



TEXAS TECH UNIVERSITY™



Impacts of COVID-19 on the Self-employed

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Introduction



Why do we care about the unincorporated self-employed in the United States?

- They make up 6% of all employment (BLS, February 2020) and are economically vulnerable.
- Unemployment insurance does not typically apply to them; however, Pandemic Unemployment Assistance (PUA) was offered during this pandemic.
- They were more likely to do *some* work at home pre-COVID than wage and salary workers (BLS 2019).

Introduction



Why do we care about the unincorporated self-employed in the United States?

- COVID-19 had larger effect on the service sector.
 - 91 percent of female self-employed in service sector versus 86 percent of female wage-and-salary workers.
 - 60 percent of male self-employed in service sector versus 67 percent of male wage-and-salary workers.
- Women are more likely to select into self-employment to have more flexibility between work and home responsibilities (Lim 2019).

Contribution



What do we do?

- Examine the initial impact of COVID-19 on the employment and hours of unincorporated self-employed workers in the United States.
- Examine how these impacts differ by gender, marital status, gender/marital status, and parental status.
- Examine whether the “essential industry” designation or the potential to work remotely matters for employment and hours of these workers.

Data



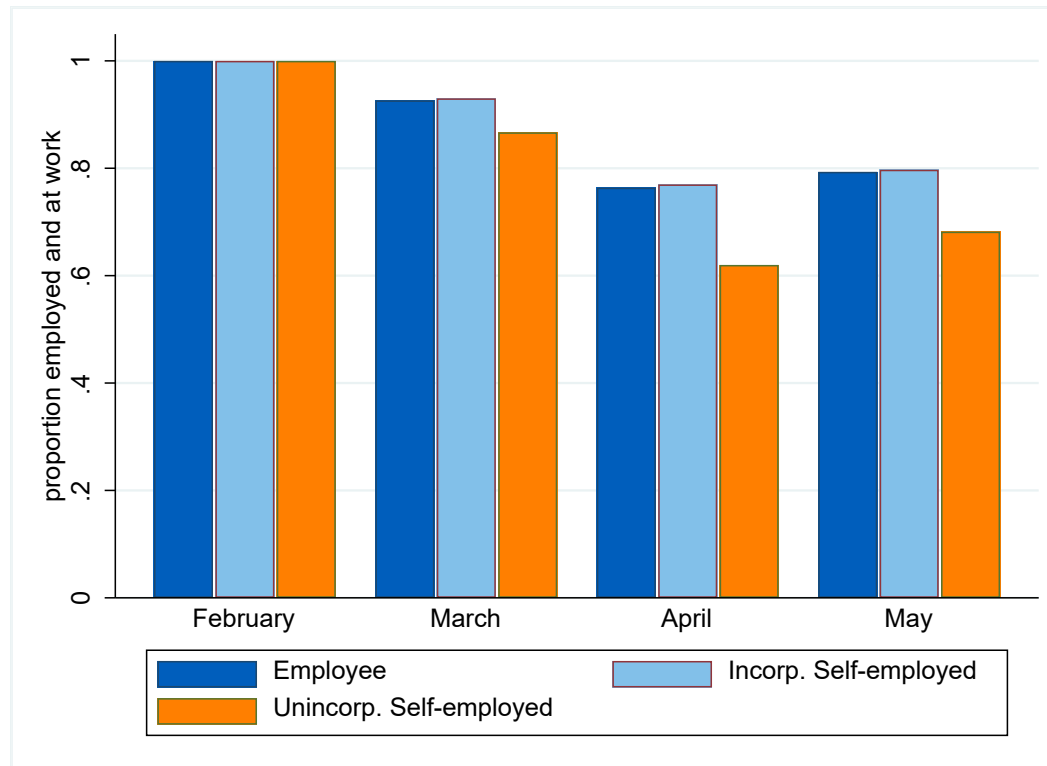
What data do we use?

- Current Population Survey (CPS) monthly panel
 - February, March, April, and May 2020 (for RE models)
 - February and April 2019 and February and April 2020 (for DDD models)
- Data on teleworkable jobs (Dingel and Neiman 2020) and Delaware State’s designations of “essential” businesses

Descriptive Analysis



Employed and at work in 2020 by worker type



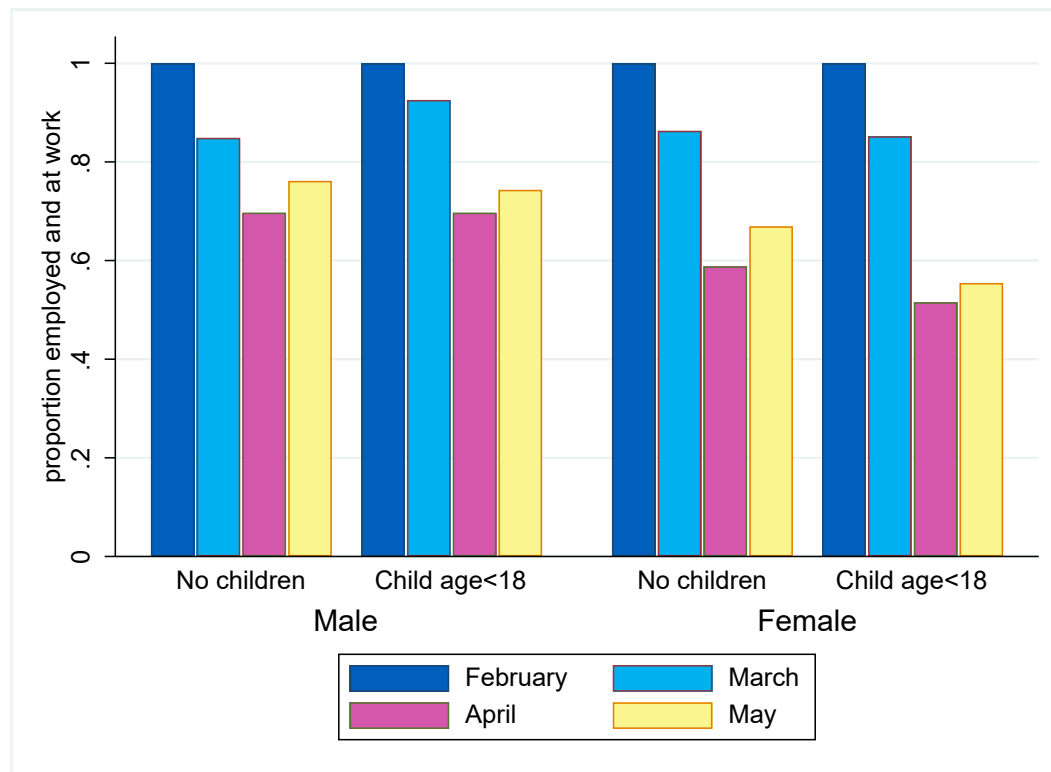
Note: All workers were at work in February 2020.

Source: Current Population Survey



Descriptive Analysis

Unincorporated self-employed who were at work (married individuals, by parental status)



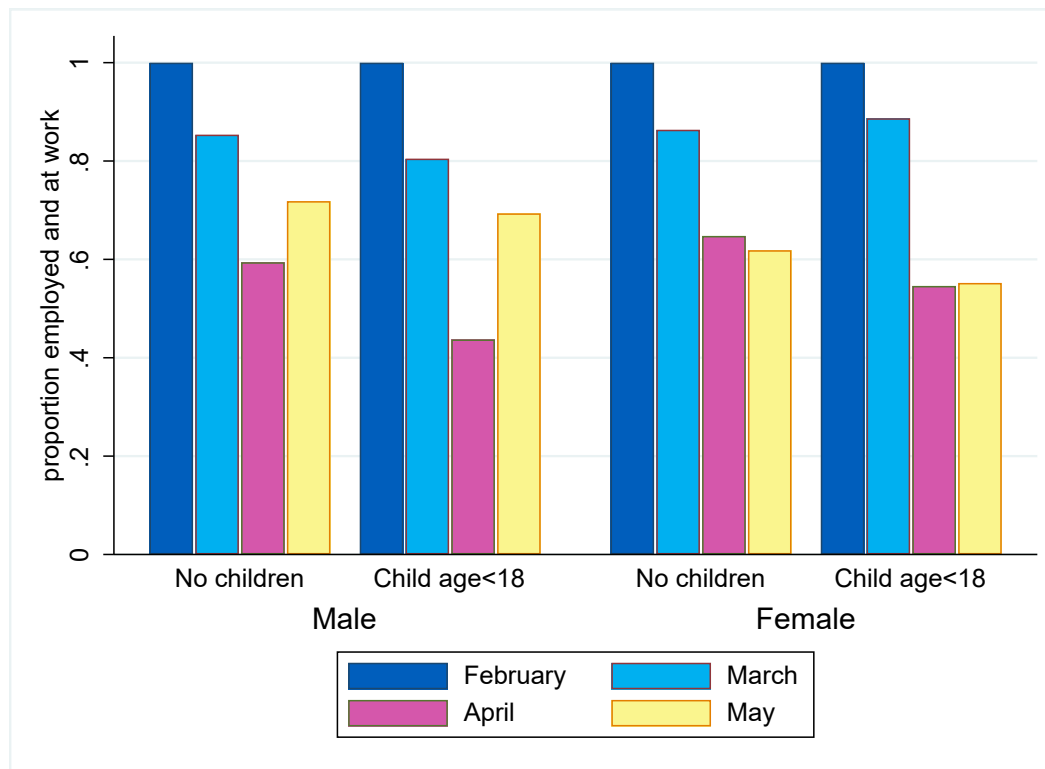
Note: All workers were self-employed and at work in February 2020.

Source: Current Population Survey



Descriptive Analysis

Unincorporated self-employed who were at work (single individuals, by parental status)



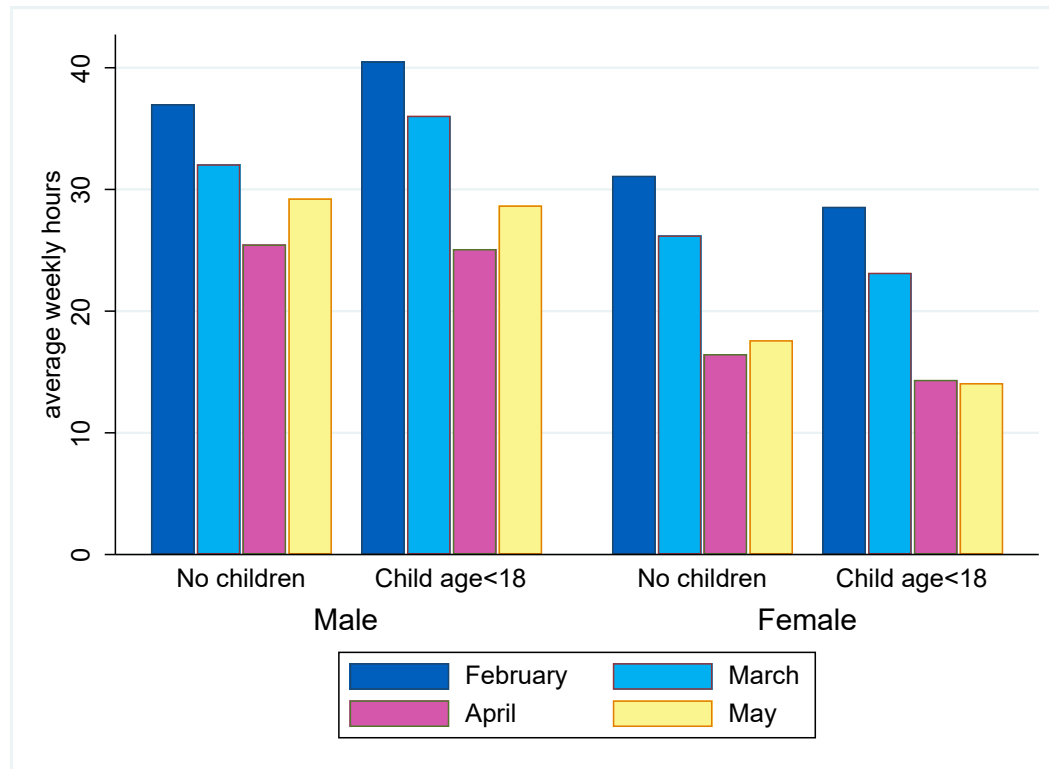
Note: All workers were self-employed and at work in February 2020.

Source: Current Population Survey



Descriptive Analysis

Average weekly hours worked (married individuals, by parental status)

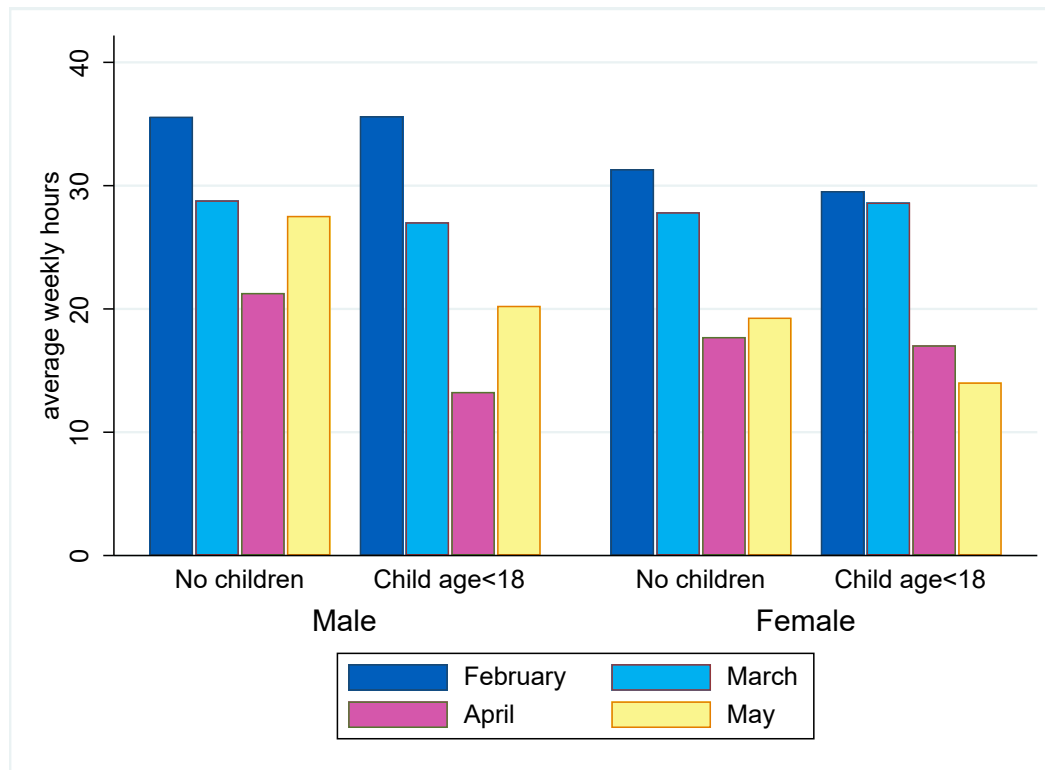


Note: All workers were self-employed and at work in February 2020.
Source: Current Population Survey



Descriptive Analysis

Average weekly hours worked (single individuals, by parental status)



Note: All workers were self-employed and at work in February 2020.
Source: Current Population Survey



Multivariate Analyses

Models



What models do we estimate?

- Random-effects (RE)
- Difference-in-Difference-in-Differences (“triple” difference) (DDD)
- For employment regressions, we estimate linear models
- For hours regressions, we estimate tobit models

Controls: quadratic in age, #extra adults in HH, and indicators for age 65+, married, cohabiter, female, education level, race/Hispanic ethnicity, immigrant, age of child (<6, 6–17), MSA, state, remote job, essential industry, spouse employed, spouse remote job, spouse essential industry, major industry, major occupation, spouse major industry

Differences in Predicted Probabilities of Being Employed and At Work (RE models)



Worker Types	March-Feb	April-Feb	May-Feb
Unincorporated SE	-0.11**	-0.36**	-0.31**
Incorporated SE	-0.06**	-0.18**	-0.14**
Employee	-0.07**	-0.21**	-0.18**
Differences between worker types			
Unincorporated SE - Incorporated SE	-0.05**	-0.18**	-0.16**
Unincorporated SE - Employee	-0.05**	-0.15**	-0.12**

* $p < 0.05$, ** $p < 0.01$

Differences in Predicted Hours Worked Last Week (RE models)



Worker Types	March-Feb	April-Feb	May-Feb
Unincorporated SE	-5.12**	-15.60**	-13.58**
Incorporated SE	-2.87**	-10.45**	-7.16**
Employee	-2.75**	-8.73**	-8.23**
Differences between worker types			
Unincorporated SE - Incorporated SE	-2.25**	-5.15**	-6.42**
Unincorporated SE - Employee	-2.37**	-5.87**	-5.35**

* $p < 0.05$, ** $p < 0.01$

Differences in Predicted Probabilities of Being Employed and At Work (RE models – **Unincorporated Self-employed**)



Groups	March-Feb	April-Feb	May-Feb
Differences between groups			
Female - Male	-0.01	-0.07**	-0.10**
Married - Single	0.02	0.04	0.03
Married women - Married men	-0.04*	-0.14**	-0.13**
Single women - Single men	0.03	0.06	-0.04
Married men - Single men	0.05*	0.13**	0.07
Married women - Single women	-0.02	-0.07	-0.02

* $p < 0.05$, ** $p < 0.01$

Differences in Predicted Probabilities of Being Employed and At Work (RE models – Unincorporated Self-employed)



Groups	March-Feb	April-Feb	May-Feb
Differences between groups			
Child age < 6 - no child	-0.01	-0.02	0.03
Child age 6–17 - no child	-0.01	-0.02	0.03
Remote job - not remote job	-0.00	0.09**	0.04
Essential - not essential industry	0.02	0.23**	0.16**

* $p < 0.05$, ** $p < 0.01$

Differences in Predicted Hours Worked Last Week (RE models – Unincorporated Self-employed)



Groups	March-Feb	April-Feb	May-Feb
Differences between groups			
Female – Male	0.81	-0.17	-3.52**
Married - Single	0.60	1.10	0.79
Married women - Married men	-0.97	-1.65	-4.75**
Single women - Single men	4.03**	2.90	-1.17
Married men - Single men	2.68**	3.25*	2.57
Married women - Single women	-2.23*	-1.29	-1.01

* $p < 0.05$, ** $p < 0.01$

Differences in Predicted Hours Worked Last Week (RE models – Unincorporated Self-employed)



Groups	March-Feb	April-Feb	May-Feb
Differences between groups			
Child age < 6 - no child	-1.18	-0.74	1.66
Child age 6–17 - no child	0.80	-1.77	-3.04
Remote job - not remote job	-0.59	2.47*	0.91
Essential - not essential industry	0.73	10.77**	7.41**

* $p < 0.05$, ** $p < 0.01$

Differences in Predicted Probabilities of Being Employed and At Work (RE models – Unincorporated Self-employed)



Differences between groups	March-Feb	April-Feb	May-Feb
Married Men			
Child age < 6 - no child	-0.00	-0.05	0.13*
Child age 6–17 - no child	0.07**	0.03	0.01
Remote job - not remote job	0.01	0.08*	-0.03
Essential - not essential industry	0.08*	0.20**	0.06
Married Women			
Child age < 6 - no child	-0.06	-0.07	-0.07
Child age 6–17 - no child	0.02	-0.02	-0.02
Remote job - not remote job	-0.02	0.07	0.08
Essential - not essential industry	-0.02	0.25**	0.11

Differences in Predicted Probabilities of Being Employed and At Work (RE models – Unincorporated Self-employed)



Differences between groups	March-Feb	April-Feb	May-Feb
Single Men			
Child age < 6 - no child	-0.01	0.23*	0.25
Child age 6–17 - no child	-0.02	-0.17*	-0.07
Remote job - not remote job	-0.01	0.11	-0.00
Essential - not essential industry	-0.03	0.25**	0.20*
Single Women			
Child age < 6 - no child	0.04	0.00	-0.07
Child age 6–17 - no child	-0.00	-0.03	0.08
Remote job - not remote job	0.05	0.14*	0.19*
Essential - not essential industry	0.03	0.20**	0.31**

Differences in Predicted Hours Worked Last Week (RE models – Unincorporated Self-employed)



Differences between groups	March-Feb	April-Feb	May-Feb
Married men			
Child age < 6 - no child	1.14	-2.59	5.43
Child age 6–17 - no child	1.02	-2.35	-5.53*
Remote job - not remote job	-0.34	2.19	-2.86
Essential - not essential industry	1.24	10.20**	5.98*
Married women			
Child age < 6 - no child	-3.25	-0.52	0.90
Child age 6–17 - no child	-0.21	-0.27	0.19
Remote job - not remote job	-0.51	2.40	3.19
Essential - not essential industry	1.54	12.06**	7.27**

* $p < 0.05$, ** $p < 0.01$

Differences in Predicted Hours Worked Last Week (RE models – Unincorporated Self-employed)



Differences between groups	March-Feb	April-Feb	May-Feb
Single men			
Child age < 6 - no child	-0.61	9.45*	12.99*
Child age 6–17 - no child	-0.22	6.11	-4.87
Remote job - not remote job	-0.15	0.74	-1.87
Essential - not essential industry	-2.25	8.13**	6.84
Single women			
Child age < 6 - no child	-3.07	1.94	-0.63
Child age 6–17 - no child	0.05	-1.35	-3.41
Remote job - not remote job	-1.12	5.87*	6.30
Essential - not essential industry	0.91	9.94**	8.66**

* $p < 0.05$, ** $p < 0.01$

Differential Effects of COVID on Employment (DDD models)



Panel		Married Men	Married Women	Single Men	Single Women
A	COVID	-0.21**	-0.26**	-0.29**	-0.18**
B	COVID	-0.20**	-0.25**	-0.30**	-0.18**
	COVID x Child age < 6	-0.06	-0.08	0.12	-0.08
C	COVID	-0.19**	-0.24**	-0.26**	-0.17**
	COVID x Child age 6–17	-0.04	-0.07	-0.17	-0.03
D	COVID	-0.22**	-0.24**	-0.29**	-0.23**
	COVID x Remote Job	0.05	-0.03	-0.01	0.09
E	COVID	-0.34**	-0.43**	-0.47**	-0.24**
	COVID x Essential Industry	0.16**	0.32***	0.30***	0.24**

* $p < 0.05$, ** $p < 0.01$

Differential Effects of COVID on Hours (Tobit DDD models)



Panel		Married Men	Married Women	Single Men	Single Women
A	Overall	-12.12**	-12.62**	-13.26**	-9.98**
B	No child	-11.70**	-12.02**	-13.44**	-9.89**
	Child age < 6	-14.07**	-15.29**	-10.83**	-11.13
	Difference	-2.37	-3.27	2.61	-1.25
C	No child	-11.30**	-11.79**	-11.48**	-9.68***
	Child age 6-17	-13.70**	-14.14**	-22.20**	-11.13
	Difference	-2.40	-2.34	-10.73*	-1.45
D	Not remote job	-12.63**	-12.32**	-13.13**	-12.37**
	Remote job	-11.09**	-11.98**	-13.62**	-6.69*
	Difference	1.55	1.26	-0.49	5.67
E	Not essential industry	-20.66**	-20.24**	-18.96**	-11.78**
	Essential industry	-10.45**	-5.25**	-11.09**	-8.00**
	Difference	10.20**	14.99**	7.87*	3.77

* $p < 0.05$, ** $p < 0.01$

Conclusions



- The unincorporated self-employed were hit the hardest of all worker groups in terms of reductions in employment and hours of work.
- Employment and hours for the unincorporated self-employed
 - Fell somewhat as voluntary social distancing began (March)
 - Fell more as government restrictions were imposed (April)
 - Adjusted upward as government restrictions began to be loosened (May)

Conclusions



- COVID reduced employment for all groups, but...
 - There were differentials by gender and marital status:
 - *Females' employment fell more than males*
 - *Married women's employment fell more than married men's*
 - *Single men's employment fell more than married men's*
 - There were differentials by parental status for men:
 - *Married fathers' employment fell by less than that of married men without children*
 - *Single fathers' employment fell by less than that of single men without children when they had a young child but fell by more when they had a school-aged child*

Conclusions



- COVID reduced employment for all groups, but...
 - There were differentials by remote job and essential industry:
 - *Married men's employment decline was partially mitigated by having a remote job or being in an essential industry*
 - *Married women's employment decline was partially mitigated by being in an essential industry*
 - *Single men's employment decline was partially mitigated by being in an essential industry*
 - *Single women's employment decline was partially mitigated by having a remote job or being in an essential industry*

Conclusions



- COVID reduced hours for all groups, but...
 - There were differentials by gender and marital status:
 - *Females' hours fell by more than males*
 - *Married women's hours fell by more than married men's*
 - *Single men's hours fell by more than single women's*
 - *Single men's hours fell by more than married men's*
 - *Married women's hours fell by more than single women's*
 - There were differentials by parental status for men:
 - *Married fathers with school-aged children worked fewer hours than married men without children*
 - *Single fathers with young children worked more hours than single men without children*

Conclusions



- COVID reduced hours for all groups, but...
 - There were differentials by remote job and essential industry:
 - *Only single women's hours fell by less when they worked in a remote job*
 - *All groups of workers' hours fell by less when they worked in an essential industry*

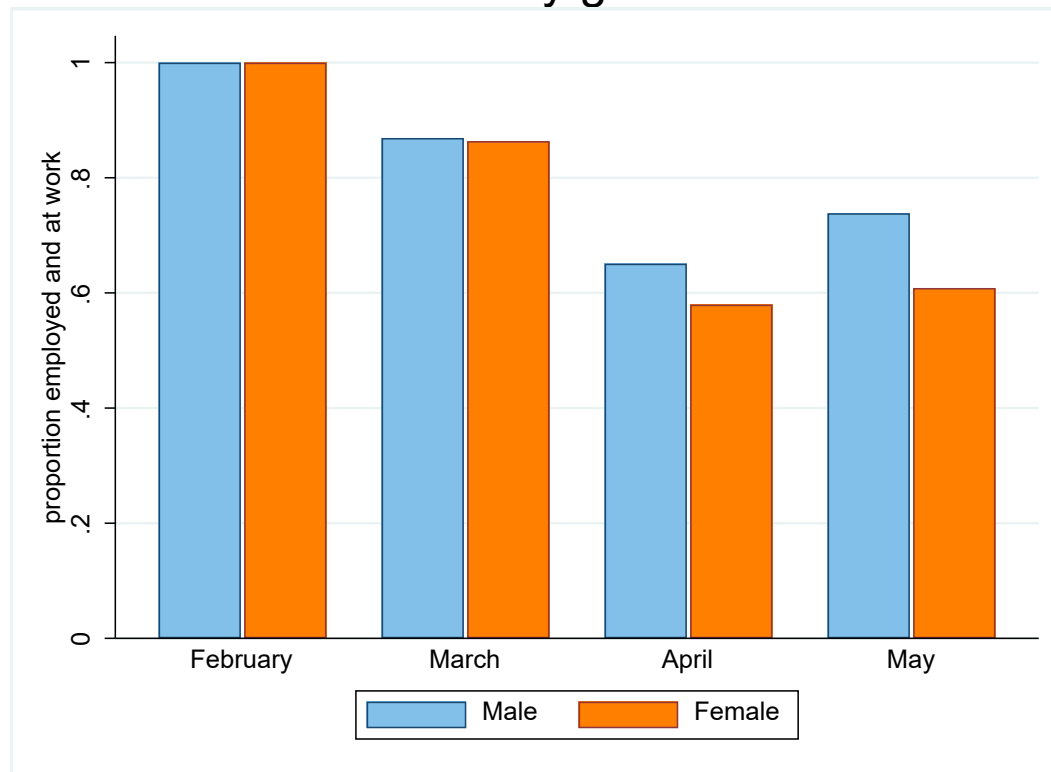


EXTRA SLIDES



Descriptive Analysis

Unincorporated self-employed who were at work in 2020 by gender



Note: All workers were self-employed and at work in February 2020.

Source: Current Population Survey