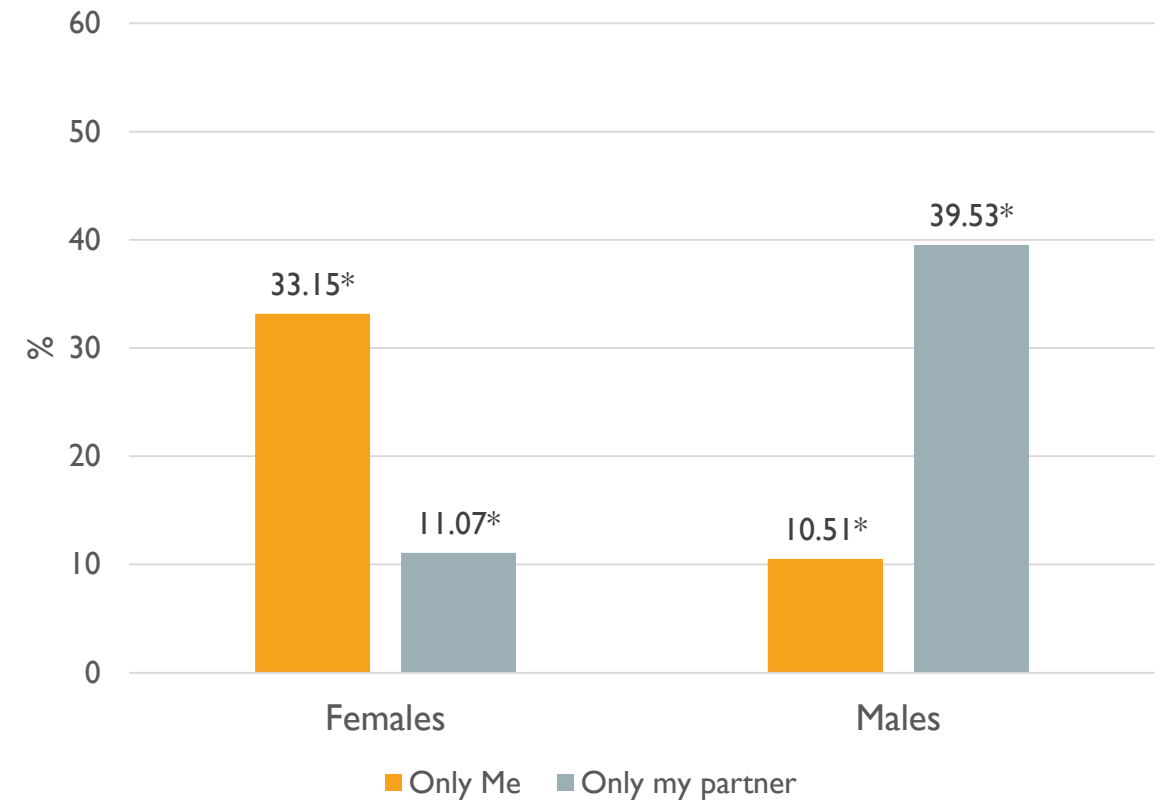
# GENDER DIFFERENCES IN CHILDCARE PROVISION APRIL 2020

Who is Primary Responsible for Providing Care When School is Closed?

All Parents



Working Parents



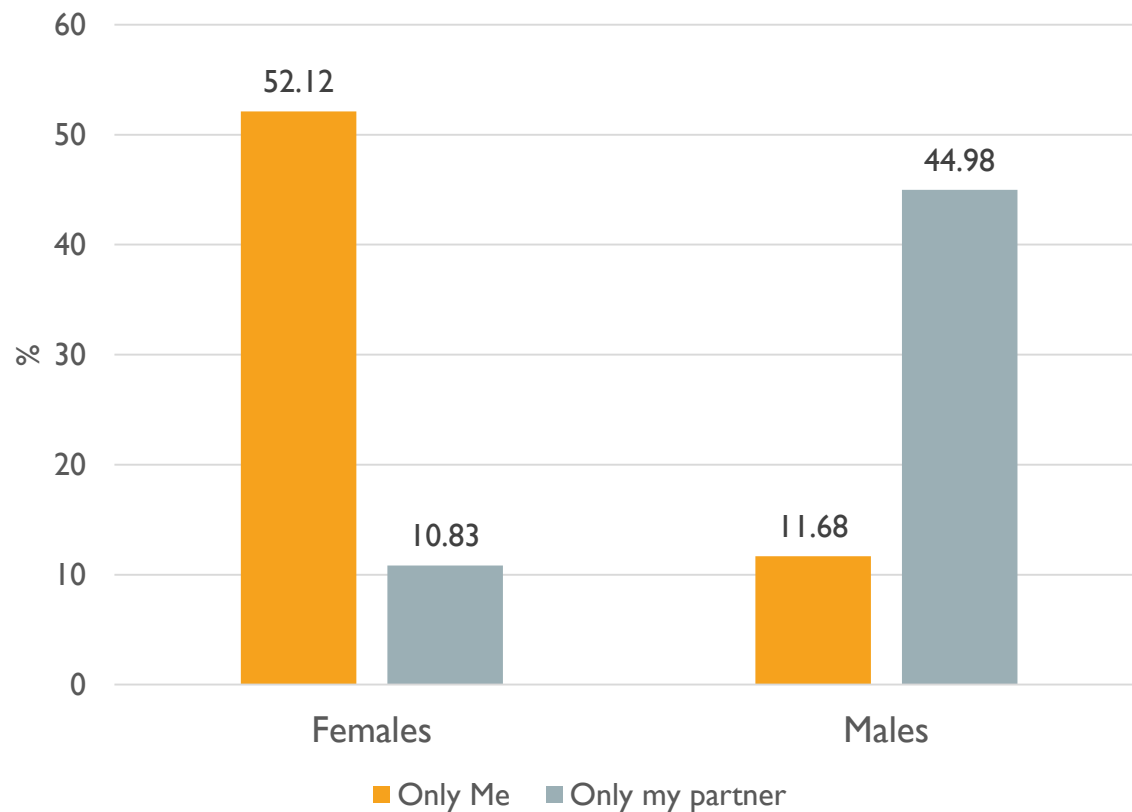
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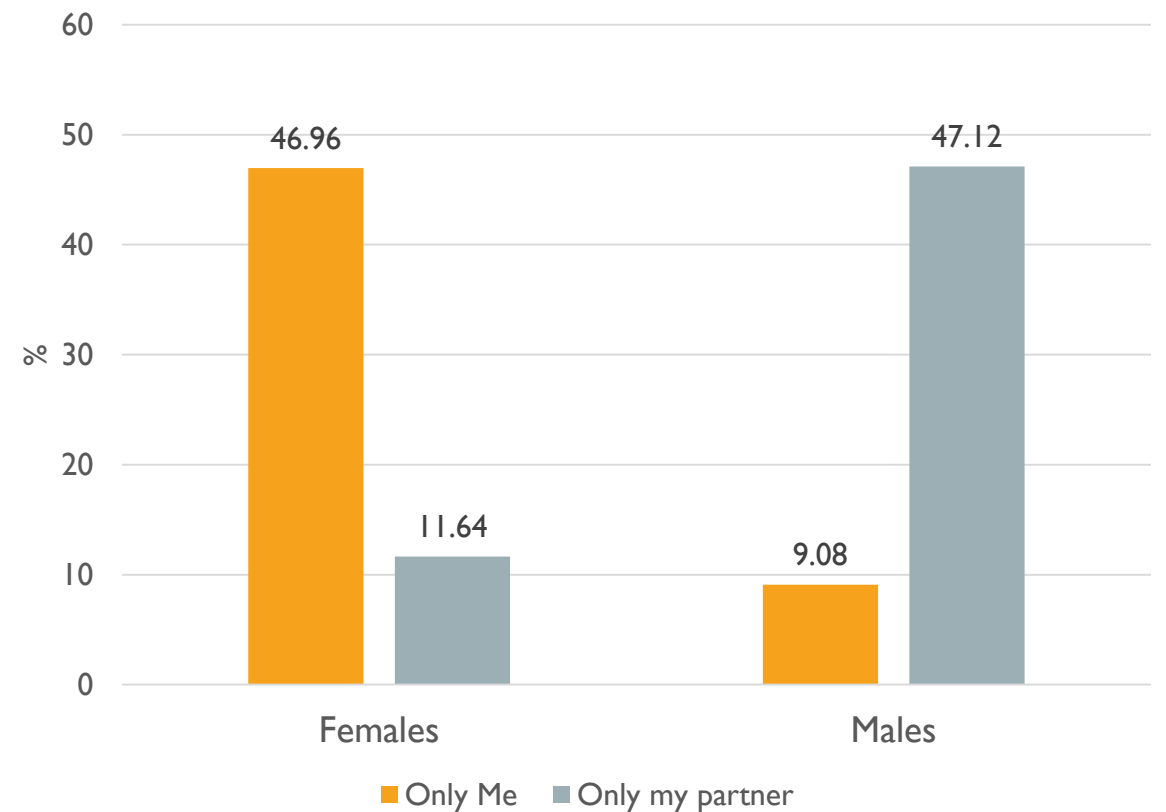
# GENDER DIFFERENCES IN CHILDCARE PROVISION FRESH DATA (SEPTEMBER)

Who is Primary Responsible for Providing Care When School is Closed?

All Parents



Working Parents



Note: Categories "Both responsible" and "Other people help" omitted from charts.

# CHILDCARE ARRANGEMENTS APRIL-MAY 2020 (MULTINOMIAL DISCRETE CHOICE LOGIT)

*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.



# PROBABILITY OF BECOMING MAIN CHILDCARE PROVIDER APRIL-MAY 2020 (DISCRETE DURATION)

*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

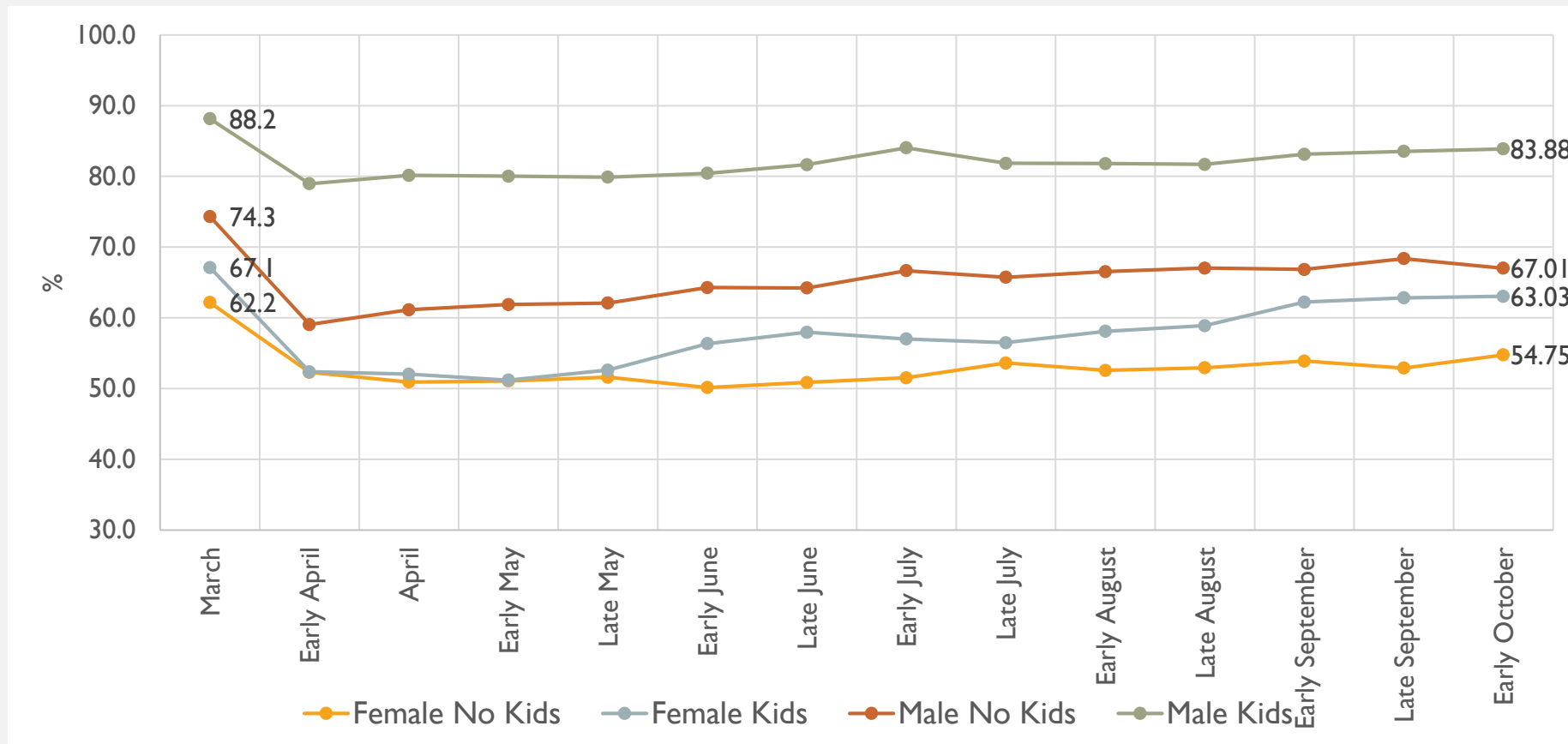
Note: Standard Errors in parenthesis. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Wave, race, age, and region of residence controls included. Results weighted using population weights to the CPS benchmarks.

FACT #1:  
MOTHERS HAVE  
BEEN CARRYING A  
HEAVIER LOAD  
ON THE  
PROVISION OF  
CHILDCARE  
DURING THE  
PANDEMIC

- 47% of married or cohabitating working mothers are the **main provider** of care for their children as compared to 9% of men.
- Gender imbalance higher in September than April 2020.
- **Working mothers** are 27 percentage points more likely to be the main providers of childcare than working men (July)
- Working mothers are also **more likely to become the main provider of care**, even if they were not at the beginning of the crisis. (July)
  - Women were 17 percentage points more likely than men to become the sole childcare provider at some point between April and July 2020 in our U.S. sample.

# GENDER DIFFERENCES IN EMPLOYMENT

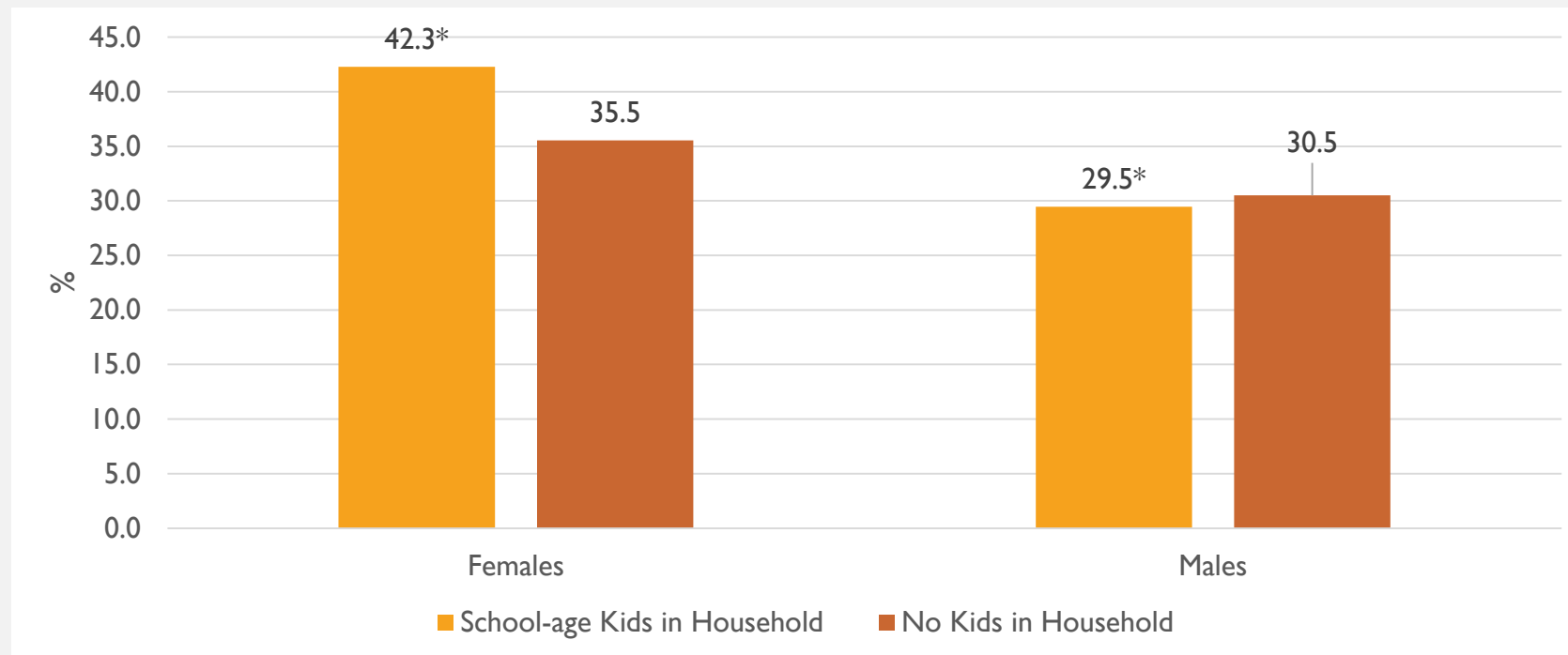
Percentage of Respondents, Married or Partnered, Who Declare Being Employed by Gender and K12 Children in Household.



Note: Results weighted using population weights to CPS benchmarks.

# GENDER DIFFERENCES IN WORKING HOURS

## Ever Reduced Work Hours between March and July – By Whether Kids in Household



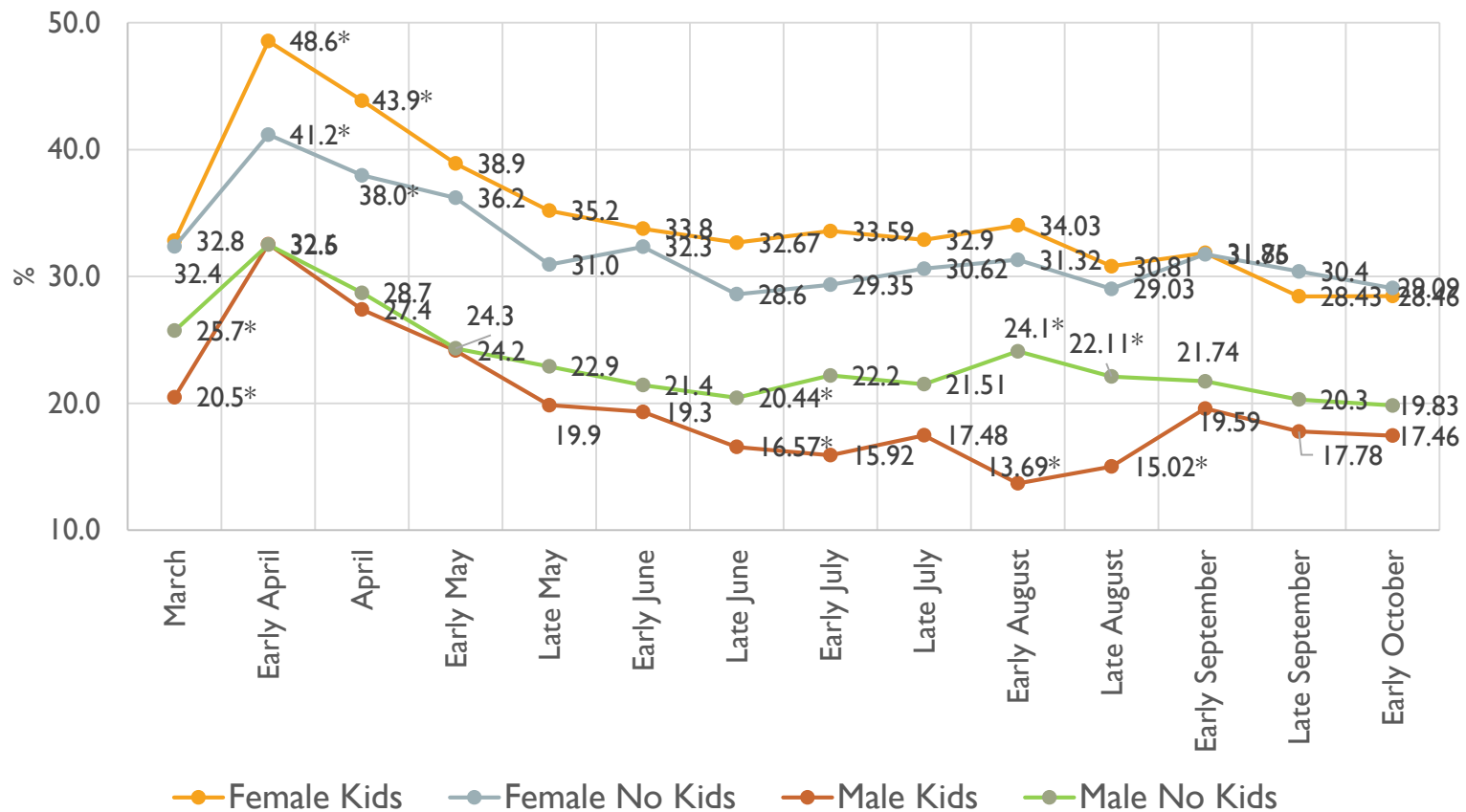
Note: \* Denotes statistically significant gender differences at the 95% confidence level. Results weighted using population weights to the CPS benchmarks

FACT #2:  
IMPACT ON  
WORK  
DEPENDS ON  
CHILDREN  
(K12) IN THE  
HOUSEHOLD

- Reduction in working hours between March and July 2020:
  - 42% of working mothers
  - 30% of working fathers
  - No statistically significant gender differences among those without school-age children.
- Estimation results from logit models (March-July 2020) indicate increased childcare responsibilities associated with:
  - Reduction of working hours (20 percentage points)
  - Increased probability of transitioning out of employment (5 percentage points)
  - Working mothers are about 17 percentage points more likely to have reduced their working hours than working women without children and than working fathers.

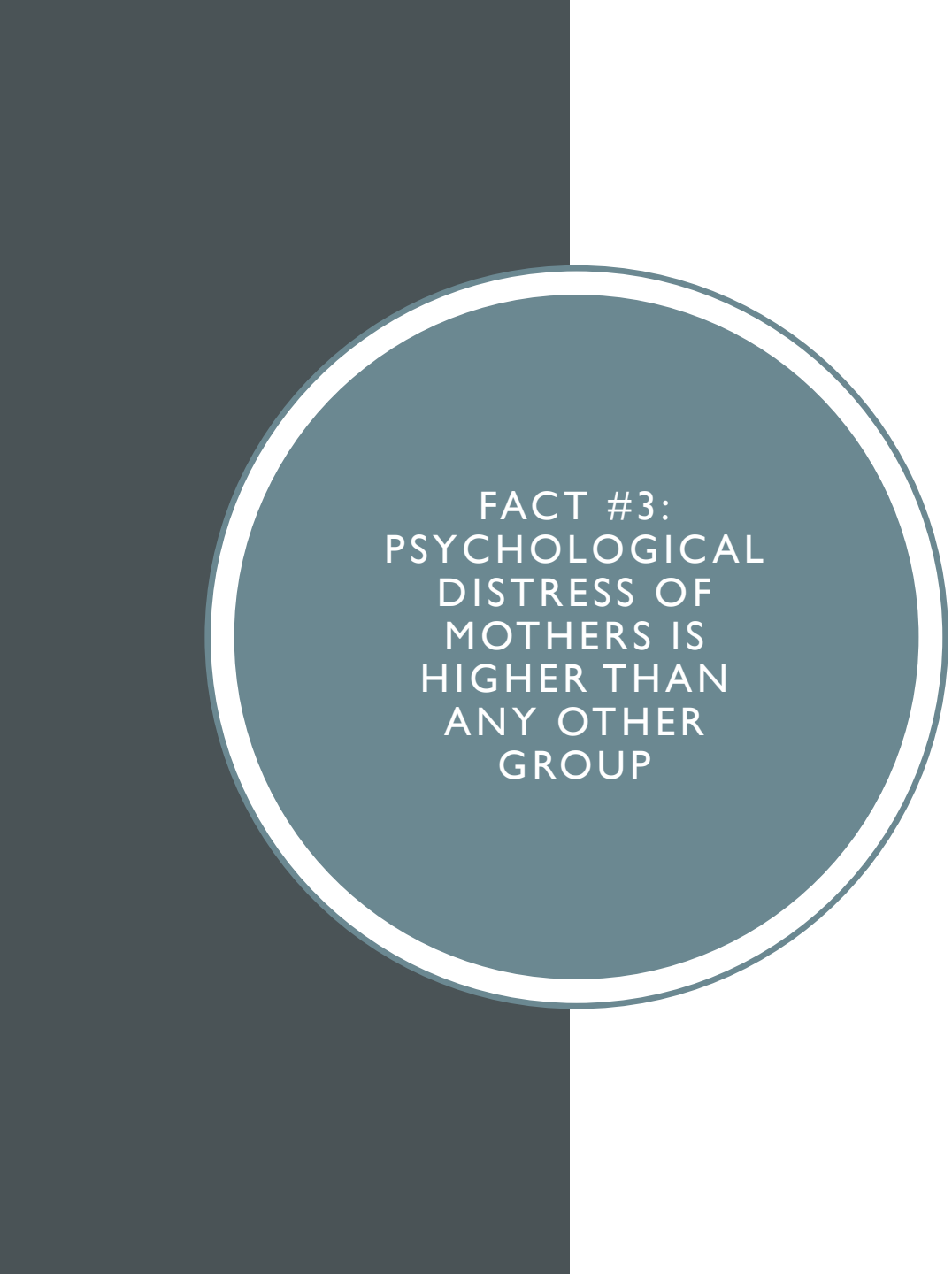
# GENDER DIFFERENCES IN PSYCHOLOGICAL DISTRESS

## Psychological Distress Among Those Married or Living Together - By Gender and Whether There Are K12 Kids in the Household



- The Patient Health Questionnaire-4 (PHQ-4) scale of psychological distress
- 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 in four frequency categories.
- A score of 3 or more is considered at least mild symptoms

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



FACT #3:  
PSYCHOLOGICAL  
DISTRESS OF  
MOTHERS IS  
HIGHER THAN  
ANY OTHER  
GROUP

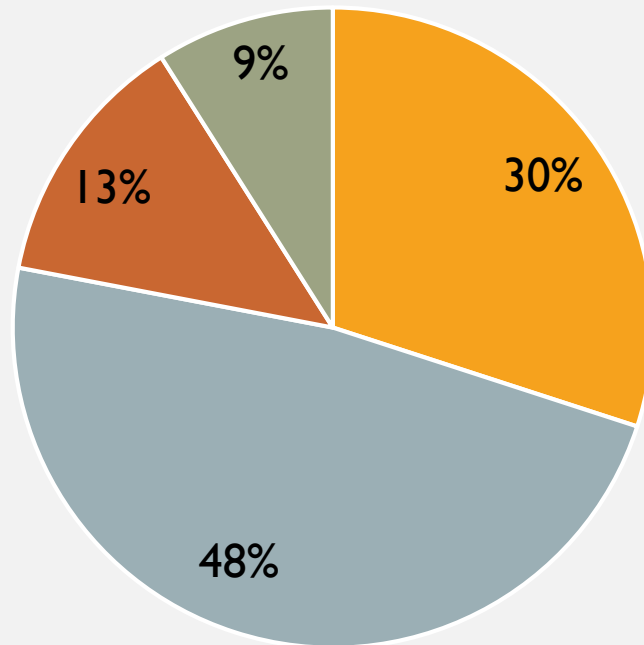
- A gap in psychological distress emerged between mothers and women without school-age children in the household in early April.
- By July, this appears to be driven by those women who reported living with elementary school-age children in the household.
- Good news? The patterns of psychological distress look similar in October and March. (work in progress)

## TAKEAWAY

- **Mothers are bearing more of the extra childcare responsibilities** during the pandemic, **regardless of their working status:** Working mothers are 27 percentage points more likely than working men to be the main providers of childcare by July.
- (Prelim: By October, **47% of working mothers are main childcare provider** vs. 9% of working fathers)
- **Increased childcare responsibilities (March-July)** associated with:
  - Reduction of working hours (20 percentage points) and
  - Increased probability of transitioning out of employment (5 percentage points)
- 34% of mothers show **psychological distress** in July 2020, significantly higher than any other group.
- (Prelim: Gap in psychological distress within women (with v. without K12 children) seems to narrow by October.)
- Ongoing work: As the schooling crisis persists, we are studying the longer-term effects that the COVID-19 crisis is having on working mothers.



# FRESH DATA (SEPTEMBER) K12 SCHOOLING

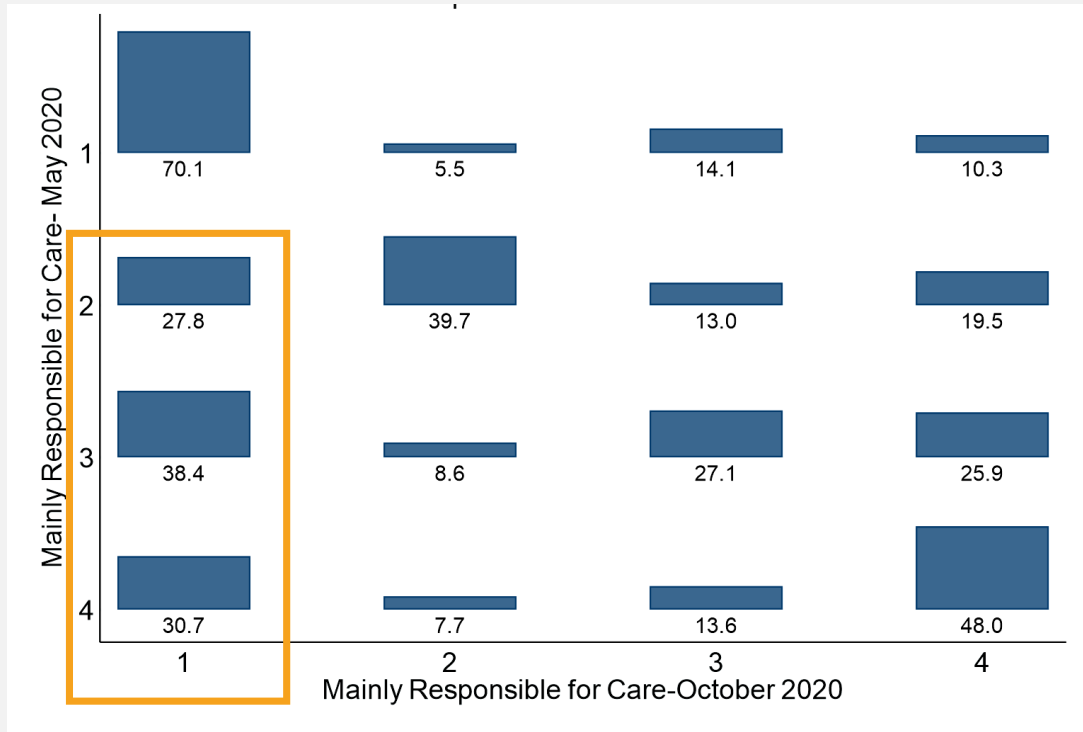


■ In person ■ Online ■ Hybrid ■ Homeschool

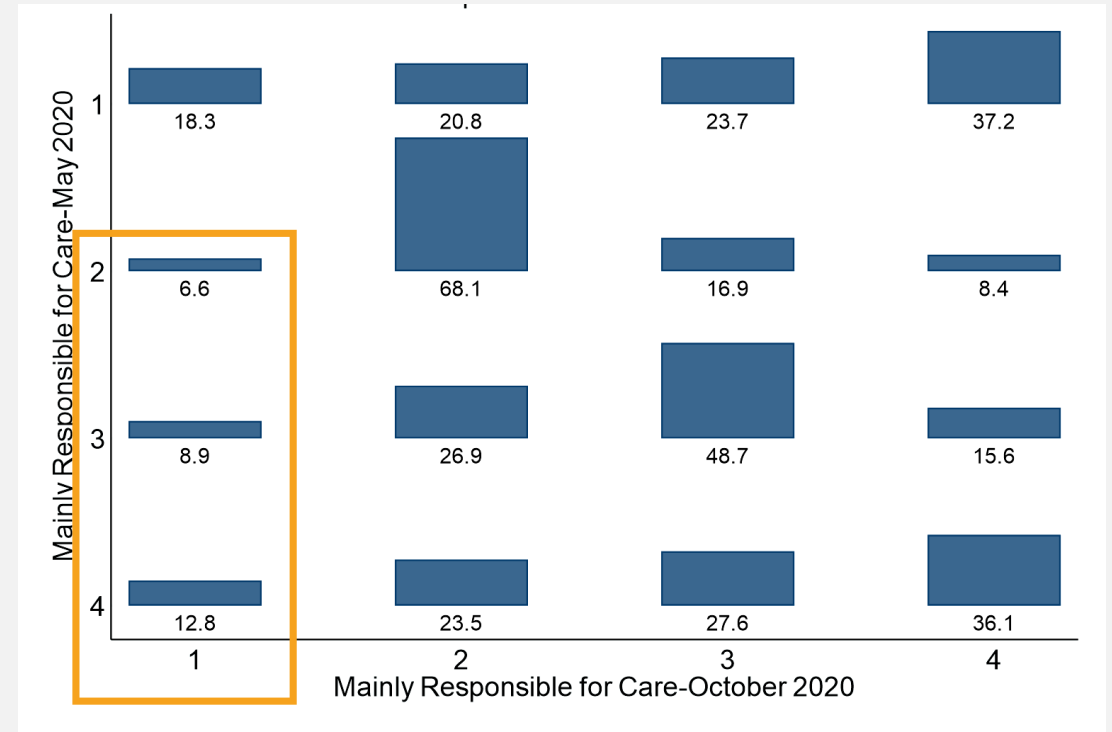
# FRESH DATA (OCTOBER) CHANGES IN CHILDCARE RESPONSIBILITY

Transitions in Childcare Arrangements Between May and October 2020, By Gender

Mothers

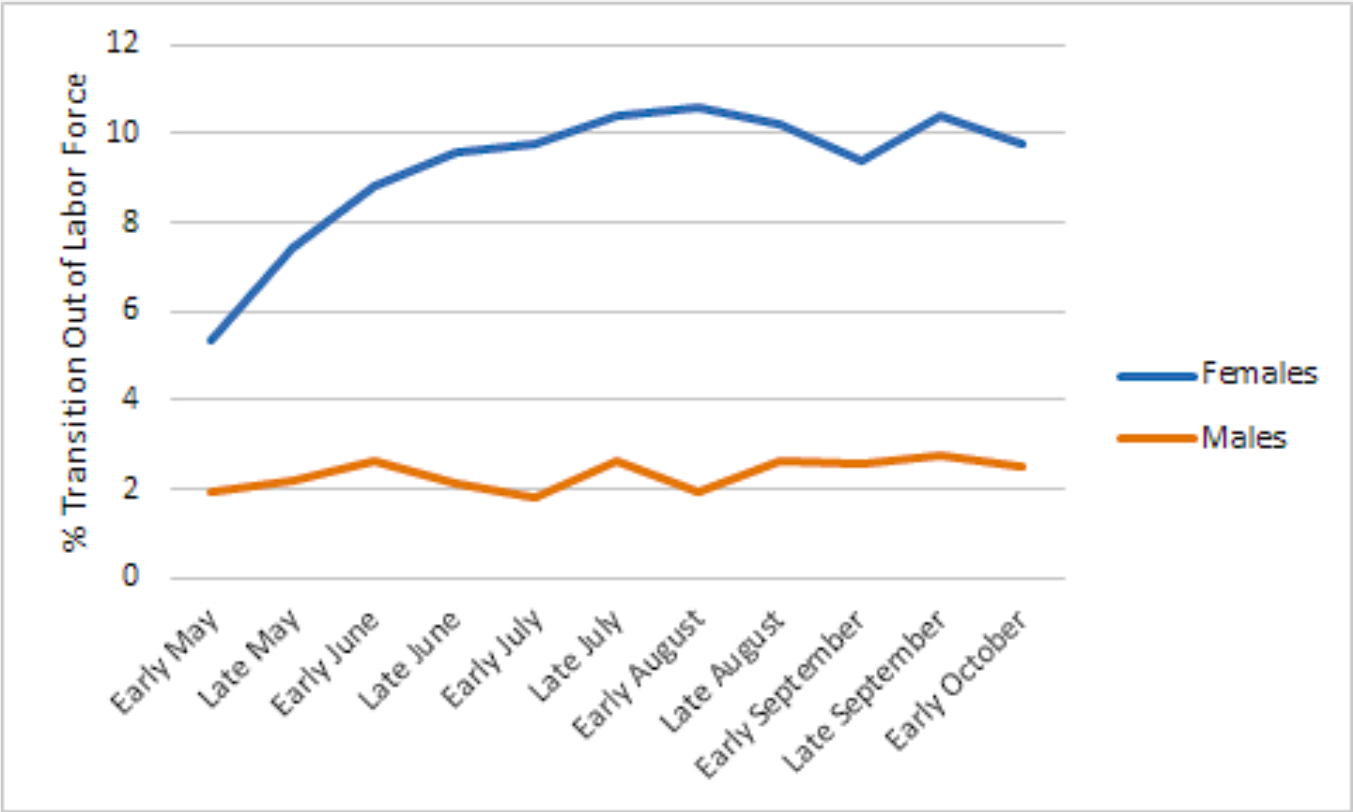


Fathers



Note: 1 represents “only me”; 2 represents “only my partner”; 3 represents “both”; and 4 represents “others help”.

# PRELIMINARY: PROBABILITY TO TRANSITION OUT OF THE LABOR FORCE



Those who transition out of the labor force are also more likely to declare being the main childcare provider in October and they are doing more online education or homeschooling.

EXTRA SLIDES

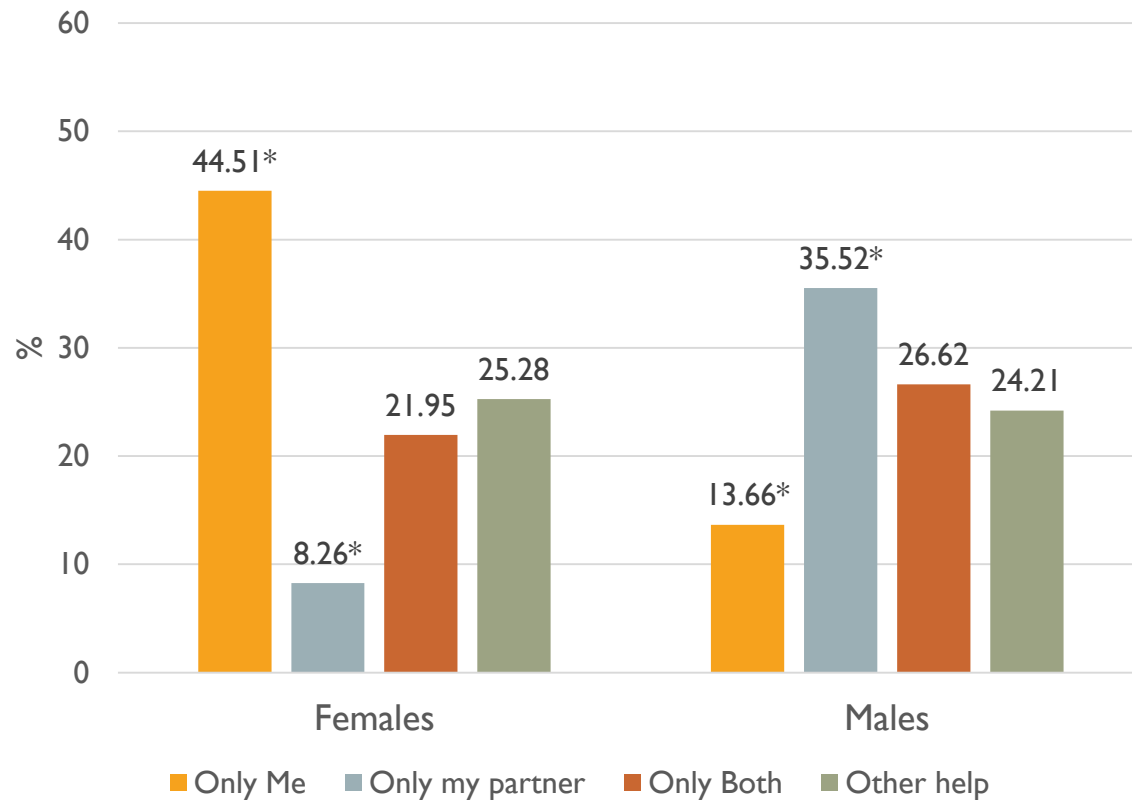
# DESCRIPTIVE STATISTICS

	Mean	Standard Deviation
Female	0.51	0.50
Age	44.30	11.74
West	0.23	0.42
Midwest	0.21	0.40
Northeast	0.17	0.37
South	0.40	0.49
White	0.65	0.48
African American	0.10	0.29
Hispanic	0.20	0.40
Other Race	0.06	0.23
College	0.41	0.49
Working in March	0.72	0.45
Can Work from Home	0.40	0.49
Asked to Work from Home	0.42	0.49
School-Age Kids	0.47	0.50

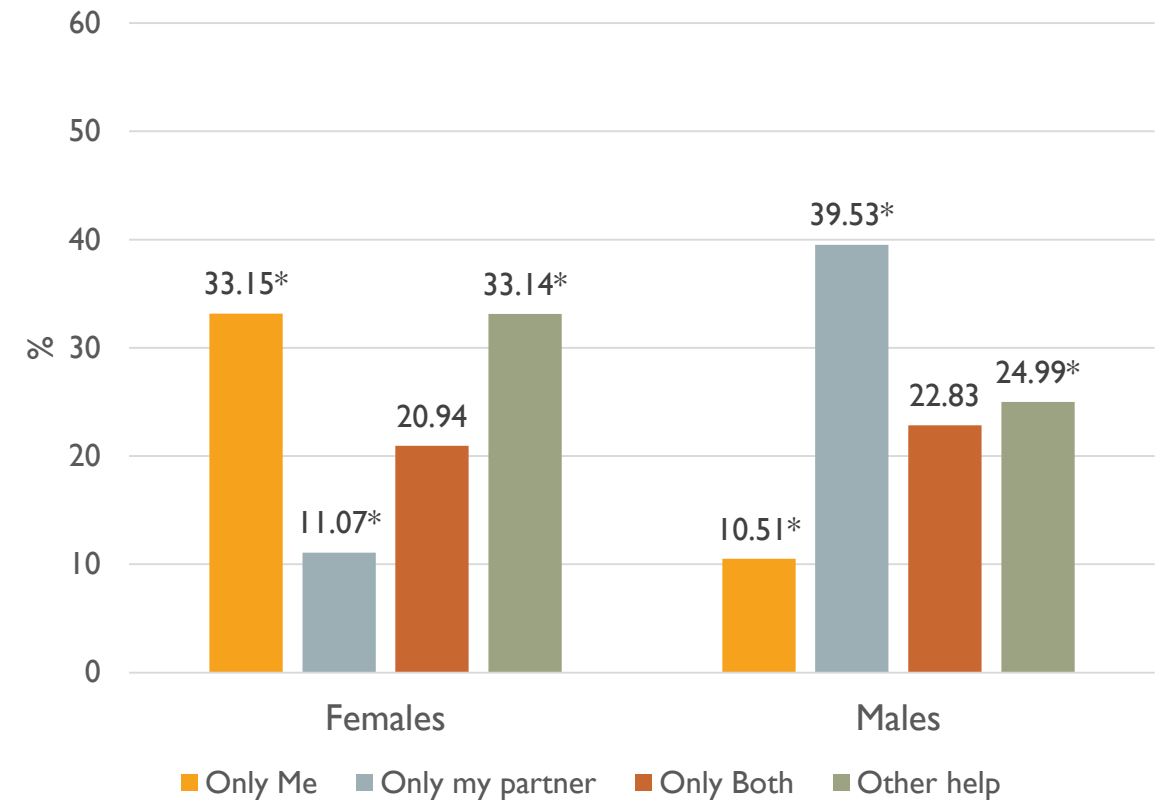
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Working Parents

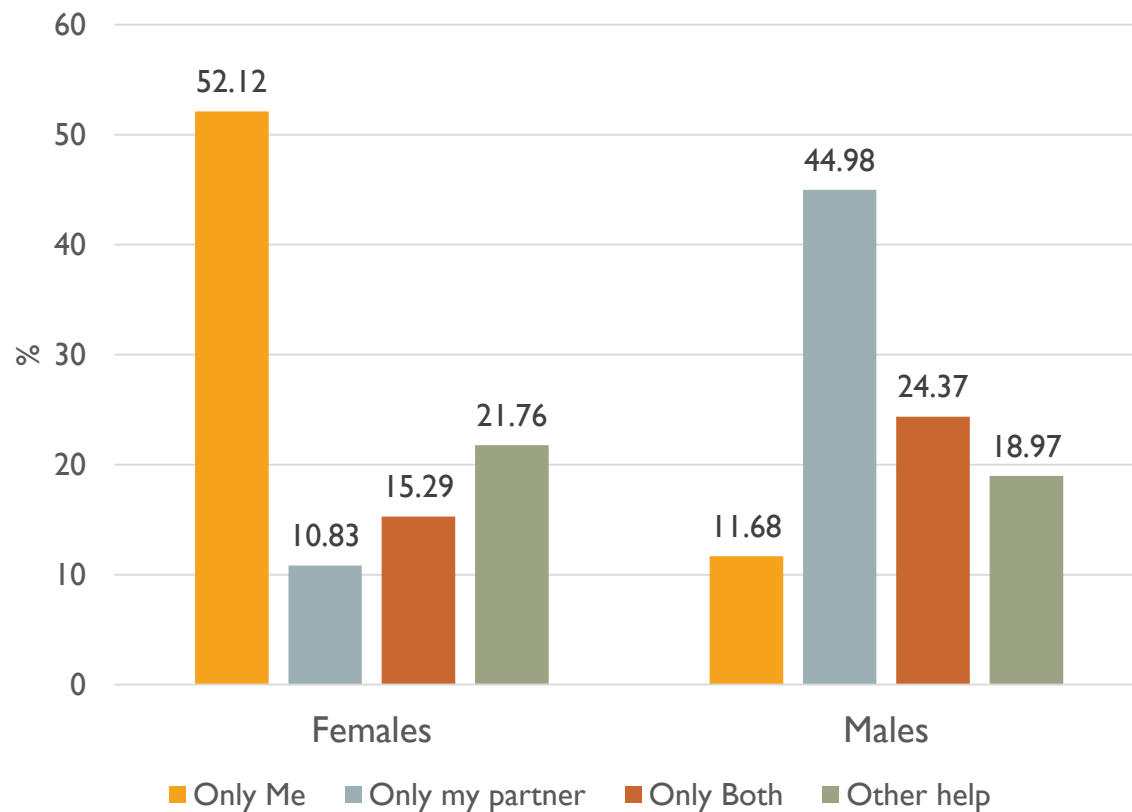


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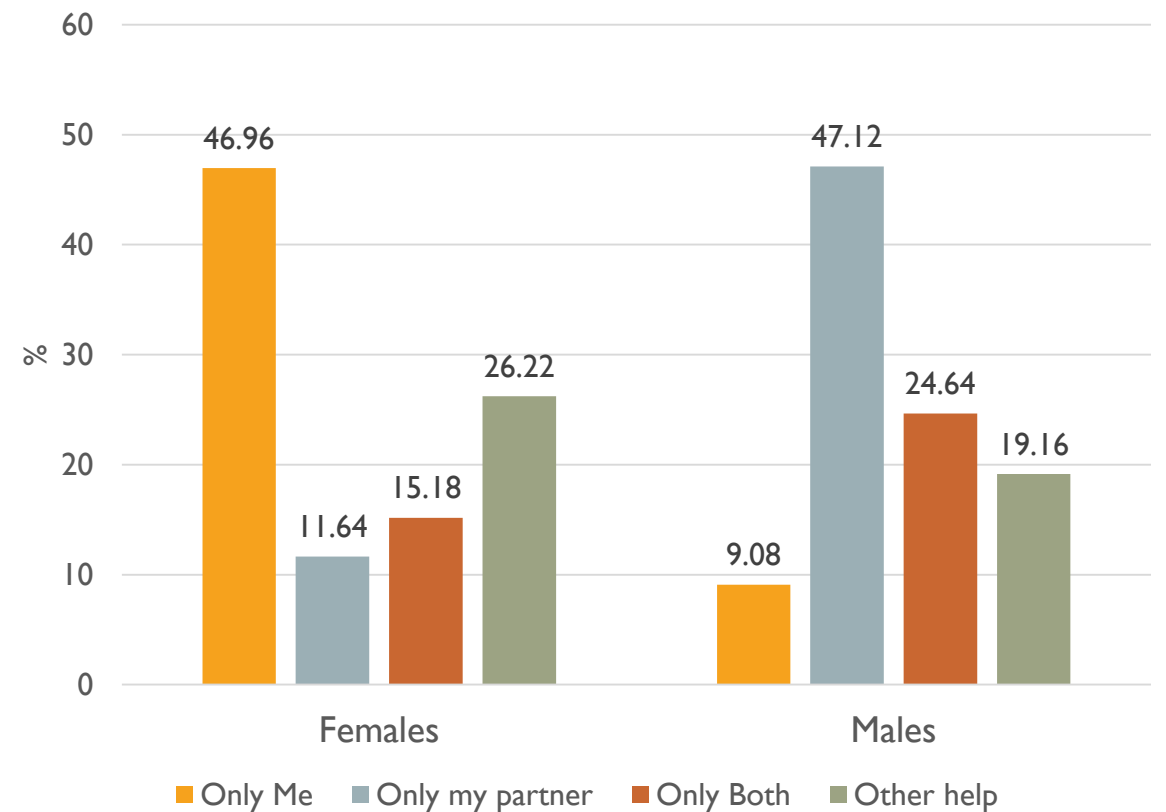
# GENDER DIFFERENCES IN CHILDCARE PROVISION FRESH DATA (SEPTEMBER)

Who is Primary Responsible for Providing Care When School is Closed?

All Parents



Working Parents



# EMPIRICAL MODEL: CHILDCARE ARRANGEMENTS

- We use a multinomial discrete choice logit model to study the provision of childcare:

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

*j = Only Me; Only My Partner; Only Both; Others Help*

- 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



# CHILDCARE ARRANGEMENTS APRIL-MAY 2020 (MULTINOMIAL DISCRETE CHOICE LOGIT)

*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.

# EMPIRICAL MODEL: MAIN CHILDCARE PROVIDER

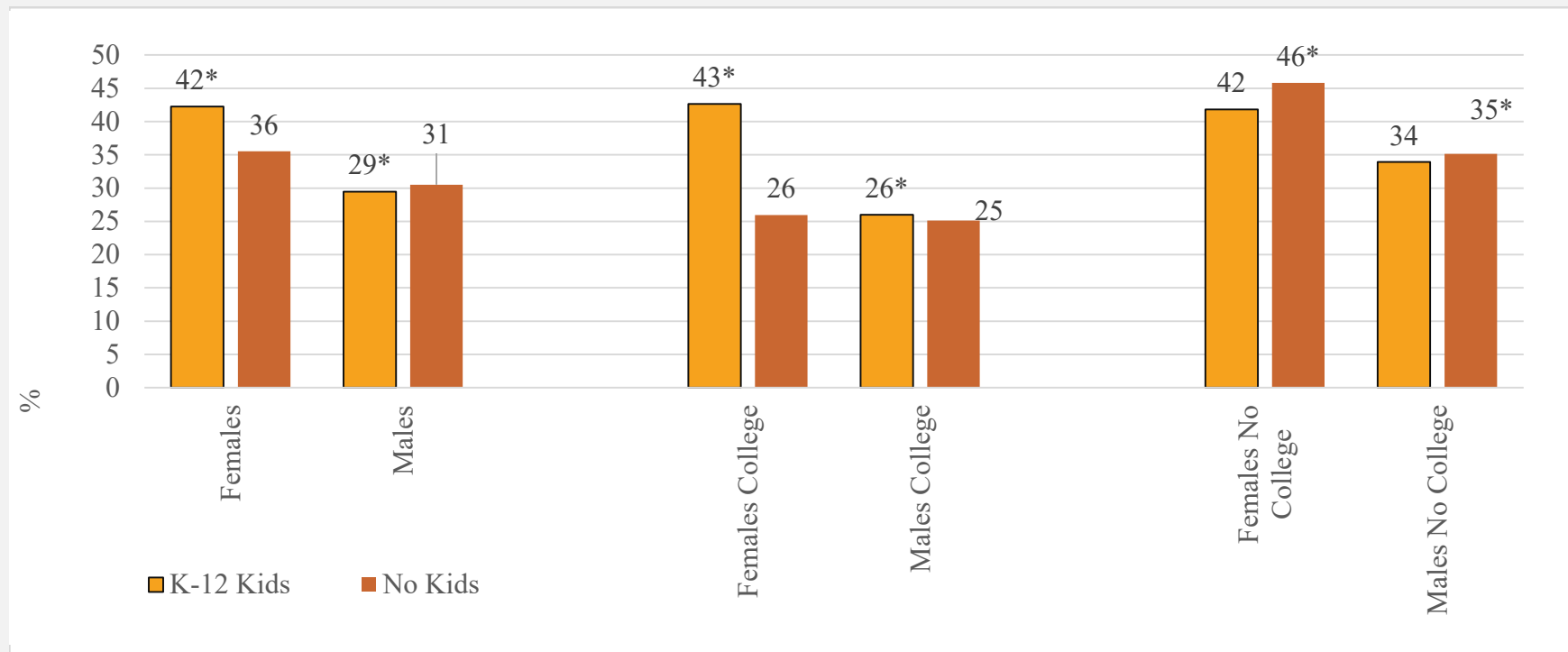
- We also estimate a discrete duration model for the probability of becoming the main provider of childcare in the household following this logistic discrete duration model:

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

$$t = 3,4$$

# GENDER DIFFERENCES IN WORKING HOURS (MARCH– JULY 2020)

**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

# EMPIRICAL MODEL: WORKING HOURS

- We focus on those respondents who held the same job since March 2020
- We build an indicator variable if the respondent reports anytime from April to July that they had to reduce their working hours
- We estimate the following logistic regression:

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

# RESULTS

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.

# EMPIRICAL MODEL: EMPLOYMENT

- Among those employed in March, we further study the determinants of transitions out of employment in subsequent waves of data from April to July by estimating the following logistic discrete duration model:

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

t=2,3,4,5,6

# RESULTS

Table 6: Probability of Leaving Employment (Marginal Effects)

	All	Parents	Parents
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)
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

# EMPIRICAL MODEL: PSYCHOLOGICAL DISTRESS (MARCH-JULY 2020)

- 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:

$$\begin{aligned} & \Pr(\textit{Psychological Distress}_{it} | X) \\ &= \Phi(\beta_0 + \gamma^{\textit{Wave}} + \beta_1 \textit{Region}_i + \beta_2 \textit{Race}_i + \beta_2 \textit{Female}_i + \beta_3 \textit{College}_i \\ &+ \beta_4 \textit{Working}_i + \beta_5 \textit{WorkingFrom Home}_i + \beta_5^W \textit{Female} * \textit{Kids}_i \\ &+ \beta_6^W \textit{Male} * \textit{Kids}_i) \end{aligned}$$



# RESULTS

Table 8: Probability of Showing Psychological Distress Among Those Married or Living Together (Marginal Effects)

	<i>All</i>	<i>Parents</i>	<i>Parents</i>	<i>Parents</i>
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)

	<i>All</i>	<i>Parents</i>	<i>Parents</i>	<i>Parents</i>
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)
Observations	20,935	9,587	8,821	8,821