

Remote Learning and Parental Labor Market Outcomes

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Abstract

This paper estimates the effects of remote learning on parental labor market outcomes. Using mobility indices, it captures school closures as they occur in real time, obviating the need for possibly erroneous or outdated survey data. The results suggest that if a parent having one child learning remotely corresponds to a 13% reduction in the odds of being employed, *ceteris paribus*. Disaggregating this effect by parental sex, it finds that school closures have an ambiguous impact on fathers, whereas mothers are affected at the intensive and extensive margin. These results are robust to alternative specifications, including to the use of a time-invariant state-level instrument and a Bartik instrument (as in [Goldsmith-Pinkham et al. \[2020\]](#)).

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1 Introduction

The advent of the COVID-19 pandemic occasioned a swift and dramatic decline in employment and labor force participation in the United States. Recent developments suggest that some portion of this initial shock to the labor market will persist, even as the epidemiological precipitant of the crisis abates (a phenomenon known as hysteresis).¹ In the January 2021 jobs report, the Bureau of Labor Statistics noted that 44% of the over 22.3 million jobs lost in March and April of 2020 had not returned.

While this statistic, in and of itself, constitutes cause for concern, it belies significant heterogeneity across demographic segments, especially across sexes. While approximately 1.8 million men have left the labor force since February of 2020, over 2.3 million women have left in the same period, pushing the female labor force participation rate down to 57% (a figure not seen since 1988). In fact, the recession has been so harmful to the economic prospects of women that some in the media have taken to calling it the first ‘she-cession.’²

Typically, recessions bear a disproportionate impact on male employment, as pro-cyclical industries (e.g. construction) tend to employ men. What then can account for the inverted gender dynamics of the COVID recession? [Alon et al. \[2020\]](#) identify two channels: compositional effects (i.e. the fact that women tend to work in sectors particularly affected by the epidemiological character of this recession), and school closures.

This taxonomy of explanations can be generalized to account for the observed impact of COVID on the entire labor force. Broadly, the question is: are observed declines in labor force participation, employment, and hours worked a result of sectoral maladaptations to a stay-at-home economy, or the result of well-intentioned, but potentially counterproductive, public health measures?

¹[VoxEU Article from May 2021 which describes the ways in which hysteresis might affect the recovery](#)

²[Economist Article from March of 2021, detailing the plight of women in the COVID Economy](#)

To address this question, we use a novel source of schools’ teaching modality assembled by [Parolin and Lee](#), showing *revealed* rather than *reported* school closures. Instead of relying on school districts or state departments of education to provide possibly erroneous or outdated information on the prevailing teaching modality at each school (as is done in [Oster et al.](#)), we measure school closures as they occur in real time, tracking the average number of trips to and from schools for a given geography and time period.

The mobility data, observed at the county-month level, are merged into a pooled cross-section drawn from the *Current Population Survey*, observed at the individual-month level. We then estimate a model which identifies the effect of exposure to school closures (a function of the mobility indices and the number of school-age children) on labor force outcomes, which are defined as labor force participation, employment status, and log of hours worked last week.

The headline result is that a one unit increase in our measure of exposure to school closures – the equivalent of having one child learning remotely – corresponds to a 13% decline in the odds of being employed. This estimate is robust to alternative specifications, including to the use of time fixed effects, county random effects, and standard errors clustered at the family level.

A reasonable observer may be concerned that our results are biased by sorting of the variety proposed by Tiebout. To assess this potential threat to validity, a two-stage generalized structural equation model (GSEM) is estimated using instrumental variables, including a time-invariant state-level instrument – a measure of the strength of teachers’ unions – and a Bartik instrument (as in [Goldsmith-Pinkham et al. \[2020\]](#), [Bartik \[1991\]](#)). While our instruments are both positive and significant, our results are unchanged.

After including a full set of interactions terms, we find that fathers are ambiguously impacted by school closures (i.e. coefficients are close to 0 in the mean, and statistically insignificant), whereas mothers are affected at the intensive and extensive margin. Mothers with one

elementary school-age child in remote learning suffer a 65% decline in the odds of being in the labor force, a 32% decline in the odds of being employed, and a 4% decline in the number of hours worked, all else equal.

Interactions with a ‘single’ dummy are found to be positive and significant, while interactions with a ‘high school’ and ‘college’ dummy are found to be negative and significant. Interactions with race dummies are found to be, in the main, insignificant.

These estimates are obtained after controlling for heterogeneous sectoral responses to changes in county-wide mobility (a measure of the binding effect of lockdown measures), accounting for the first channel proposed in [Alon et al. \[2020\]](#). We also condition on time-invariant personal characteristics (e.g. race, sex), time-varying personal characteristics (e.g. family income, marital status), and time-varying county characteristics (e.g. percent change in time spent away from home).

While these results are tentative, they speak to the substantial burden placed on mothers by remote learning. Given the magnitude of estimated effects, policymakers interested in hastening the recovery should consider the deleterious impacts of school closures on maternal labor market outcomes.

2 Literature Review

This study aims to contribute to the nascent literature on the educational, societal, and economic impact of school closures, and lockdowns more generally.

While this literature is, as of yet, relatively sparse (understandably so, given the novelty of the pandemic) a series of papers have recently emerged attempting to answer this precise question. I will proceed by describing, in brief, the findings of these papers, starting with those concerned with non-pharmaceutical interventions broadly, and concluding with those

interested specifically in school closures.

Several authors argue that non-pharmaceutical interventions (colloquially, government lockdowns) exact significant economic costs. Authors in [Eichenbaum et al. \[2020\]](#) propose a model of the macroeconomy that incorporates epidemiological dynamics, concluding that lockdown measures curtail both labor supply and demand and prolong the deleterious effects of a recession. Providing empirical support for these claims, [Beland et al. \[2020\]](#) documents significant short-term employment effects in states that implemented stay-at-home orders early, suggesting that by early May of 2020, those policies increased unemployment by 4 percentage points.

Others, such as [Chetty et al. \[2020a\]](#) disagree, suggesting that lockdown measures have no discernible economic impact. Comparing New Mexico and Colorado – comparable states with divergent reopening schedules – the authors claim to find a negligible difference in employment and spending patterns. Instead, they attribute observed declines in economic activity nationwide to widespread fear of the virus. Similarly, [Rojas et al. \[2020\]](#) find that, in the early months of the pandemic, school closures and other non-pharmaceutical interventions were weakly correlated with unemployment insurance claims. As in [Chetty et al. \[2020a\]](#), the authors find that the economic disruptions were driven by a response to evolving epidemiological conditions rather than local policies.

While there may be some ambiguity in the literature as to what is causing the recent deterioration in labor market conditions, there is no ambiguity that developments have disproportionately affected women. This is highlighted in [Alon et al. \[2020\]](#), a theoretical work which proposes two channels that, in sum, may account for the atypical impact this recession has had on women. The first is a compositional effect. The authors contend that industries with a higher concentration of women in their workforce have experienced the steepest declines in employment throughout the pandemic, either due to a lack of demand, or because they are poorly adaptable to telecommuting. The second channel they propose is the closing of

schools and day cares, which prompted mothers (who bear the brunt of childcare duties) to exit the labor force to make up for the shortfall in care.

Existing estimates of the second proposed effect, while limited, support the theory. [Amuedo-Dorantes et al. \[2020\]](#), using a differences-in-differences model, find that school closures did not affect the probability of holding a job, but did affect hours worked, operating on the intensive as opposed to the extensive margin. [Ma et al. \[2020\]](#), using survey data gathered from 1,354 junior high school parents and students in Shaanxi Province, China, find that parents are 6.3 percentage points less likely to return to work if their child is learning from home. Lastly, [Lofton et al. \[2021\]](#) find that employment and labor force participation fell most for mothers as a result of the COVID labor demand shock, and has continued to decline following the start of the school year, suggesting that mothers' labor supply bear a functional relation to teaching modality.

3 Data

In this section we describe the data sets that were used to construct the estimation sample, as well as the covariates contained therein.

Our source for school closure data was the *US School Closure and Distance Database* (see [Parolin and Lee](#)). Two measures of revealed (rather than reported) school closure are extracted for each county-month: (1) the mean year-over-year change in in-person visits for schools, and (2) the share of schools with a greater than 50% decline in year-over-year in-person visits, a proxy for remote learning. Parolin and Lee claim that the database, built on mobility data licensed from Safegraph (a technology company), covers "94% of school districts spanning 98% of counties in the United States."

Our source for data on mobility trends and COVID-19 was the *Opportunity Insights (OI)*

Economic Tracker (see [Chetty et al. \[2020b\]](#)). The mobility measure (which serves as a control for the impact on economic activity of stay-at-home orders), observed for county-days, is the percent change in time spent away from home, indexed to January 3 - February 6, 2020. This measure comes by way of OI from *Google COVID-19 Community Mobility Reports*. Measures of pandemic severity were a seven-day moving average of COVID-19 new deaths and new infections, provided by the CDC’s *Covid Data Tracker* for county-days, again by way of OI. These measures were aggregated to the county-month level by first dropping nulls, then interpolating a value of 0 for all observations before January 3, 2020, and finally by taking the mean for each county-month.

Data on state teachers’ union finances was compiled manually from Form 990, found using the Internal Revenue Service’s *Tax Exempt Organization Search* (see [Lott and Kenny \[2013\]](#)). The latest filing was pulled for 51 unions (all states, as well as the District of Columbia), 2019 for 36 of them. Of particular interest are Line 9 in the form, which details ‘Program Service Revenues’ (essentially, all monies collected through union dues); Line 12, which details total revenues; and Line 18 which details total expenses for that year. The number of students in primary and secondary public schools for each state in 2019 was found in a report published by the National Education Association, the largest teachers’ union nationwide (see [Association](#)). The number of full-time teachers in each state in 2020 was found in the *US School Closure and Distance Database*. Three measures of union strength were constructed from these data: dues per teacher, revenues per teacher, and expenditures per student.

Data on month-individuals is pulled from the *Integrated Public Use Microdata Series Current Population Survey* (see [Sarah Flood and Warren](#)). Specifically, all covariates used in this study are collected through the “basic monthly survey.” These include, but are not limited to demographic characteristics (e.g. race, sex), citizenship status, labor market participation, employment status, hours worked last week, NAICS code of industry of last job held, number of children, age of eldest child, and age of youngest child. Individuals, as well as individual

families, are identified through unique ids. As a pooled cross-section, not all individuals are observed at all points in time throughout the period, January 2019 - April 2021. The median number of appearances in the period for each individual is three times. While these data are quite exhaustive, it bears mentioning that two covariates in particular were constructed: number of children in elementary school, and number of children in middle/high school. The exact procedure used to arrive at this count can be found in the GitHub repository found in the footnote.³ In brief, the age of the eldest child and age of youngest of child for each individual were used to determine the number of children in each age-group. Observations where these quantities were not discernible were dropped

The data on school closures, mobility, COVID, and union finances were merged into the CPS data, matching on state, county, or date. A mask was applied for observations collected in months when schools are typically not in session (i.e. July, August, and December). In addition, observations that did not have a county identifier, reported an age less than 18, had not completed middle school, or were unable to merge with mobility data were dropped from the estimation sample.

From this sample, six regression samples were created. The number of observations for each is shown in the table below.

Table 3.1: Observations by Regression Samples

	Total (In Labor Force)	In Labor Force (Employed, at work)	Employed, at work (Hours Worked Last Week)
Total	673,185	414,227	376,992
Parents	99,448	83,791	77,591

Note: Response variables modeled using the sample are shown in parentheses.

Summary statistics are provided in the appendix for the full sample, parents, and non-parents (see B.1). Parents are younger, wealthier, more diverse, and more educated than the full

³[Click to see GitHub Repository](#)

sample. They are also more likely to be participants in the labor force, employed, and work longer hours.

Summary statistics are also provided for the full sample, grouped by the first digit of the NAICS Code (a standard industry classification scheme) of the last job held (see [B.2](#)). Refer to the table below for an overview of each sector. Sectors 8,5,9,7 were all majority female (listed in descending order by % female), topping out at 63% with sector 8, or personal services (e.g. beauty salons). Notably, individuals in sector 5 reported the lowest levels of employment (preceded by sector 8).

Table 3.2: Sample Industries by First Digit of NAICS Code

First Digit	Sector	Sample Industries
0	Raw Goods Producers	Cattle Rearing, Logging, Coal Mining
1	Raw Goods Processors	Bakeries, Grain and Oilseed Milling
2	Materials Manufacturers	Iron and Steel Mills, Foundries
3	Machinery Manufactures	Aerospace Products, Boat Building
4	Goods Wholesalers	Grocers, Automobile Dealers, Drug Wholesalers
5	Goods Retailers	Retail Florist, Electronic Shopping, Fuel Dealers
6	Transportation	Air Transport, Bus Service and Urban Transit
7	‘Knowledge Economy’	Legal Services, Colleges and Universities
8	Personal Services	Child Day Care, Beauty Salons, Dentists, Hospitals
9	Govt. and Civil Society	Religious Organizations, Legislatures

Time series of labor market outcomes are provided in the appendix ([1,2,3](#)). Cursorily, labor force participation rates, employment, and hours worked were higher for parents than non-parents. While this result is unsurprising, of note is the differential response to the COVID shock. Labor force participation declined less for parents than non-parents between January and April of 2020 (3 pp vs. 5 pp), an intuitive result given the fact that parents are younger and have dependents, and as a result are less capable of retiring or shifting out of work.

Figures [4-15](#) explore heterogeneities in labor market outcomes by sex, race, education, and marital status for the parent sample. Of note is the pronounced drop in maternal employment, decreasing 15 pp from January to April of 2020, compared to a 13 pp in paternal

employment in the same period.

Figures 16 - 23 depict mobility trends by county. As shown in 17, school mobility indices initially declined further, and stabilized at lower levels than the general mobility index. This would suggest that as stay-at-home orders gradually became less binding in their effect on individual behavior, closures continued to impinge upon the actions of students and parents. Notwithstanding this fact, the national average belies considerable variation in school closures by county. Figure 23 plots the standard deviation in the remote learning measure for elementary and middle/high schools. Evidently, variation in this measure increased throughout the period, reaching its maximum in January of 2021, as schools reopened for the spring. This variation is exploited in our model of parental labor market outcomes.

4 Model

This section describes the models used to estimate the quantity of interest, namely the effect of exposure to school closures on labor market outcomes.

Any consideration of model specifications must be preceded by a discussion of how the quantity of interest is measured. Two measures of exposure emerged, with slightly different constructions.

The first measure is defined as follows

$$\zeta_{s,c,i,t} = [N_{s,c,i,t}^E (\frac{1}{S_{s,c,E}} * \sum_{k=1}^{S_{s,c,E}} \mathbb{1}_{\psi_{s,c,E,k,t} < -.5}(k)), N_{s,c,i,t}^M (\frac{1}{S_{s,c,M}} * \sum_{k=1}^{S_{s,c,M}} \mathbb{1}_{\psi_{s,c,M,k,t} < -.5}(k))] \quad (1)$$

where $N_{s,c,i,t}^y$ for $y \in \{E, M\}$ is the number of children individual i in county c in state s has in age-group y at time t , $S_{s,c,y}$ is the number of schools for age-group y (elementary, and middle/high school) in county c in state s , and $\psi_{s,c,y,k,t}$ is a mobility index for school k of age-group y in county c in state s at time t . It follows that $\frac{1}{S_{s,c,y}} * \sum_{k=1}^{S_{s,c,y}} \mathbb{1}_{\psi_{s,c,y,k,t} < -.5}(k)$

is the share of schools in county c in state s at time t with a greater than 50% decline in mobility, a proxy for remote learning. Intuitively, this measure can be thought as an ordered pair containing the expected number of children in age-group y currently learning remotely. Importantly, it is defined for the entire sample, parents and non-parents alike. This allows us to include non-parents (more precisely, individuals without school-age children) in our estimation sample.

The second measure is defined as follows

$$\zeta'_{s,c,i,t} = \sum_{\{y\}} \frac{N^y_{s,c,i,t}}{N_{s,c,i,t}} \left(\frac{1}{S_{s,c,y}} * \sum_{k=1}^{S_{s,c,y}} \mathbb{1}_{\psi_{s,c,y,k,t} < -.5}(k) \right) \quad (2)$$

Here, $\frac{N^y_{s,c,i,t}}{N_{s,c,i,t}}$ is the share of children individual i has in age-group y . Intuitively, this measure is the probability that individual i has a child that is learning remotely, weighted by the share of children they have in each age-group. As we cannot define share of children in age-group y for non-parents, these observations are discarded in the process of constructing this measure.

4.1 Base Specification

The base specification depended on the response variable that was being modeled. Cursorily, for labor force participation rate, $Y^L \in \{0, 1\}$, and employment status, $Y^E \in \{0, 1\}$, a logit model was used, while for log of hours worked last week, $Y^H \in [0, 5.13]$, a gaussian linear model was employed. Formally,

$$Y^L_{s,c,i,t} \sim \text{Bernoulli}(p^L_{s,c,i,t}) \mid \log\left(\frac{p^L_{s,c,i,t}}{1 - p^L_{s,c,i,t}}\right) = \mathbf{x}^\top_{s,c,i,t} \boldsymbol{\beta}^L \quad (3)$$

$$Y^E_{s,c,i,t} \sim \text{Bernoulli}(p^E_{s,c,i,t}) \mid \log\left(\frac{p^E_{s,c,i,t}}{1 - p^E_{s,c,i,t}}\right) = \mathbf{x}^\top_{s,c,i,t} \boldsymbol{\beta}^E \quad (4)$$

$$Y_{s,c,i,t}^H \sim N(\mu_{s,c,i,t}, \sigma_{s,c,i,t}^2) \mid \mu_{s,c,i,t} = \mathbf{x}_{s,c,i,t}^\top \boldsymbol{\beta}^H \quad (5)$$

where $\mathbf{x}_{s,c,i,t} = (x_{s,c,i,t,1}, \dots, x_{s,c,i,t,k})^\top$ is a vector of k covariates that contains either $\zeta_{s,c,i,t}$ or $\zeta'_{s,c,i,t}$, and $\boldsymbol{\beta} = (\beta_1, \dots, \beta_k)$ is a vector of unknown time-invariant regression coefficients.

In addition to ζ , $\mathbf{x}_{s,c,i,t}$ contains time-invariant individual covariates (e.g. race, sex), time-variant individual covariates (e.g. family income, marital status), and time-variant county-level covariates (e.g. percent change in time spent away from home, 7-day average of COVID deaths per 100k), as well as interactions between these (e.g. $\text{race} \times \zeta$) – though these are, at times, suppressed. This can be written as

$$\mathbf{x}_{s,c,i,t} = (\mathbf{y}_{s,c,i}, \mathbf{z}_{s,c,i,t}, \mathbf{w}_{s,c,t}, \zeta_{s,c,i,t}, \zeta_{s,c,i,t} \times \mathbf{y}_{s,c,i}, \zeta_{s,c,i,t} \times \mathbf{z}_{s,c,i,t}, \mathbf{y}_{s,c,i} \times \mathbf{w}_{s,c,t}, \dots)^\top$$

Lastly, the model is either estimated with month-year fixed effects and standard errors clustered at the family level, or county random effects and heteroskedasticity robust standard errors as an effort to control for unobserved geographic and temporal heterogeneity.

4.2 Instrumented Specification

The pandemic, and economic conditions engendered by it, have prompted many individuals to relocate.⁴ As it relates to this study, this dynamic raises the possibility that the exclusion restriction is violated, as individuals may sort into counties with higher or lower rates of remote learning based on a standing relationship to the labor market (as in Tiebout). The threat to validity is rendered even more acute by the rise of remote work. No longer confined to locations proximate their workplaces, workers have more latitude to reside in locales that

⁴There have been over 30 million change of address requests since the start of the pandemic. While the volume of moves has increased, migration patterns seem to have stayed stable, with 'Sun Belt' cities still the major beneficiaries of in-migration. See [Kolko et al. \[2021\]](#)

offer greater quality of life – which for parents, may mean choosing a place with open schools.

In order to resolve the identification issue, we propose using instruments to induce as-if random variation in our exposure measure ζ .

For $\zeta_{s,c,i,t}$ a time-invariant state-level instrument is used, namely, teachers' union strength, as measured by union expenditures for the last available year divided by the number of students in the state.⁵ The instrument is used in a two-stage general structural equation model (gsem), where the first stage is estimated as follows

$$\begin{aligned}\rho_{s,c,E,i,t} &\sim \mathcal{B}(\mu_{s,c,E,i,t}, \phi_{s,c,E,i,t}) \mid g(\mu_{s,c,E,i,t}) = \mathbf{v}_{s,c,i,t}^\top \boldsymbol{\beta}^E \\ \rho_{s,c,M,i,t} &\sim \mathcal{B}(\mu_{s,c,M,i,t}, \phi_{s,c,M,i,t}) \mid g(\mu_{s,c,M,i,t}) = \mathbf{v}_{s,c,i,t}^\top \boldsymbol{\beta}^M\end{aligned}\tag{6}$$

where $\rho_{s,c,y,i,t} = \frac{1}{S^{s,c,y}} * \sum_{k=1}^{S^{s,c,y}} \mathbb{1}_{\psi_{s,c,y,k,t} < -0.5}(k)$; $\mathbf{v}_{s,c,i,t}$ is the same vector of covariates as above, albeit exclusive of all terms containing ζ , and inclusive of our instrument, i_s ; $g(\cdot)$ is the logit function; and $B(\mu, \phi)$ is a re-parametrized version of the beta distribution (see [A](#) for more on beta regressions). As the beta distribution is supported on the interval $(0, 1)$, while ρ can assume any value in $[0, 1]$, we apply the [Smithson and Verkuilen \[2006\]](#) rescaling to our response variable (i.e. $y' = \frac{y*(n-1)+.5}{n}$) before estimation to transform values at the endpoints. Estimated values of ρ are then used in the second stage of the gsem, as defined by [E.1](#), [E.2](#), [E.3](#).

For $\zeta'_{s,c,i,t}$ a Bartik instrument is used (see [Bartik \[1991\]](#) and [Goldsmith-Pinkham et al. \[2020\]](#)), defined as

$$b_{s,c,i,t} = \Sigma_{\{y\}} \frac{N_{s,c,i,t}^y}{N_{s,c,i,t}} \left(\frac{1}{C} \Sigma_{c=1}^C \rho_{s,c,y,t} \right)\tag{7}$$

where $\frac{1}{C} \Sigma_{c=1}^C \rho_{s,c,y,t}$ is the national mean (unweighted, over counties) of the share of schools serving age-group y closed at time t . Like above, the first stage of the gsem is estimated as

⁵For a study that uses this measure as a proxy for teachers' union strength see [Lott and Kenny \[2013\]](#), which considers the impact of teachers' unions on student achievement.

follows

$$\zeta'_{s,c,i,t} \sim \mathcal{B}(\mu_{s,c,i,t}, \phi_{s,c,i,t}) \mid g(\mu_{s,c,i,t}) = \mathbf{v}_{s,c,i,t}^\top \boldsymbol{\beta} \quad (8)$$

where $\mathbf{v}_{s,c,i,t} \supset \{\mathbf{x}_{s,c,i,t} \setminus (\zeta'_{s,c,i,t}, \zeta'_{s,c,i,t} \times \mathbf{y}_{s,c,i}, \zeta'_{s,c,i,t} \times \mathbf{z}_{s,c,i,t})\} \cup b_{s,c,i,t}$. The [Smithson and Verkuilen \[2006\]](#) rescaling is applied before estimation as well. Estimated values of $\zeta'_{s,c,i,t}$ are then used in the second stage of the gsem.

5 Results and Discussion

Regression Table [E.1](#) displays coefficients obtained from estimating the base specification of the model with month-year fixed effects and standard errors clustered at the family level.

Estimated values for the coefficient on ζ^M are -0.035 with labor force participation as the outcome, -0.140 with employment status as the outcome (significant at the 1% level), and -0.015 with hours worked last week as the outcome (significant at the 5 % level). This implies that a one unit increase in ζ^M – the equivalent of having one middle/high school age child learning remotely – corresponds to a 3.4% decline in the odds of being in the labor force, a 13% decline in the odds of being employed, and a 1.5% decline in the number of hours worked.

Estimated values for the coefficient on ζ^E are -0.137 with labor force participation as the outcome (significant at the 1% level), 0.044 with employment status as the outcome, and -0.004 with hours worked last week as the outcome. This implies that a one unit increase in ζ^E corresponds to a 13% decline in the odds of being in the labor force, a 5% increase in the odds of being employed, and a .4% decline in the number of hours worked.

The results suggest that school closures affect parental labor market outcomes, albeit differentially across childrens' age. While having older children causes parents to shift out of employment but remain in the workforce, having younger children causes parents to drop out

of the labor force completely. Evidently, parents with older children have the flexibility to stay in the labor force to seek a job with fewer hours, whereas parents with younger children do not.

This specification was also estimated with a full set of interaction terms (see E.2). Here, the coefficients on ζ^M and ζ^E – corresponding to white males with some college, and spouse present – were rendered, for the most part, insignificant.

Interactions for mothers, on the other hand, were significant at the 1% level, with a one unit increase in ζ^M corresponding to a 60% decline in the odds of being in the labor force, a 50% decline in the odds of being employed, and a 4% decline in the number of hours worked last week. Similarly, a one unit increase in ζ^E corresponds to a 65% decline in the odds of being in the labor force, a 32% decline in the odds of being employed, and a 4% decline in the number of hours worked for mothers. These estimates were obtained after controlling for interactions between industry dummies and a general mobility index, modelling heterogenous sectoral responses to the COVID labor demand shock. Consequently, most, if not all of the estimated impact of school closures on parental labor market outcomes are explained by declines in maternal labor force participation, employment, and hours worked. Whereas fathers are ambiguously impacted by remote learning, mothers are affected at the intensive (hours worked) and extensive margins (labor force participation).

Other interactions bear mentioning. Interactions with a dummy indicating ‘single’ marital status were on the main positive and significant across outcomes and age-groups, and were most pronounced for labor force participation. This result is intuitive, as single parents, unsupported by spousal income, exhibit relatively inelastic labor supply. Interactions with high school and college dummies were on the main negative. While the agreement of signs is surprising, it may be a result of these two groups enjoying greater latitude as compared to individuals with some college, with the former benefiting from expanded unemployment insurance, and the latter from higher household income. Interactions with race were, by and

large, insignificant.

These estimates are robust to differing specifications, specifically to the inclusion of unobserved geographic effects and the use of instrumental variables.

Regression Table E.3 displays coefficients obtained from estimating the base specification of the model with county random effects and heteroskedasticity robust standard errors. Estimated values for the coefficient on ζ^M are -0.033 with labor force participation as the outcome, -0.177 with employment status as the outcome (significant at the 1% level), and -0.016 with hours worked last week as the outcome (significant at the 5 % level), while estimated values for the coefficient on ζ^E are -0.129 with labor force participation as the outcome (significant at the 1% level), 0.021 with employment status as the outcome, and -0.005 with hours worked last week as the outcome.

Regression Table E.5 displays coefficients obtained from estimating the instrumented specification of the model with month-year fixed effects and standard errors clustered at the family level. While our instrument – union expenditures per student – is significant, at the very least, at the 5% level (and is, directionally, intuitively correct), estimated values for the coefficients on ζ^M and ζ^E are nearly identical to their un-instrumented counterparts. This may be an indication that the chosen instrument is econometrically-speaking, ‘weak.’

Analyses performed over the parent sample with ζ' were in accordance with previous results. Estimated impacts of our measure can be found in Regression Table E.7. Briefly, the coefficient on ζ' is -0.056 for labor market participation as the outcome, -0.380 for employment (significant at the 1% level), and -0.012 for hours worked. Put differently, a one unit increase in the weighted probability corresponds to a 30% decline in the odds of employment, *ceteris paribus*.

Lastly, our results were robust to differing specifications of the model, including to the use of instrumental variables. It bears noting that, while the Bartik instrument was significant

across outcomes, and bore a strong relation to our measure of school closure, estimates of the coefficients on ζ' were largely unchanged (see E.11). This suggests that instrumented estimates of the effect of ζ on labor market outcomes (the previous set of regressions) are not prejudiced by the use of ‘weak’ instruments, but are likely in line with their un-instrumented counterparts as a consequence of the measure’s exogeneity.

6 Conclusion

This papers estimates the effects of school closures (as a response to the COVID-19 pandemic) on parental labor market outcomes. We find that having one child learning remotely corresponds to a 13% decline in the odds of being employed. This pronounced, and statistically significant effect, can be explained by the adverse impact of school closures on maternal labor engagement. While fathers are ambiguously impacted by school closures, mothers suffer a 65% decline in the odds of being in the labor force, a 32% decline in the odds of being employed, and a 4% decline in the number of hours worked as a result of having one elementary school-aged child in remote schooling.

Though these results are tentative, they suggest that school closures are a costly public health measure, impinging almost totally upon the ability of women to participate fully in the labor market. Policymakers interested in achieving full employment in a timely fashion should consider the limitations placed upon economic activity by remote learning. Though these measures may be justified in certain instances, the considerable costs must be weighed against the professed benefits.

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A Beta Regression

The beta density is typically expressed as

$$f(y; \alpha, \beta) = \frac{\Gamma(\alpha + \beta)}{\Gamma(\alpha)\Gamma(\beta)} y^{\alpha-1} (1-y)^{\beta-1}, \quad y \in (0, 1)$$

where $\alpha, \beta > 0$ and $\Gamma(\cdot)$ is the gamma function. Following [Ferrari and Cribari-Neto \[2004\]](#), the beta distribution in a beta regression is re-parametrized such that the density becomes

$$f(y; \mu, \phi) = \frac{\Gamma(\phi)}{\Gamma(\mu\phi)\Gamma((1-\mu)\phi)} y^{\mu\phi-1} (1-y)^{(1-\mu)\phi-1}, \quad y \in (0, 1)$$

where $\mu = \frac{\alpha}{\alpha+\beta}$ and $\phi = \alpha + \beta$. It follows that $\mathbb{E}(y) = \mu$ and $\mathbb{V}(y) = \frac{\mu(1-\mu)}{(1+\phi)}$. A random variable that follows the beta distribution can then be written as $y \sim \mathcal{B}(\mu, \phi)$. Let y_1, \dots, y_n be a random sample such that $y_i \sim \mathcal{B}(\mu_i, \phi_i) \quad \forall i \in \{1, \dots, n\}$. The beta regression model is defined in this instance as

$$g(\mu_i) = x_i^\top \beta = \eta_{1i}$$

$$h(\phi_i) = z_i^\top \gamma = \eta_{2i}$$

where $\beta = (\beta_1, \dots, \beta_k)^\top$, $\gamma = (\gamma_1, \dots, \gamma_h)^\top$ are vectors of unknown regression parameters (such that $k + h < n$), and $x_i = (x_{i1}, \dots, x_{ik})^\top$, $z_i = (z_{i1}, \dots, z_{ih})^\top$ are the covariate vectors. Here $g(\cdot) : (0, 1) \mapsto \mathbb{R}$ is the logit function, or $g(\mu) = \log(\frac{\mu}{1-\mu})$, and $h(\cdot) : (0, \infty) \mapsto \mathbb{R}$ is the log function or $h(\phi) = \log(\phi)$.

B Summary Statistics

Table B.1: Summary Statistics

	Non-Parent	Parent	Total
Female	0.52 (0.50)	0.56 (0.50)	0.52 (0.50)
Age	51.45 (19.71)	44.52 (8.87)	50.42 (18.67)
Fam Inc (k \$)	77.43 (47.25)	92.74 (47.77)	79.69 (47.64)
White	0.64 (0.48)	0.58 (0.49)	0.63 (0.48)
Native American	0.01 (0.07)	0.00 (0.07)	0.01 (0.07)
Asian	0.08 (0.27)	0.10 (0.30)	0.08 (0.27)
Black	0.11 (0.32)	0.10 (0.31)	0.11 (0.32)
Mixed	0.01 (0.12)	0.01 (0.11)	0.01 (0.12)
Hispan	0.14 (0.35)	0.20 (0.40)	0.15 (0.36)
Citizen	0.94 (0.24)	0.89 (0.31)	0.93 (0.25)
# MH	0.00	0.69	0.10

	(0.00)	(0.67)	(0.35)
# Elem	0.00	0.82	0.12
	(0.00)	(0.89)	(0.45)
Spouse Present	0.42	0.74	0.47
	(0.49)	(0.44)	(0.50)
Divorced	0.12	0.10	0.11
	(0.32)	(0.30)	(0.32)
Separated	0.02	0.02	0.02
	(0.13)	(0.15)	(0.13)
Single	0.35	0.11	0.32
	(0.48)	(0.32)	(0.47)
Spouse Absent	0.02	0.01	0.02
	(0.13)	(0.11)	(0.12)
Widowed	0.08	0.01	0.07
	(0.27)	(0.10)	(0.25)
9th Grade	0.01	0.01	0.01
	(0.10)	(0.12)	(0.11)
10th Grade	0.01	0.01	0.01
	(0.11)	(0.10)	(0.11)
11th Grade	0.02	0.01	0.02
	(0.15)	(0.11)	(0.14)
High School	0.30	0.24	0.29
	(0.46)	(0.43)	(0.46)

Some College	0.28 (0.45)	0.25 (0.43)	0.27 (0.45)
College	0.24 (0.42)	0.27 (0.45)	0.24 (0.43)
Grad Deg	0.14 (0.35)	0.20 (0.40)	0.15 (0.36)
Ind 0	0.05 (0.21)	0.07 (0.26)	0.05 (0.22)
Ind 1	0.01 (0.10)	0.01 (0.12)	0.01 (0.10)
Ind 2	0.01 (0.11)	0.02 (0.15)	0.01 (0.12)
Ind 3	0.02 (0.15)	0.04 (0.19)	0.03 (0.16)
Ind 4	0.04 (0.20)	0.05 (0.21)	0.04 (0.20)
Ind 5	0.04 (0.18)	0.04 (0.18)	0.04 (0.18)
Ind 6	0.07 (0.25)	0.11 (0.32)	0.07 (0.26)
Ind 7	0.16 (0.36)	0.25 (0.43)	0.17 (0.38)
Ind 8	0.14	0.19	0.14

	(0.34)	(0.39)	(0.35)
Ind 9	0.05	0.07	0.05
	(0.21)	(0.25)	(0.22)
In Labor Force	0.58	0.84	0.62
	(0.49)	(0.36)	(0.49)
Employed, at work	0.52	0.78	0.56
	(0.50)	(0.41)	(0.50)
Hours Worked (log)	1.86	2.83	2.00
	(1.81)	(1.55)	(1.81)

Standard errors in parentheses

Table B.2: Summary Statistics by Sector

	Ind 0	Ind 1	Ind 2	Ind 3	Ind 4	Ind 5	Ind 6	Ind 7	Ind 8	Ind 9	No Job History
Female	0.16 (0.36)	0.41 (0.49)	0.29 (0.46)	0.29 (0.45)	0.35 (0.48)	0.58 (0.49)	0.41 (0.49)	0.54 (0.50)	0.63 (0.48)	0.54 (0.50)	0.58 (0.49)
Age	45.55 (14.61)	45.38 (14.45)	46.51 (13.75)	46.34 (14.00)	44.10 (16.18)	41.17 (16.64)	44.84 (14.28)	45.54 (15.01)	42.31 (15.62)	46.31 (14.28)	60.20 (19.75)
Fam Inc (k \$)	82.97 (45.30)	81.75 (44.66)	94.82 (44.73)	96.28 (44.32)	82.14 (44.43)	77.81 (45.77)	95.16 (45.19)	97.74 (45.98)	81.14 (46.27)	95.37 (45.19)	63.47 (45.39)
White	0.65 (0.48)	0.58 (0.49)	0.70 (0.46)	0.68 (0.47)	0.65 (0.48)	0.58 (0.49)	0.61 (0.49)	0.67 (0.47)	0.56 (0.50)	0.60 (0.49)	0.65 (0.48)
Native American	0.01 (0.09)	0.01 (0.09)	0.00 (0.06)	0.00 (0.07)	0.00 (0.06)	0.01 (0.08)	0.00 (0.05)	0.00 (0.06)	0.01 (0.08)	0.01 (0.08)	0.01 (0.08)
Asian	0.04 (0.19)	0.07 (0.26)	0.08 (0.27)	0.09 (0.29)	0.07 (0.25)	0.09 (0.29)	0.09 (0.29)	0.08 (0.28)	0.10 (0.29)	0.07 (0.26)	0.08 (0.27)
Black	0.06 (0.23)	0.10 (0.30)	0.07 (0.25)	0.08 (0.27)	0.09 (0.28)	0.12 (0.32)	0.13 (0.33)	0.09 (0.29)	0.13 (0.34)	0.16 (0.36)	0.12 (0.33)

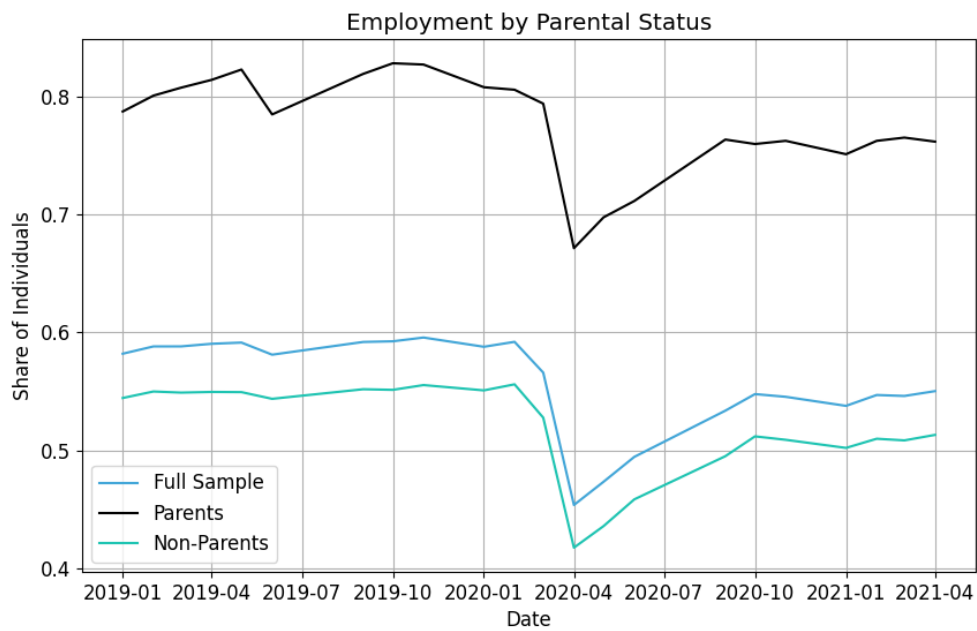
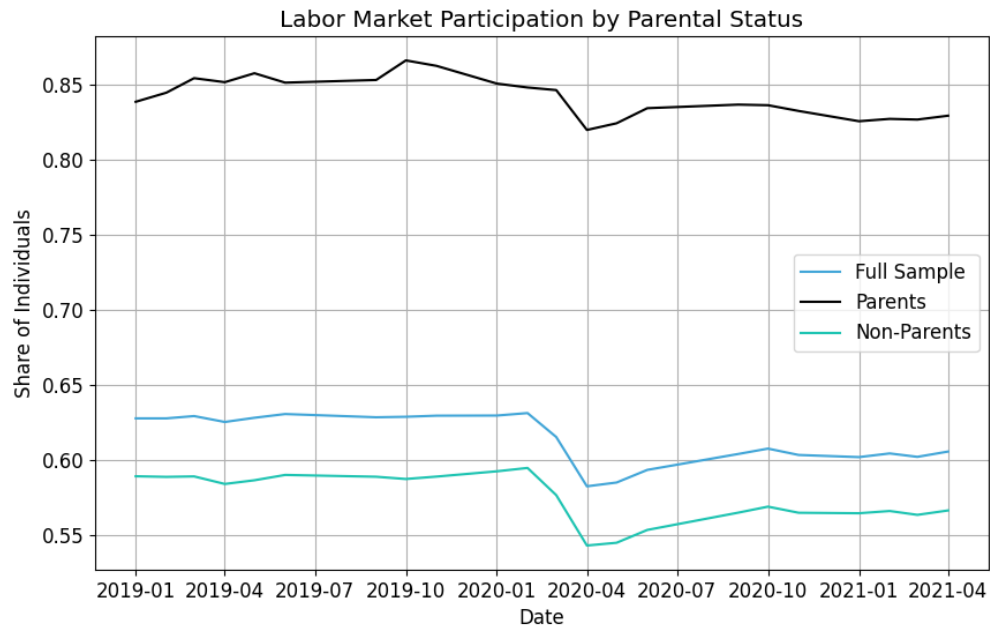
Mixed	0.01 (0.11)	0.01 (0.12)	0.01 (0.11)	0.01 (0.12)	0.01 (0.12)	0.02 (0.14)	0.01 (0.12)	0.01 (0.12)	0.02 (0.13)	0.02 (0.13)	0.01 (0.11)
Hispan	0.24 (0.42)	0.23 (0.42)	0.14 (0.34)	0.13 (0.34)	0.18 (0.38)	0.18 (0.39)	0.15 (0.35)	0.14 (0.34)	0.18 (0.39)	0.14 (0.35)	0.12 (0.33)
Citizen	0.88 (0.32)	0.88 (0.32)	0.93 (0.25)	0.93 (0.26)	0.94 (0.24)	0.92 (0.27)	0.93 (0.25)	0.93 (0.25)	0.92 (0.27)	0.94 (0.24)	0.95 (0.23)
# MH	0.15 (0.41)	0.13 (0.40)	0.16 (0.45)	0.16 (0.43)	0.12 (0.39)	0.10 (0.35)	0.15 (0.42)	0.15 (0.42)	0.13 (0.39)	0.14 (0.42)	0.04 (0.23)
# Elem	0.18 (0.55)	0.16 (0.50)	0.18 (0.54)	0.18 (0.53)	0.12 (0.44)	0.12 (0.45)	0.18 (0.54)	0.18 (0.53)	0.16 (0.49)	0.17 (0.53)	0.05 (0.30)
Spouse Present	0.50 (0.50)	0.49 (0.50)	0.54 (0.50)	0.55 (0.50)	0.43 (0.50)	0.37 (0.48)	0.49 (0.50)	0.51 (0.50)	0.39 (0.49)	0.48 (0.50)	0.47 (0.50)
Divorced	0.12 (0.32)	0.11 (0.31)	0.12 (0.32)	0.11 (0.31)	0.12 (0.32)	0.09 (0.29)	0.11 (0.32)	0.11 (0.31)	0.11 (0.32)	0.12 (0.32)	0.12 (0.32)
Separated	0.02 (0.14)	0.02 (0.15)	0.02 (0.13)	0.01 (0.11)	0.02 (0.13)	0.02 (0.14)	0.02 (0.13)	0.02 (0.12)	0.02 (0.15)	0.02 (0.13)	0.02 (0.12)

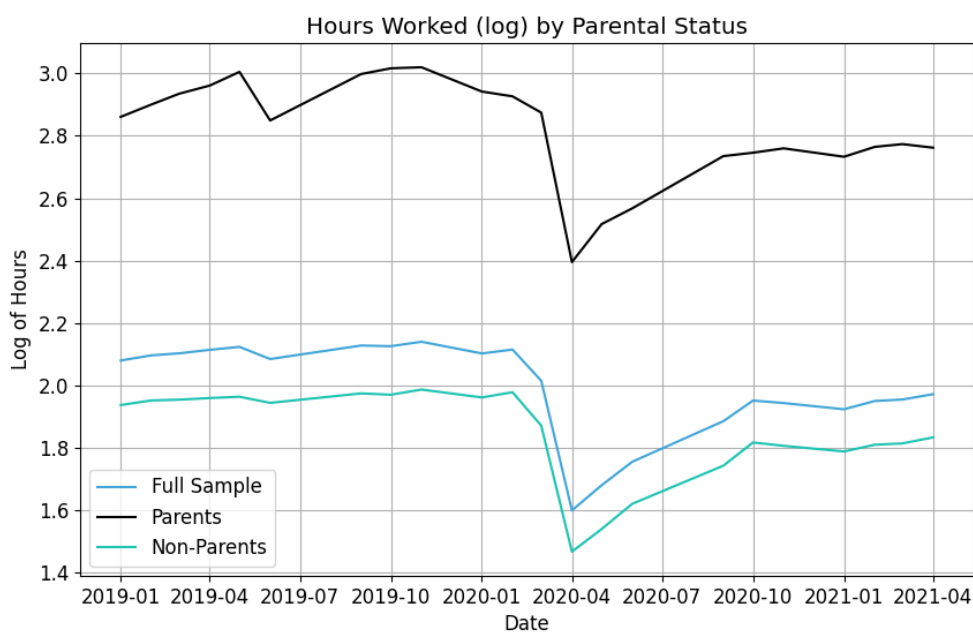
Single	0.32 (0.47)	0.34 (0.47)	0.29 (0.45)	0.29 (0.46)	0.39 (0.49)	0.47 (0.50)	0.34 (0.48)	0.33 (0.47)	0.43 (0.50)	0.34 (0.47)	0.24 (0.43)
Spouse Absent	0.02 (0.14)	0.02 (0.12)	0.01 (0.12)	0.02 (0.13)	0.02 (0.12)	0.02 (0.13)	0.02 (0.13)	0.02 (0.13)	0.02 (0.13)	0.02 (0.12)	0.01 (0.11)
Widowed	0.02 (0.13)	0.02 (0.14)	0.02 (0.14)	0.02 (0.14)	0.02 (0.14)	0.03 (0.17)	0.02 (0.13)	0.02 (0.15)	0.02 (0.15)	0.03 (0.16)	0.14 (0.35)
9th Grade	0.02 (0.15)	0.02 (0.13)	0.01 (0.11)	0.01 (0.10)	0.01 (0.09)	0.01 (0.08)	0.00 (0.07)	0.00 (0.07)	0.01 (0.09)	0.01 (0.07)	0.02 (0.13)
10th Grade	0.02 (0.14)	0.01 (0.11)	0.01 (0.09)	0.01 (0.09)	0.01 (0.10)	0.01 (0.09)	0.00 (0.07)	0.00 (0.06)	0.01 (0.10)	0.00 (0.07)	0.02 (0.14)
11th Grade	0.02 (0.15)	0.02 (0.13)	0.02 (0.12)	0.01 (0.11)	0.02 (0.13)	0.02 (0.14)	0.01 (0.09)	0.01 (0.08)	0.02 (0.15)	0.01 (0.08)	0.03 (0.18)
High School	0.43 (0.50)	0.39 (0.49)	0.32 (0.47)	0.30 (0.46)	0.37 (0.48)	0.34 (0.47)	0.24 (0.43)	0.15 (0.36)	0.28 (0.45)	0.17 (0.38)	0.35 (0.48)
Some College	0.27 (0.45)	0.26 (0.44)	0.24 (0.43)	0.26 (0.44)	0.33 (0.47)	0.33 (0.47)	0.27 (0.44)	0.20 (0.40)	0.31 (0.46)	0.26 (0.44)	0.28 (0.45)

College	0.18 (0.38)	0.24 (0.42)	0.27 (0.44)	0.27 (0.44)	0.21 (0.41)	0.23 (0.42)	0.35 (0.48)	0.33 (0.47)	0.23 (0.42)	0.31 (0.46)	0.18 (0.39)
Grad Deg	0.05 (0.21)	0.06 (0.23)	0.14 (0.34)	0.14 (0.34)	0.05 (0.21)	0.07 (0.26)	0.13 (0.34)	0.30 (0.46)	0.13 (0.34)	0.24 (0.43)	0.11 (0.31)
In Labor Force	0.99 (0.11)	0.99 (0.11)	0.99 (0.09)	0.99 (0.10)	0.99 (0.11)	0.98 (0.14)	0.99 (0.10)	0.99 (0.11)	0.98 (0.12)	0.99 (0.11)	0.00 (0.06)
Employed, at work	0.89 (0.32)	0.90 (0.30)	0.93 (0.25)	0.93 (0.26)	0.91 (0.28)	0.86 (0.34)	0.91 (0.28)	0.91 (0.29)	0.88 (0.33)	0.93 (0.26)	0.00 (0.00)
Hours Worked (log)	3.22 (1.22)	3.28 (1.17)	3.45 (0.98)	3.43 (1.01)	3.27 (1.10)	2.99 (1.29)	3.32 (1.11)	3.24 (1.13)	3.08 (1.25)	3.32 (1.04)	0.00 (0.00)

Standard errors in parentheses

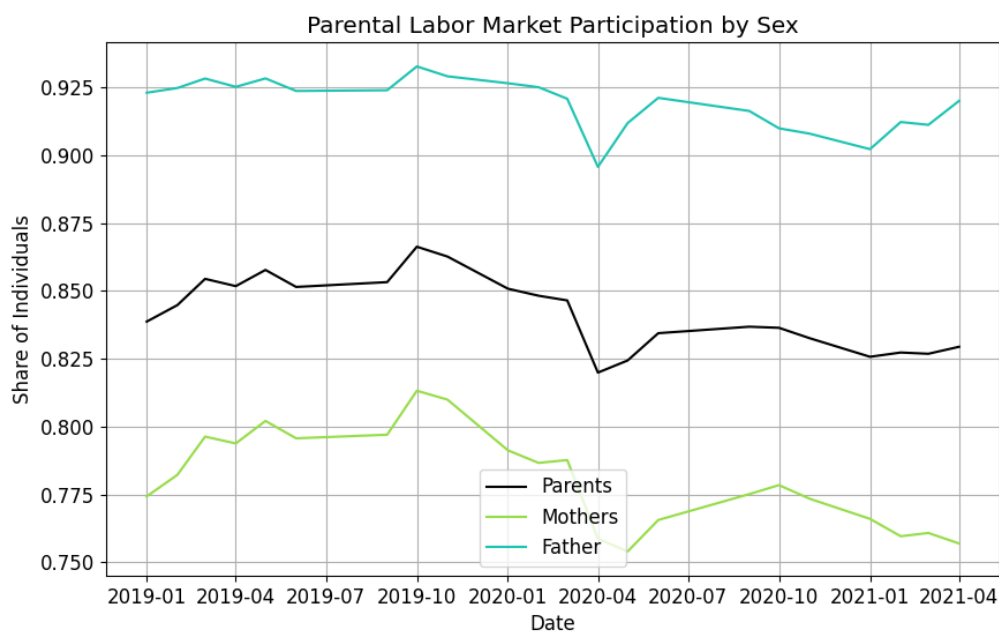
C Labor Market Outcomes

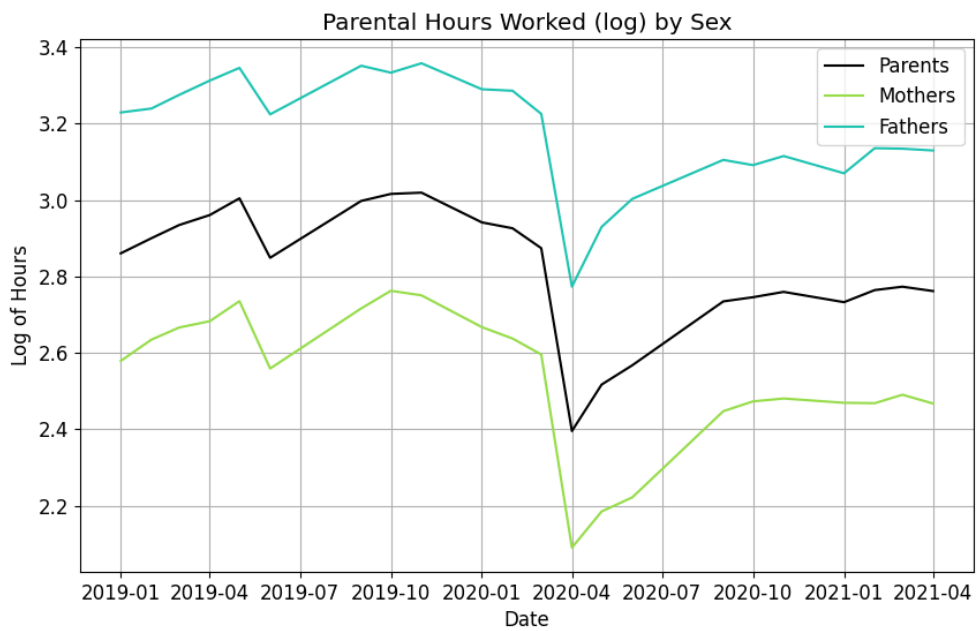
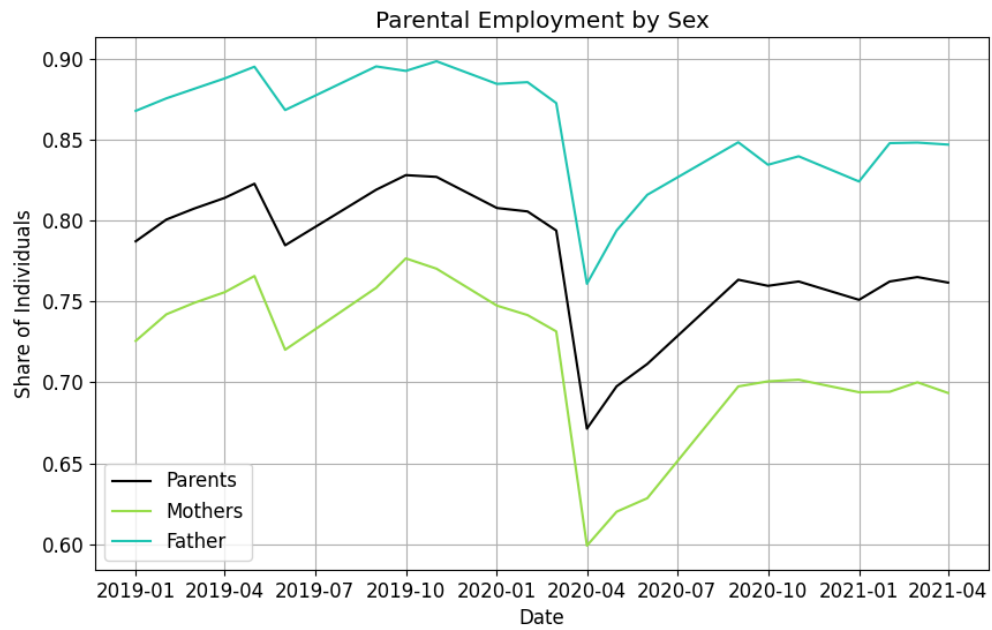




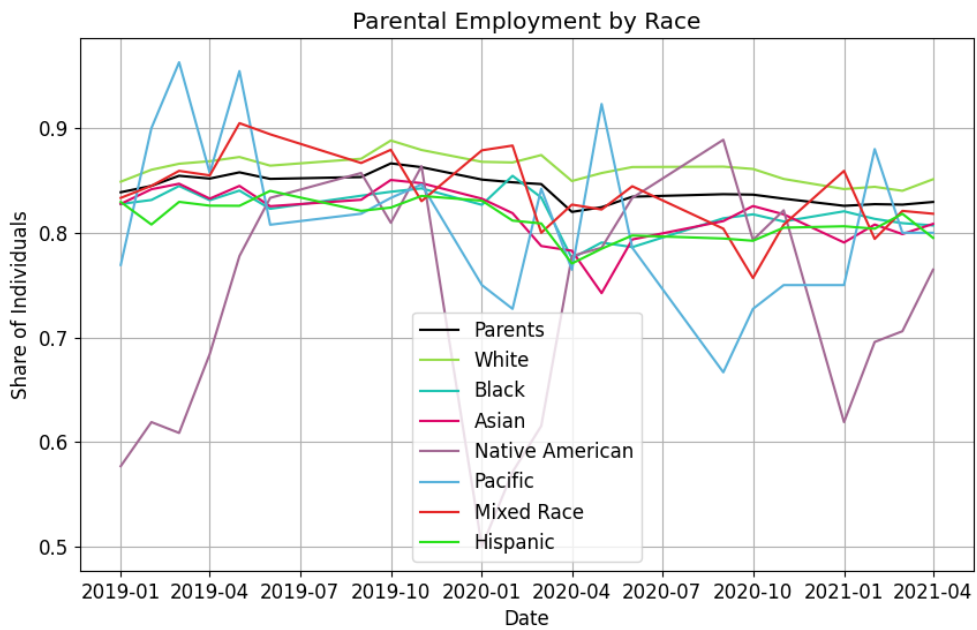
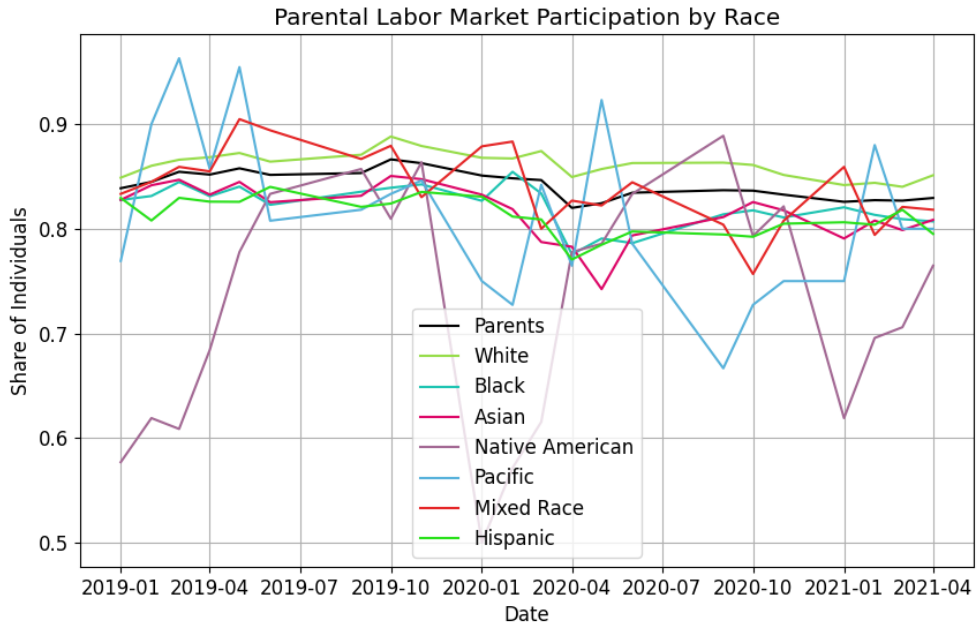
C.1 Heterogeneities in Labor Market Outcomes among Parents

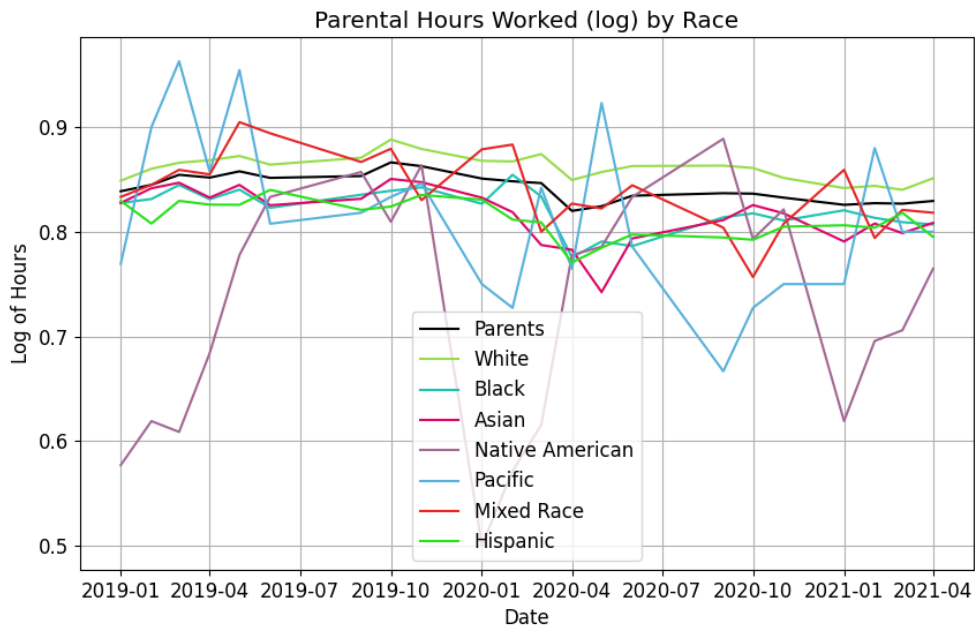
C.1.1 By Sex



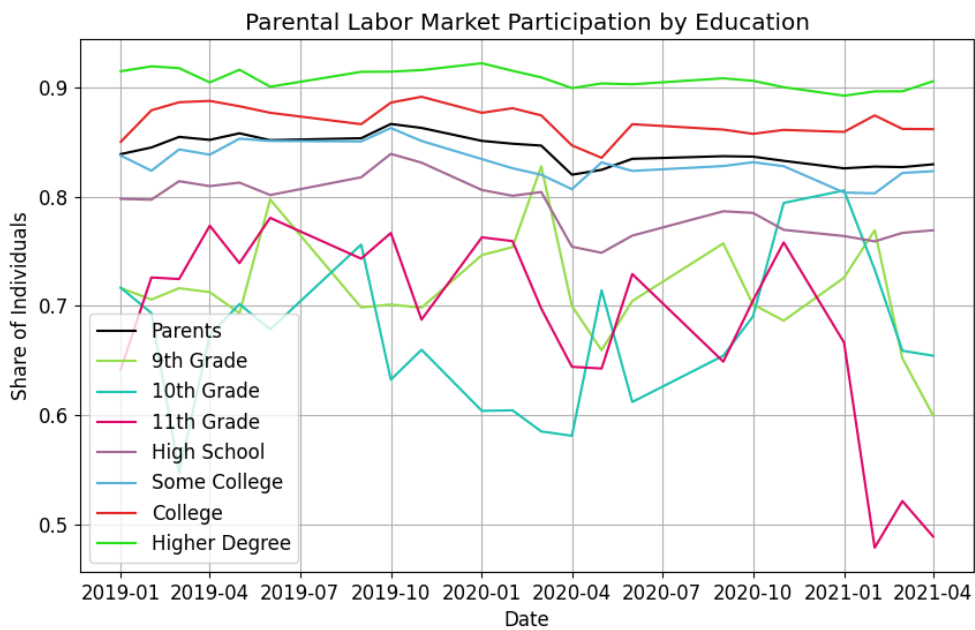


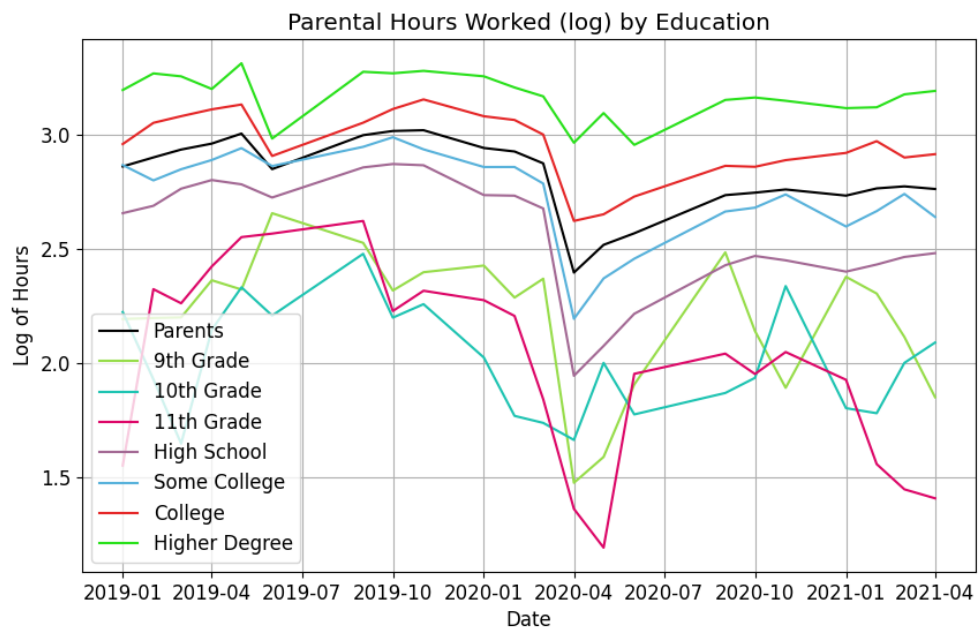
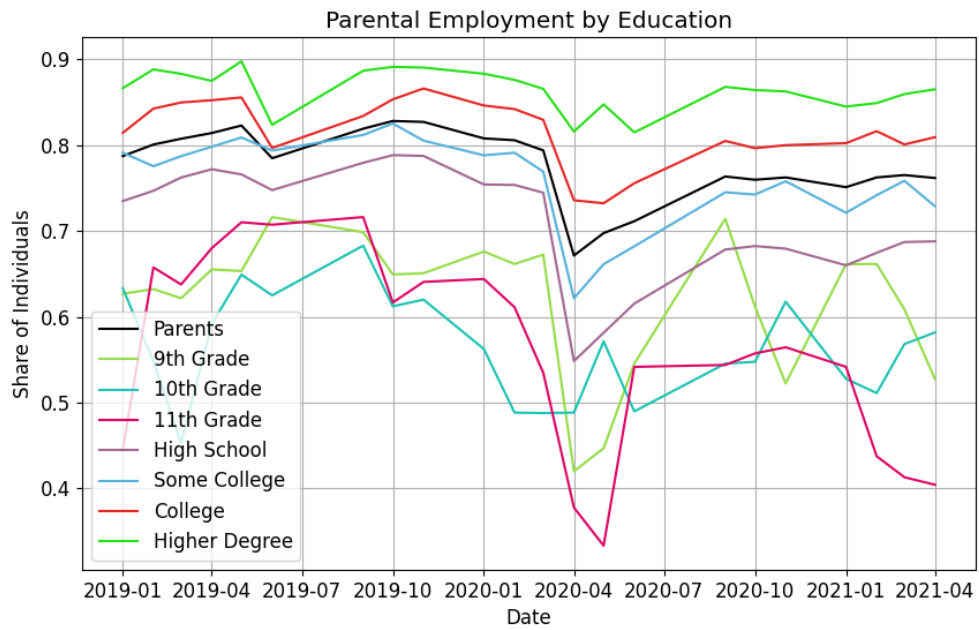
C.1.2 By Race



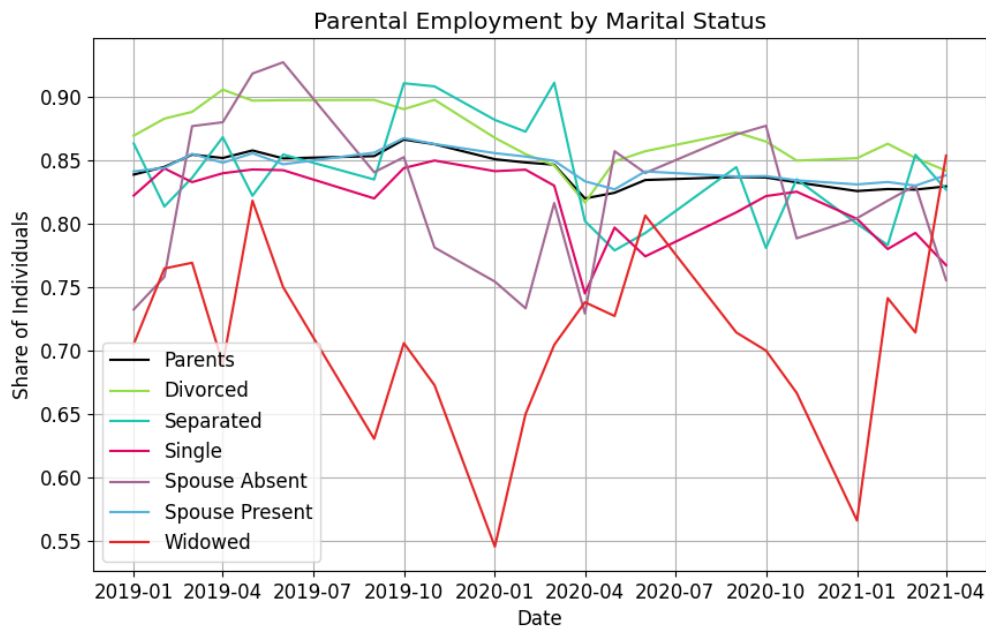
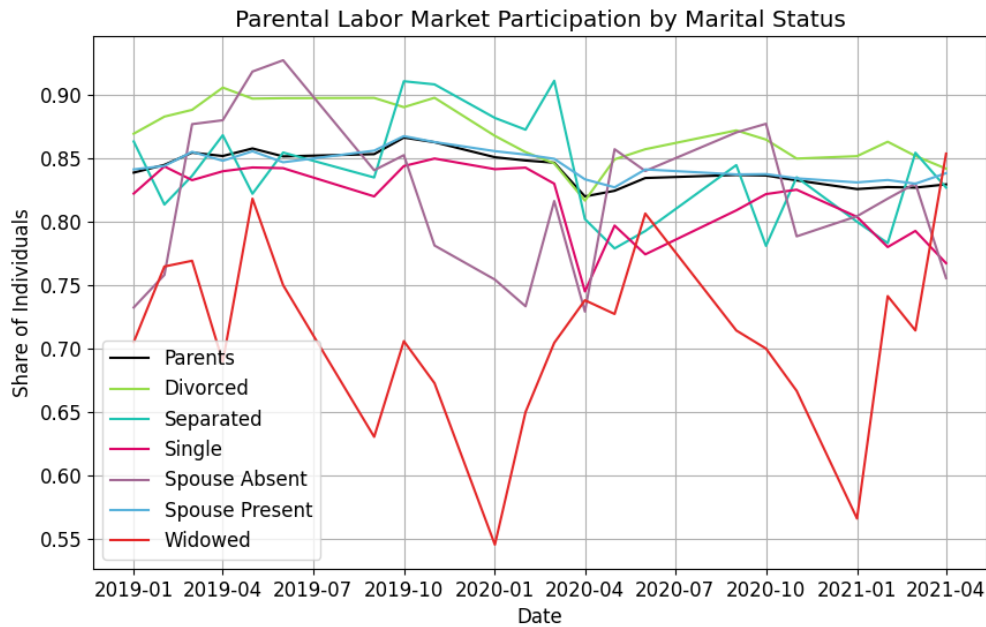


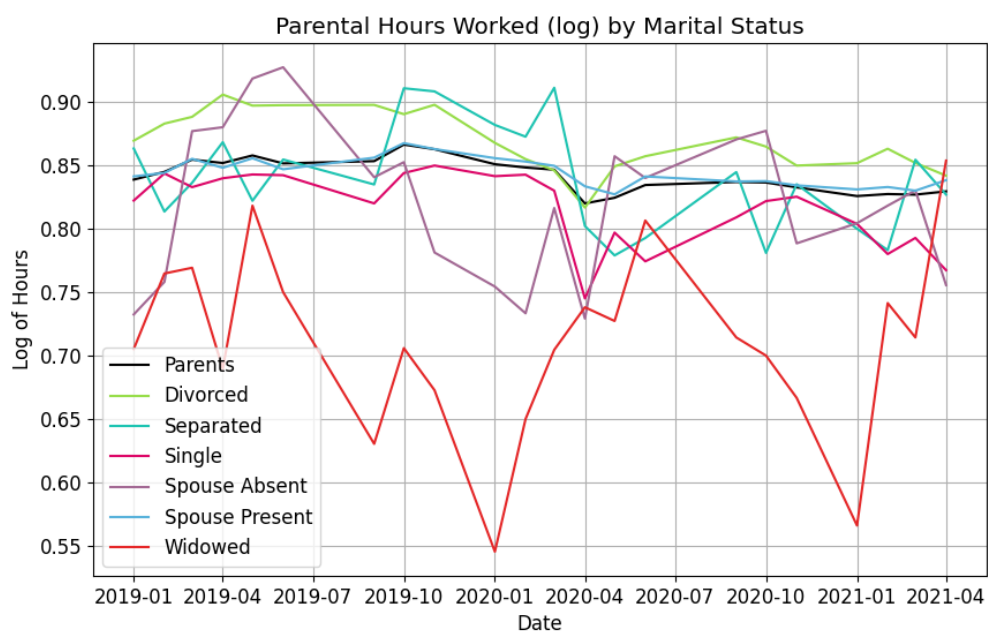
C.1.3 By Education





C.1.4 By Marital Status





D Mobility

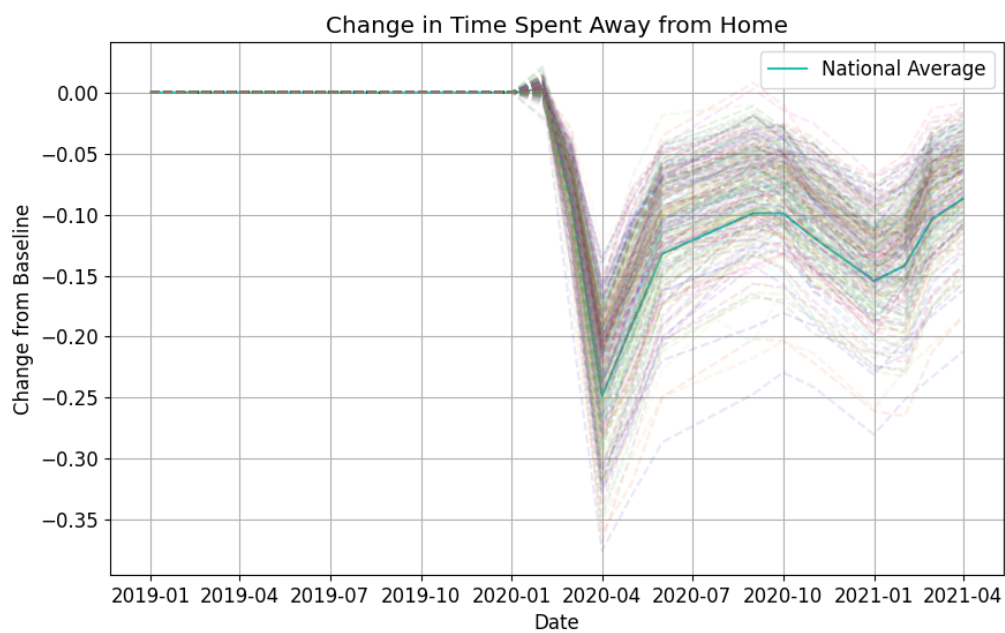


Figure 16: This figure shows percent change in time spent away from home by county (indexed to Jan 3-Feb 6 2020).

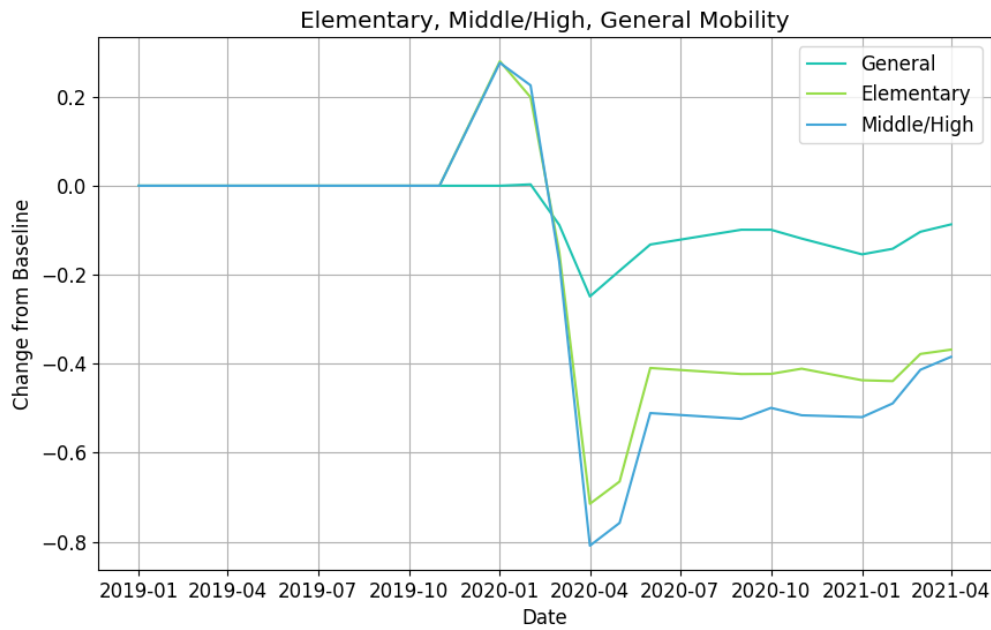


Figure 17: This figure shows the national averages of percent change in time spent away from home and percent change in the school mobility index (indexed to the same month in 2019).

D.1 Schools

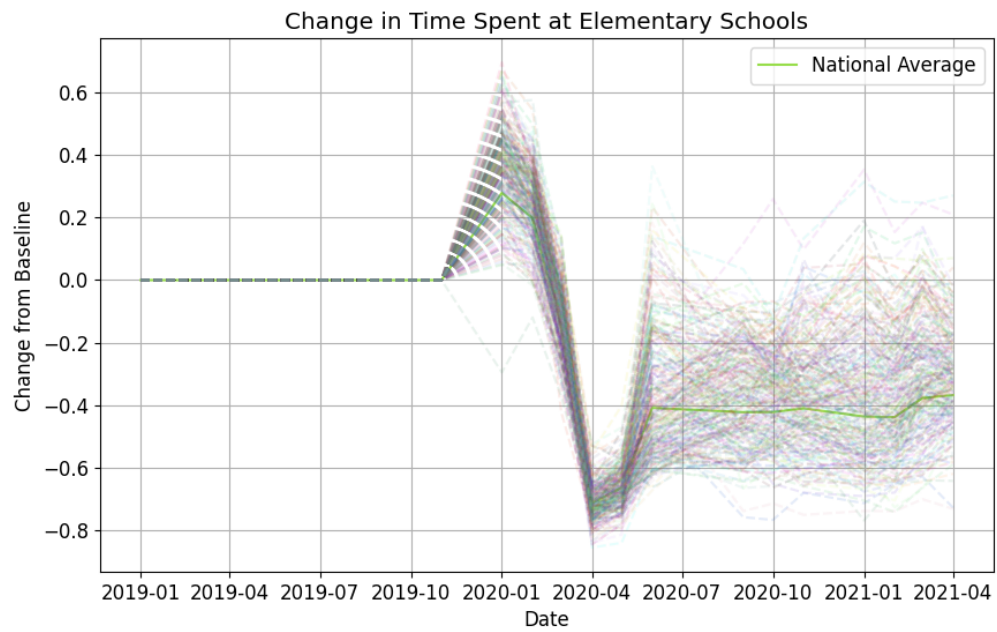


Figure 18: This figure shows percent change in the elementary school mobility index by county (indexed to the same month in 2019).

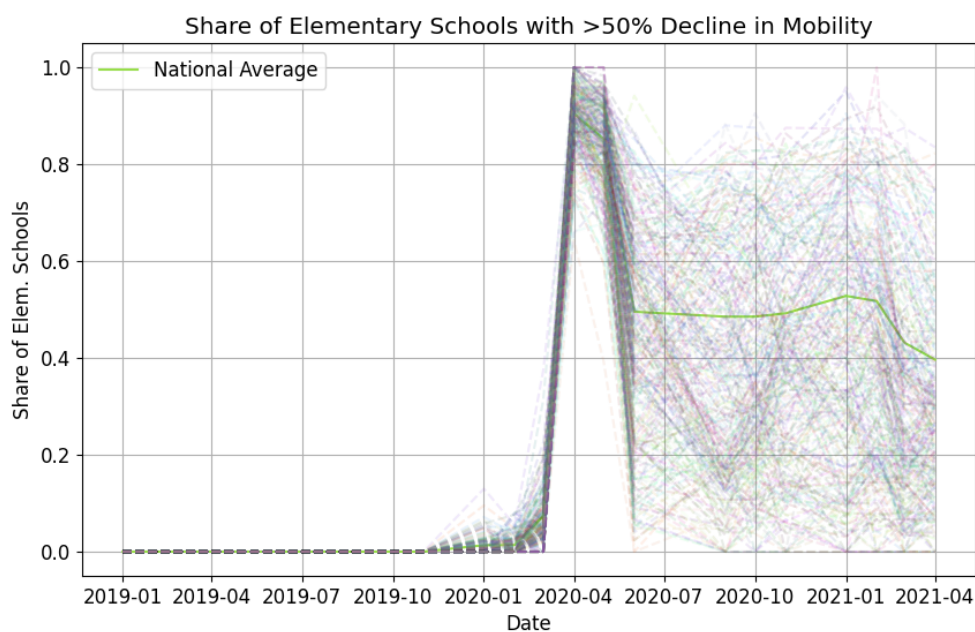


Figure 19: This figure shows the share of elementary schools in a county that have experienced a greater than 50% decline in the elementary school mobility index – our proxy for remote learning.

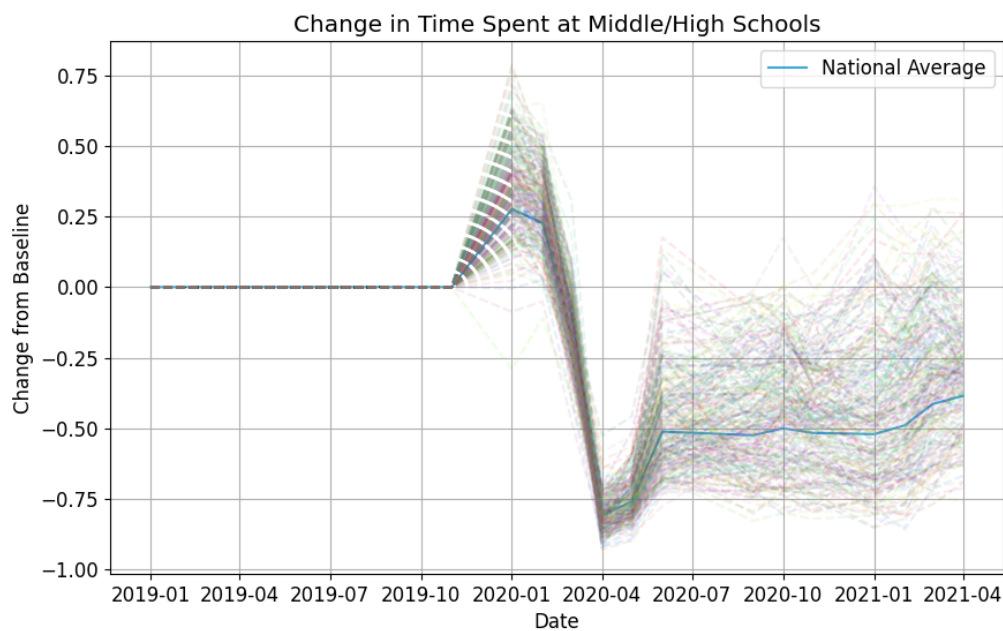


Figure 20: This figure shows percent change in the middle/high school mobility index by county (indexed to the same month in 2019).

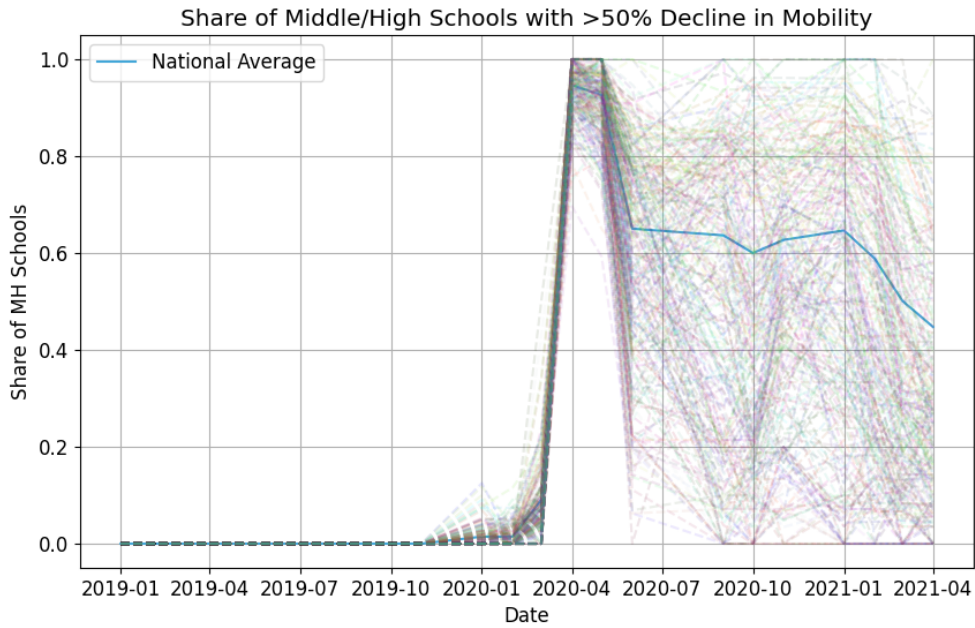


Figure 21: This figure shows the share of middle/high schools in a county that have experienced a greater than 50% decline in the middle/high school mobility index – our proxy for remote learning.

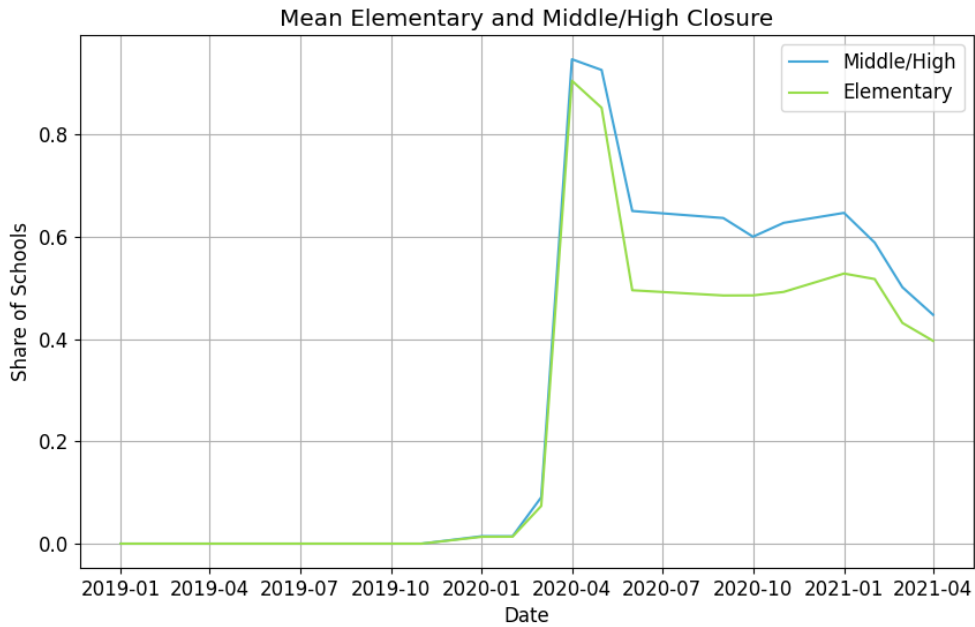


Figure 22: This figure shows the national averages of the remote learning measure for elementary and middle/high schools.

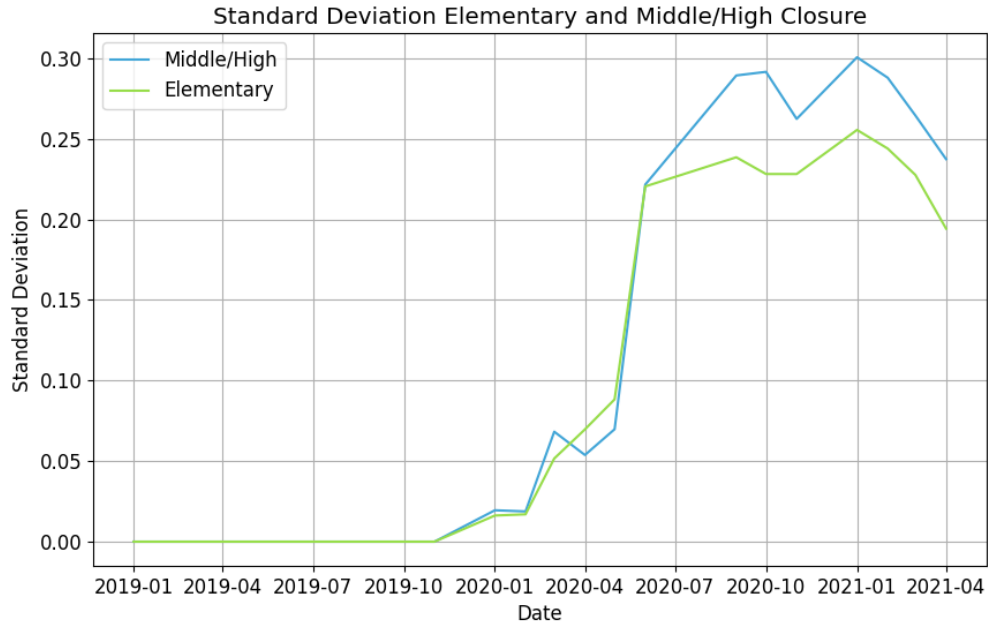


Figure 23: This figure shows the standard deviation of the remote learning measure for elementary and middle/high schools.

E Regressions

E.1 Full Sample

Table E.1: Base: Month-Year FE, Std. Errors Clustered at the Family Level

	Labor Force	Employed	Hours Worked (log)
	(1)	(2)	(3)
# MH	0.707***	0.122***	0.032***
	(0.035)	(0.029)	(0.003)
# Elem	0.433***	0.032	0.012***
	(0.024)	(0.022)	(0.002)

Native American	0.245*	0.123	0.030*
	(0.127)	(0.107)	(0.017)
Asian	−0.776***	−0.098***	−0.000
	(0.043)	(0.032)	(0.005)
Black	−0.449***	−0.182***	0.064***
	(0.033)	(0.025)	(0.004)
Mixed	−0.346***	−0.278***	−0.024**
	(0.093)	(0.058)	(0.011)
Pacific	0.117	−0.061	0.031
	(0.182)	(0.128)	(0.020)
Divorced	0.326***	−0.019	0.043***
	(0.034)	(0.027)	(0.004)
Separated	0.242***	−0.050	0.045***
	(0.072)	(0.054)	(0.008)
Single	−0.739***	−0.245***	−0.057***
	(0.035)	(0.022)	(0.003)
Spouse Absent	0.179**	0.018	0.026***
	(0.074)	(0.060)	(0.009)
Widowed	−0.602***	−0.136***	−0.071***
	(0.045)	(0.051)	(0.011)
10th Grade	0.050	−0.298***	−0.031**
	(0.077)	(0.073)	(0.015)
11th Grade	−0.605***	−0.479***	−0.195***

	(0.064)	(0.050)	(0.014)
9th Grade	0.512***	−0.007	−0.002
	(0.074)	(0.076)	(0.013)
College	0.171***	0.200***	0.074***
	(0.031)	(0.022)	(0.003)
High School	0.389***	−0.025	0.036***
	(0.026)	(0.020)	(0.003)
Grad Deg	−0.310***	0.288***	0.098***
	(0.036)	(0.028)	(0.004)
Ind 1	6.669***	0.406***	0.050***
	(0.120)	(0.060)	(0.008)
Ind 2	6.867***	0.755***	0.063***
	(0.129)	(0.063)	(0.007)
Ind 3	6.738***	0.667***	0.062***
	(0.089)	(0.047)	(0.005)
Ind 4	6.633***	0.628***	−0.018***
	(0.062)	(0.038)	(0.006)
Ind 5	6.582***	0.169***	−0.123***
	(0.059)	(0.037)	(0.007)
Ind 6	6.940***	0.450***	0.014***
	(0.056)	(0.033)	(0.005)
Ind 7	6.991***	0.389***	−0.065***
	(0.040)	(0.029)	(0.005)

Ind 8	6.854*** (0.039)	0.241*** (0.029)	-0.083*** (0.005)
Ind 9	7.059*** (0.060)	0.736*** (0.039)	-0.033*** (0.006)
Female	-1.732*** (0.024)	-0.008 (0.016)	-0.086*** (0.002)
Citizen	-0.543*** (0.040)	-0.119*** (0.032)	0.007* (0.004)
Hispan	0.237*** (0.031)	0.002 (0.023)	0.027*** (0.003)
Age	-0.042*** (0.001)	-0.003*** (0.001)	-0.002*** (0.000)
Fam Inc (k \$)	0.009*** (0.000)	0.008*** (0.000)	0.001*** (0.000)
COV Death/100k	-0.059** (0.026)	-0.064*** (0.017)	0.007** (0.003)
COV Cases/100k	0.001 (0.001)	0.000 (0.001)	0.000* (0.000)
% Δ T Away Home	2.779*** (0.348)	3.469*** (0.248)	0.077* (0.043)
% MH Closed × # MH	-0.035 (0.059)	-0.140*** (0.049)	-0.015** (0.006)
% Elem Closed × # Elem	-0.137***	0.044	-0.004

	(0.050)	(0.044)	(0.006)
Constant	0.779***	1.856***	3.622***
	(0.071)	(0.063)	(0.009)
var(e.Y)			0.229***
			(0.002)
Observations	673185	414227	376992

Standard errors in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table E.2: Base: Month-Year FE, Std. Errors Clustered at the Family Level

	Labor Force	Employed	Hours Worked (log)
	(1)	(2)	(3)
# MH	0.698***	0.129***	0.031***
	(0.035)	(0.029)	(0.003)
# Elem	0.424***	0.035	0.011***
	(0.025)	(0.022)	(0.002)
Native American	0.222*	0.098	0.033*
	(0.130)	(0.111)	(0.017)
Asian	-0.771***	-0.071**	0.001
	(0.044)	(0.033)	(0.005)
Black	-0.446***	-0.192***	0.066***
	(0.033)	(0.026)	(0.004)
Mixed	-0.352***	-0.294***	-0.024**

	(0.095)	(0.059)	(0.012)
Pacific	0.119	−0.020	0.040**
	(0.176)	(0.134)	(0.019)
Divorced	0.331***	−0.026	0.043***
	(0.035)	(0.028)	(0.004)
Separated	0.269***	−0.035	0.044***
	(0.072)	(0.058)	(0.008)
Single	−0.760***	−0.251***	−0.059***
	(0.036)	(0.022)	(0.003)
Spouse Absent	0.187**	0.002	0.022**
	(0.074)	(0.062)	(0.009)
Widowed	−0.613***	−0.144***	−0.071***
	(0.045)	(0.051)	(0.011)
10th Grade	0.063	−0.313***	−0.033**
	(0.077)	(0.075)	(0.015)
11th Grade	−0.619***	−0.490***	−0.202***
	(0.066)	(0.051)	(0.015)
9th Grade	0.513***	0.000	0.001
	(0.077)	(0.081)	(0.013)
College	0.197***	0.194***	0.080***
	(0.031)	(0.023)	(0.004)
High School	0.406***	−0.019	0.038***
	(0.027)	(0.020)	(0.003)

Grad Deg	−0.297*** (0.037)	0.256*** (0.029)	0.100*** (0.004)
Ind 1	6.812*** (0.157)	0.582*** (0.082)	0.053*** (0.010)
Ind 2	6.872*** (0.165)	0.657*** (0.077)	0.052*** (0.008)
Ind 3	7.029*** (0.119)	0.715*** (0.061)	0.057*** (0.006)
Ind 4	6.749*** (0.081)	0.740*** (0.050)	−0.025*** (0.007)
Ind 5	6.635*** (0.074)	0.399*** (0.050)	−0.128*** (0.008)
Ind 6	6.952*** (0.072)	0.515*** (0.042)	0.009 (0.006)
Ind 7	6.994*** (0.047)	0.385*** (0.036)	−0.074*** (0.006)
Ind 8	6.987*** (0.046)	0.555*** (0.037)	−0.082*** (0.006)
Ind 9	7.043*** (0.074)	0.623*** (0.050)	−0.049*** (0.007)
Female	−1.669*** (0.024)	0.013 (0.016)	−0.083*** (0.003)
Citizen	−0.571***	−0.138***	0.004

	(0.041)	(0.033)	(0.004)
Hispan	0.235***	−0.002	0.028***
	(0.031)	(0.024)	(0.003)
Age	−0.042***	−0.003***	−0.002***
	(0.001)	(0.001)	(0.000)
Fam Inc (k \$)	0.008***	0.007***	0.001***
	(0.000)	(0.000)	(0.000)
COV Death/100k	−0.053**	−0.061***	0.008**
	(0.024)	(0.018)	(0.003)
COV Cases/100k	0.001	0.000	0.000**
	(0.001)	(0.001)	(0.000)
% Δ T Away Home	2.431***	2.165***	0.195***
	(0.360)	(0.362)	(0.063)
Ind 1 × % Δ T Away Home	2.258*	2.227***	0.067
	(1.362)	(0.646)	(0.108)
Ind 2 × % Δ T Away Home	0.090	−1.366*	−0.210***
	(1.478)	(0.722)	(0.077)
Ind 3 × % Δ T Away Home	3.960***	0.671	−0.084
	(0.954)	(0.495)	(0.064)
Ind 4 × % Δ T Away Home	1.801***	1.433***	−0.139**
	(0.687)	(0.415)	(0.068)
Ind 5 × % Δ T Away Home	1.030	2.798***	−0.103
	(0.668)	(0.407)	(0.082)

Ind 6 \times % Δ T Away Home	0.328 (0.562)	0.934*** (0.347)	-0.099* (0.055)
Ind 7 \times % Δ T Away Home	0.248 (0.359)	0.130 (0.298)	-0.169*** (0.053)
Ind 8 \times % Δ T Away Home	1.952*** (0.348)	3.692*** (0.301)	0.010 (0.056)
Ind 9 \times % Δ T Away Home	0.048 (0.569)	-1.063*** (0.409)	-0.268*** (0.061)
Female \times # MH \times % MH Closed	-0.939*** (0.115)	-0.198*** (0.066)	-0.041*** (0.011)
Female \times # Elem \times % Elem Closed	-1.258*** (0.117)	-0.293*** (0.066)	-0.057*** (0.010)
Black \times # MH \times % MH Closed	-0.277 (0.209)	0.120 (0.122)	-0.034** (0.016)
Black \times # Elem \times % Elem Closed	-0.253 (0.161)	0.046 (0.105)	-0.025* (0.014)
Asian \times # MH \times % MH Closed	-0.143 (0.191)	-0.307*** (0.114)	-0.022 (0.021)
Asian \times # Elem \times % Elem Closed	0.095 (0.174)	0.021 (0.117)	0.003 (0.016)
Native American \times # MH \times % MH Closed	0.276 (0.765)	-0.136 (0.427)	-0.104 (0.097)
Native American \times # Elem \times % Elem Closed	0.602	0.792	-0.011

	(0.608)	(0.631)	(0.054)
Pacific \times # MH \times % MH Closed	-1.218**	-0.404	-0.132
	(0.476)	(0.471)	(0.104)
Pacific \times # Elem \times % Elem Closed	0.940	-0.132	-0.107
	(0.714)	(0.372)	(0.075)
Mixed \times # MH \times % MH Closed	-0.420	-0.305	-0.006
	(0.420)	(0.271)	(0.053)
Mixed \times # Elem \times % Elem Closed	0.384	0.757**	0.029
	(0.364)	(0.335)	(0.042)
Hispan \times # MH \times % MH Closed	-0.143	0.134	-0.009
	(0.163)	(0.103)	(0.015)
Hispan \times # Elem \times % Elem Closed	0.139	0.069	-0.033**
	(0.149)	(0.097)	(0.013)
Citizen \times # MH \times % MH Closed	0.337**	0.162	0.039*
	(0.169)	(0.121)	(0.021)
Citizen \times # Elem \times % Elem Closed	0.292*	0.063	0.029*
	(0.164)	(0.115)	(0.016)
Divorced \times # MH \times % MH Closed	-0.396*	0.171	0.008
	(0.230)	(0.117)	(0.020)
Divorced \times # Elem \times % Elem Closed	0.134	-0.051	-0.001
	(0.227)	(0.131)	(0.026)
Single \times # MH \times % MH Closed	0.820***	-0.025	0.092***
	(0.208)	(0.124)	(0.021)

Single \times # Elem \times % Elem Closed	0.658*** (0.196)	0.145 (0.102)	0.071*** (0.018)
Separated \times # MH \times % MH Closed	-0.087 (0.392)	-0.057 (0.199)	0.003 (0.037)
Separated \times # Elem \times % Elem Closed	-0.701*** (0.240)	-0.039 (0.192)	0.048* (0.027)
Spouse Absent \times # MH \times % MH Closed	-0.067 (0.429)	0.207 (0.325)	0.039 (0.049)
Spouse Absent \times # Elem \times % Elem Closed	-0.395 (0.404)	0.235 (0.331)	0.088*** (0.030)
College \times # MH \times % MH Closed	-0.762*** (0.176)	0.185* (0.101)	-0.075*** (0.016)
College \times # Elem \times % Elem Closed	-0.070 (0.176)	-0.039 (0.090)	-0.065*** (0.015)
High School \times # MH \times % MH Closed	-0.450*** (0.165)	-0.110 (0.092)	-0.036** (0.016)
High School \times # Elem \times % Elem Closed	-0.198 (0.151)	-0.058 (0.093)	-0.024* (0.014)
Grad Deg \times # MH \times % MH Closed	-0.362* (0.220)	0.293** (0.116)	-0.039** (0.016)
Grad Deg \times # Elem \times % Elem Closed	0.053 (0.189)	0.072 (0.120)	-0.034** (0.015)
9th Grade \times # MH \times % MH Closed	-0.299	0.302	-0.083

	(0.377)	(0.252)	(0.055)
9th Grade \times # Elem \times % Elem Closed	0.254	-0.271	0.018
	(0.317)	(0.257)	(0.038)
10th Grade \times # MH \times % MH Closed	-0.644	0.009	0.011
	(0.443)	(0.298)	(0.056)
10th Grade \times # Elem \times % Elem Closed	0.404	0.255	0.020
	(0.504)	(0.310)	(0.070)
11th Grade \times # MH \times % MH Closed	0.128	0.075	0.247***
	(0.283)	(0.279)	(0.035)
11th Grade \times # Elem \times % Elem Closed	0.494	-0.049	0.091**
	(0.515)	(0.227)	(0.037)
Fam Inc (k \$) \times # MH \times % MH Closed	0.006***	0.003***	0.000
	(0.001)	(0.001)	(0.000)
Fam Inc (k \$) \times # Elem \times % Elem Closed	0.001	0.002**	0.000
	(0.001)	(0.001)	(0.000)
% MH Closed \times # MH	0.028	-0.500***	0.002
	(0.265)	(0.167)	(0.029)
% Elem Closed \times # Elem	0.184	-0.101	0.021
	(0.247)	(0.165)	(0.024)
Constant	0.802***	1.782***	3.629***
	(0.072)	(0.067)	(0.010)
var(e.Y)			0.228***
			(0.002)

Observations	673185	414227	376992
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Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table E.3: Base: County RE, Heteroskedasticity Robust Std.Errors

	Labor Force	Employed	Hours Worked (log)
	(1)	(2)	(3)
# MH	0.712*** (0.037)	0.140*** (0.029)	0.034*** (0.003)
# Elem	0.429*** (0.025)	0.043** (0.022)	0.013*** (0.003)
Native American	0.203 (0.128)	−0.000 (0.111)	0.029* (0.015)
Asian	−0.784*** (0.085)	−0.039 (0.037)	−0.001 (0.005)
Black	−0.417*** (0.035)	−0.194*** (0.059)	0.052*** (0.006)
Mixed	−0.422*** (0.072)	−0.251*** (0.059)	−0.028** (0.011)
Pacific	−0.087 (0.152)	0.010 (0.074)	0.025 (0.017)
Divorced	0.333*** (0.036)	−0.018 (0.028)	0.042*** (0.004)

Separated	0.255*** (0.068)	−0.045 (0.064)	0.042*** (0.007)
Single	−0.712*** (0.048)	−0.220*** (0.024)	−0.057*** (0.006)
Spouse Absent	0.206*** (0.071)	0.033 (0.060)	0.024** (0.010)
Widowed	−0.594*** (0.044)	−0.133*** (0.048)	−0.073*** (0.012)
10th Grade	0.026 (0.087)	−0.282*** (0.081)	−0.033** (0.013)
11th Grade	−0.617*** (0.064)	−0.474*** (0.050)	−0.196*** (0.020)
9th Grade	0.499*** (0.075)	−0.016 (0.084)	−0.002 (0.012)
College	0.196*** (0.037)	0.193*** (0.031)	0.071*** (0.004)
High School	0.386*** (0.030)	−0.026 (0.022)	0.034*** (0.004)
Grad Deg	−0.273*** (0.054)	0.281*** (0.040)	0.093*** (0.005)
Ind 1	6.700*** (0.119)	0.413*** (0.054)	0.052*** (0.008)
Ind 2	6.912***	0.759***	0.067***

	(0.123)	(0.074)	(0.007)
Ind 3	6.800***	0.663***	0.067***
	(0.095)	(0.056)	(0.006)
Ind 4	6.669***	0.623***	−0.018***
	(0.058)	(0.044)	(0.007)
Ind 5	6.611***	0.174***	−0.123***
	(0.058)	(0.036)	(0.008)
Ind 6	6.989***	0.456***	0.011**
	(0.065)	(0.043)	(0.005)
Ind 7	7.033***	0.392***	−0.066***
	(0.047)	(0.038)	(0.005)
Ind 8	6.895***	0.247***	−0.083***
	(0.047)	(0.039)	(0.005)
Ind 9	7.084***	0.739***	−0.037***
	(0.086)	(0.059)	(0.007)
Female	−1.732***	−0.007	−0.086***
	(0.032)	(0.018)	(0.004)
Citizen	−0.574***	−0.126***	0.010**
	(0.052)	(0.031)	(0.004)
Hispan	0.286***	0.039	0.025***
	(0.035)	(0.035)	(0.003)
Age	−0.042***	−0.002***	−0.002***
	(0.001)	(0.001)	(0.000)

Fam Inc (k \$)	0.009*** (0.000)	0.008*** (0.000)	0.001*** (0.000)
COV Death/100k	-0.038 (0.027)	-0.061* (0.032)	0.005* (0.003)
COV Cases/100k	0.002*** (0.001)	0.006*** (0.001)	0.000*** (0.000)
% Δ T Away Home	1.285*** (0.137)	6.024*** (0.407)	0.265*** (0.024)
% MH Closed \times # MH	-0.033 (0.057)	-0.177*** (0.060)	-0.016*** (0.006)
% Elem Closed \times # Elem	-0.129*** (0.048)	0.021 (0.048)	-0.005 (0.005)
Constant	0.831*** (0.103)	1.975*** (0.072)	3.617*** (0.012)
var(County RE)	0.096*** (0.011)	0.066*** (0.008)	0.002*** (0.000)
var(e.Y)			0.227*** (0.004)
Observations	673185	414227	376992

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table E.4: Base: County RE, Heteroskedasticity Robust Std.Errors

	Labor Force	Employed	Hours Worked (log)
	(1)	(2)	(3)
# MH	0.704*** (0.037)	0.147*** (0.028)	0.033*** (0.003)
# Elem	0.420*** (0.025)	0.047** (0.021)	0.012*** (0.003)
Native American	0.178 (0.131)	-0.023 (0.116)	0.031** (0.015)
Asian	-0.775*** (0.084)	-0.024 (0.041)	-0.001 (0.005)
Black	-0.412*** (0.034)	-0.205*** (0.059)	0.053*** (0.006)
Mixed	-0.428*** (0.068)	-0.275*** (0.056)	-0.029** (0.011)
Pacific	-0.082 (0.149)	0.028 (0.082)	0.034** (0.017)
Divorced	0.338*** (0.036)	-0.024 (0.028)	0.042*** (0.004)
Separated	0.282*** (0.069)	-0.029 (0.061)	0.041*** (0.007)
Single	-0.733*** (0.047)	-0.227*** (0.024)	-0.060*** (0.006)

Spouse Absent	0.212*** (0.070)	0.015 (0.059)	0.021** (0.010)
Widowed	−0.606*** (0.045)	−0.142*** (0.048)	−0.073*** (0.012)
10th Grade	0.035 (0.091)	−0.294*** (0.082)	−0.035*** (0.013)
11th Grade	−0.632*** (0.069)	−0.485*** (0.052)	−0.203*** (0.021)
9th Grade	0.502*** (0.078)	−0.013 (0.085)	0.000 (0.013)
College	0.222*** (0.039)	0.186*** (0.034)	0.076*** (0.004)
High School	0.402*** (0.030)	−0.021 (0.024)	0.036*** (0.004)
Grad Deg	−0.259*** (0.055)	0.250*** (0.042)	0.095*** (0.005)
Ind 1	6.841*** (0.153)	0.593*** (0.080)	0.054*** (0.010)
Ind 2	6.920*** (0.169)	0.666*** (0.093)	0.055*** (0.009)
Ind 3	7.100*** (0.117)	0.711*** (0.064)	0.061*** (0.007)
Ind 4	6.791***	0.733***	−0.025***

	(0.082)	(0.056)	(0.008)
Ind 5	6.665***	0.399***	−0.129***
	(0.082)	(0.048)	(0.009)
Ind 6	7.011***	0.511***	0.005
	(0.080)	(0.060)	(0.006)
Ind 7	7.047***	0.373***	−0.076***
	(0.053)	(0.043)	(0.006)
Ind 8	7.037***	0.557***	−0.083***
	(0.053)	(0.054)	(0.006)
Ind 9	7.088***	0.610***	−0.053***
	(0.084)	(0.059)	(0.008)
Female	−1.669***	0.014	−0.082***
	(0.031)	(0.019)	(0.004)
Citizen	−0.605***	−0.145***	0.007*
	(0.054)	(0.029)	(0.004)
Hispan	0.286***	0.031	0.026***
	(0.034)	(0.034)	(0.003)
Age	−0.042***	−0.002***	−0.002***
	(0.001)	(0.001)	(0.000)
Fam Inc (k \$)	0.009***	0.008***	0.001***
	(0.000)	(0.000)	(0.000)
COV Death/100k	−0.032	−0.059*	0.005*
	(0.026)	(0.032)	(0.003)

COV Cases/100k	0.002*** (0.001)	0.006*** (0.001)	0.000*** (0.000)
% Δ T Away Home	1.048*** (0.156)	4.734*** (0.386)	0.386*** (0.049)
Ind 1 \times % Δ T Away Home	2.209* (1.316)	2.278*** (0.637)	0.051 (0.106)
Ind 2 \times % Δ T Away Home	0.109 (1.502)	-1.309* (0.787)	-0.225*** (0.086)
Ind 3 \times % Δ T Away Home	4.091*** (0.995)	0.667 (0.549)	-0.107 (0.071)
Ind 4 \times % Δ T Away Home	1.890*** (0.722)	1.406*** (0.419)	-0.148** (0.066)
Ind 5 \times % Δ T Away Home	1.038 (0.748)	2.754*** (0.413)	-0.111 (0.089)
Ind 6 \times % Δ T Away Home	0.455 (0.700)	0.825* (0.445)	-0.111* (0.060)
Ind 7 \times % Δ T Away Home	0.374 (0.404)	-0.032 (0.341)	-0.180*** (0.054)
Ind 8 \times % Δ T Away Home	2.068*** (0.422)	3.643*** (0.405)	-0.003 (0.057)
Ind 9 \times % Δ T Away Home	0.300 (0.561)	-1.244* (0.668)	-0.265*** (0.063)
Female \times # MH \times % MH Closed	-0.949***	-0.193***	-0.042***

	(0.135)	(0.066)	(0.012)
Female \times # Elem \times % Elem Closed	-1.264***	-0.290***	-0.057***
	(0.114)	(0.057)	(0.010)
Black \times # MH \times % MH Closed	-0.303	0.124	-0.033**
	(0.205)	(0.115)	(0.016)
Black \times # Elem \times % Elem Closed	-0.262	0.075	-0.023
	(0.160)	(0.084)	(0.016)
Asian \times # MH \times % MH Closed	-0.186	-0.244*	-0.019
	(0.146)	(0.130)	(0.027)
Asian \times # Elem \times % Elem Closed	0.077	0.065	0.010
	(0.162)	(0.095)	(0.015)
Native American \times # MH \times % MH Closed	0.338	-0.191	-0.111
	(0.768)	(0.432)	(0.085)
Native American \times # Elem \times % Elem Closed	0.590	0.801	0.005
	(0.557)	(0.607)	(0.050)
Pacific \times # MH \times % MH Closed	-1.256***	-0.257	-0.125
	(0.474)	(0.372)	(0.101)
Pacific \times # Elem \times % Elem Closed	0.893**	-0.057	-0.110
	(0.452)	(0.195)	(0.072)
Mixed \times # MH \times % MH Closed	-0.427	-0.232	-0.006
	(0.426)	(0.266)	(0.054)
Mixed \times # Elem \times % Elem Closed	0.428	0.759**	0.029
	(0.346)	(0.330)	(0.046)

Hispan \times # MH \times % MH Closed	-0.162 (0.164)	0.149 (0.099)	-0.009 (0.016)
Hispan \times # Elem \times % Elem Closed	0.129 (0.128)	0.086 (0.084)	-0.033*** (0.012)
Citizen \times # MH \times % MH Closed	0.361** (0.167)	0.167 (0.120)	0.035 (0.024)
Citizen \times # Elem \times % Elem Closed	0.303* (0.179)	0.061 (0.117)	0.027* (0.014)
Divorced \times # MH \times % MH Closed	-0.417* (0.239)	0.158 (0.118)	0.011 (0.021)
Divorced \times # Elem \times % Elem Closed	0.136 (0.228)	-0.048 (0.114)	-0.004 (0.024)
Single \times # MH \times % MH Closed	0.788*** (0.204)	-0.020 (0.123)	0.095*** (0.021)
Single \times # Elem \times % Elem Closed	0.664*** (0.158)	0.139* (0.078)	0.071*** (0.020)
Separated \times # MH \times % MH Closed	-0.090 (0.392)	-0.054 (0.199)	0.006 (0.037)
Separated \times # Elem \times % Elem Closed	-0.703*** (0.233)	-0.070 (0.197)	0.049* (0.027)
Spouse Absent \times # MH \times % MH Closed	-0.102 (0.387)	0.194 (0.313)	0.047 (0.050)
Spouse Absent \times # Elem \times % Elem Closed	-0.343	0.290	0.085***

	(0.421)	(0.291)	(0.030)
College \times # MH \times % MH Closed	-0.764***	0.183**	-0.070***
	(0.183)	(0.088)	(0.017)
College \times # Elem \times % Elem Closed	-0.087	-0.030	-0.061***
	(0.180)	(0.092)	(0.014)
High School \times # MH \times % MH Closed	-0.443**	-0.106	-0.034**
	(0.193)	(0.094)	(0.016)
High School \times # Elem \times % Elem Closed	-0.204	-0.061	-0.022
	(0.161)	(0.075)	(0.015)
Grad Deg \times # MH \times % MH Closed	-0.374	0.283**	-0.034**
	(0.237)	(0.131)	(0.017)
Grad Deg \times # Elem \times % Elem Closed	0.039	0.071	-0.031*
	(0.198)	(0.140)	(0.016)
9th Grade \times # MH \times % MH Closed	-0.337	0.326	-0.071
	(0.445)	(0.261)	(0.054)
9th Grade \times # Elem \times % Elem Closed	0.263	-0.259	0.027
	(0.367)	(0.228)	(0.037)
10th Grade \times # MH \times % MH Closed	-0.543	-0.005	0.021
	(0.468)	(0.253)	(0.056)
10th Grade \times # Elem \times % Elem Closed	0.461	0.243	0.024
	(0.505)	(0.297)	(0.068)
11th Grade \times # MH \times % MH Closed	0.142	0.067	0.248***
	(0.352)	(0.282)	(0.040)

11th Grade \times # Elem \times % Elem Closed	0.454 (0.474)	-0.034 (0.211)	0.097** (0.043)
Fam Inc (k \$) \times # MH \times % MH Closed	0.006*** (0.001)	0.003*** (0.001)	0.000 (0.000)
Fam Inc (k \$) \times # Elem \times % Elem Closed	0.001 (0.001)	0.003*** (0.001)	0.000 (0.000)
% MH Closed \times # MH	0.036 (0.300)	-0.562*** (0.168)	-0.006 (0.033)
% Elem Closed \times # Elem	0.198 (0.272)	-0.152 (0.129)	0.012 (0.024)
Constant	0.852*** (0.105)	1.912*** (0.079)	3.625*** (0.012)
var(County RE)	0.098*** (0.011)	0.066*** (0.008)	0.002*** (0.000)
var(e.Y)			0.227*** (0.004)
Observations	673185	414227	376992

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table E.5: Instrumented: Month-Year FE, Std. Errors Clustered at the Family Level

	Labor Force	Employed	Hours Worked (log)
	(1)	(2)	(3)

2nd Stage			
# MH	0.707*** (0.035)	0.122*** (0.029)	0.032*** (0.003)
# Elem	0.433*** (0.024)	0.032 (0.022)	0.012*** (0.002)
Native American	0.245* (0.127)	0.123 (0.107)	0.030* (0.017)
Asian	-0.776*** (0.043)	-0.098*** (0.032)	-0.000 (0.005)
Black	-0.449*** (0.033)	-0.182*** (0.025)	0.064*** (0.004)
Mixed	-0.346*** (0.093)	-0.278*** (0.058)	-0.024** (0.011)
Pacific	0.117 (0.182)	-0.061 (0.128)	0.031 (0.020)
Divorced	0.326*** (0.034)	-0.019 (0.027)	0.043*** (0.004)
Separated	0.242*** (0.072)	-0.050 (0.054)	0.045*** (0.008)
Single	-0.739*** (0.035)	-0.245*** (0.022)	-0.057*** (0.003)
Spouse Absent	0.179**	0.018	0.026***

	(0.074)	(0.060)	(0.009)
Widowed	−0.602***	−0.136***	−0.071***
	(0.045)	(0.051)	(0.011)
10th Grade	0.050	−0.298***	−0.031**
	(0.077)	(0.073)	(0.015)
11th Grade	−0.605***	−0.479***	−0.195***
	(0.064)	(0.050)	(0.014)
9th Grade	0.512***	−0.007	−0.002
	(0.074)	(0.076)	(0.013)
College	0.171***	0.200***	0.074***
	(0.031)	(0.022)	(0.003)
High School	0.389***	−0.025	0.036***
	(0.026)	(0.020)	(0.003)
Grad Deg	−0.310***	0.288***	0.098***
	(0.036)	(0.028)	(0.004)
Ind 1	6.669***	0.406***	0.050***
	(0.120)	(0.060)	(0.008)
Ind 2	6.867***	0.755***	0.063***
	(0.129)	(0.063)	(0.007)
Ind 3	6.738***	0.667***	0.062***
	(0.089)	(0.047)	(0.005)
Ind 4	6.633***	0.628***	−0.018***
	(0.062)	(0.038)	(0.006)

Ind 5	6.582*** (0.059)	0.169*** (0.037)	−0.123*** (0.007)
Ind 6	6.940*** (0.056)	0.450*** (0.033)	0.014*** (0.005)
Ind 7	6.991*** (0.040)	0.389*** (0.029)	−0.065*** (0.005)
Ind 8	6.854*** (0.039)	0.241*** (0.029)	−0.083*** (0.005)
Ind 9	7.059*** (0.060)	0.736*** (0.039)	−0.033*** (0.006)
Female	−1.732*** (0.024)	−0.008 (0.016)	−0.086*** (0.002)
Citizen	−0.543*** (0.040)	−0.119*** (0.032)	0.007* (0.004)
Hispan	0.237*** (0.031)	0.002 (0.023)	0.027*** (0.003)
Age	−0.042*** (0.001)	−0.003*** (0.001)	−0.002*** (0.000)
Fam Inc (k \$)	0.009*** (0.000)	0.008*** (0.000)	0.001*** (0.000)
COV Death/100k	−0.059** (0.026)	−0.064*** (0.017)	0.007** (0.003)
COV Cases/100k	0.001	0.000	0.000*

	(0.001)	(0.001)	(0.000)
% Δ T Away Home	2.779***	3.469***	0.077*
	(0.348)	(0.248)	(0.043)
% MH Closed \times # MH	-0.035	-0.140***	-0.015**
	(0.059)	(0.049)	(0.006)
% Elem Closed \times # Elem	-0.137***	0.044	-0.004
	(0.050)	(0.044)	(0.006)
Constant	0.779***	1.856***	3.622***
	(0.071)	(0.063)	(0.009)
1st Stage: % Elem Closed			
# MH	-0.020***	-0.017**	-0.017**
	(0.007)	(0.007)	(0.008)
# Elem	-0.002	-0.002	-0.000
	(0.006)	(0.006)	(0.006)
Native American	0.307***	0.290***	0.308***
	(0.036)	(0.039)	(0.040)
Asian	0.081***	0.071***	0.074***
	(0.008)	(0.009)	(0.009)
Black	0.135***	0.130***	0.131***
	(0.008)	(0.010)	(0.011)
Mixed	0.006	-0.002	0.007
	(0.019)	(0.023)	(0.024)

Pacific	−0.067** (0.034)	−0.088** (0.040)	−0.087** (0.043)
Divorced	0.008 (0.007)	0.015 (0.009)	0.016* (0.009)
Separated	0.001 (0.018)	0.000 (0.019)	−0.002 (0.020)
Single	0.041*** (0.006)	0.036*** (0.008)	0.037*** (0.008)
Spouse Absent	0.061*** (0.014)	0.060*** (0.016)	0.061*** (0.016)
Widowed	−0.007 (0.009)	0.011 (0.017)	0.012 (0.018)
10th Grade	−0.002 (0.017)	0.004 (0.029)	0.014 (0.032)
11th Grade	−0.024* (0.014)	−0.036* (0.020)	−0.031 (0.022)
9th Grade	0.005 (0.019)	0.045* (0.026)	0.045 (0.029)
College	0.018*** (0.006)	0.024*** (0.007)	0.024*** (0.007)
High School	−0.008 (0.006)	0.000 (0.007)	−0.001 (0.007)
Grad Deg	0.024***	0.034***	0.030***

	(0.007)	(0.008)	(0.008)
Ind 1	0.016	0.025	0.015
	(0.020)	(0.022)	(0.023)
Ind 2	−0.071***	−0.064***	−0.063***
	(0.018)	(0.020)	(0.020)
Ind 3	−0.068***	−0.061***	−0.065***
	(0.013)	(0.015)	(0.016)
Ind 4	−0.017*	−0.010	−0.012
	(0.010)	(0.013)	(0.014)
Ind 5	−0.003	0.006	0.001
	(0.010)	(0.013)	(0.014)
Ind 6	0.003	0.008	0.005
	(0.007)	(0.011)	(0.012)
Ind 7	−0.001	0.004	0.004
	(0.006)	(0.010)	(0.011)
Ind 8	0.001	0.009	0.005
	(0.006)	(0.010)	(0.011)
Ind 9	0.035***	0.042***	0.040***
	(0.009)	(0.012)	(0.013)
Female	−0.002	−0.006*	−0.008**
	(0.003)	(0.004)	(0.004)
Citizen	−0.012	−0.003	−0.003
	(0.008)	(0.010)	(0.010)

Hispan	0.252*** (0.007)	0.242*** (0.008)	0.242*** (0.008)
Age	0.001*** (0.000)	0.001** (0.000)	0.001*** (0.000)
Fam Inc (k \$)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
COV Death/100k	-0.155*** (0.009)	-0.120*** (0.011)	-0.099*** (0.012)
COV Cases/100k	-0.004*** (0.000)	-0.004*** (0.000)	-0.004*** (0.000)
% Δ T Away Home	-15.577*** (0.125)	-15.883*** (0.149)	-16.275*** (0.154)
Union Expen	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Constant	-4.431*** (0.017)	-4.434*** (0.021)	-4.431*** (0.022)

1st Stage: % MH Closed

# MH	-0.015* (0.008)	-0.011 (0.009)	-0.010 (0.009)
# Elem	-0.000 (0.006)	-0.002 (0.007)	0.001 (0.007)
Native American	0.443***	0.399***	0.406***

	(0.045)	(0.054)	(0.053)
Asian	0.096***	0.089***	0.089***
	(0.009)	(0.010)	(0.010)
Black	0.156***	0.156***	0.157***
	(0.009)	(0.011)	(0.012)
Mixed	0.046**	0.047**	0.058***
	(0.018)	(0.021)	(0.022)
Pacific	0.101**	0.110*	0.110
	(0.050)	(0.061)	(0.067)
Divorced	0.022***	0.022**	0.018*
	(0.008)	(0.010)	(0.011)
Separated	−0.015	−0.018	−0.017
	(0.021)	(0.021)	(0.022)
Single	0.036***	0.035***	0.036***
	(0.007)	(0.009)	(0.009)
Spouse Absent	0.044***	0.050***	0.046***
	(0.014)	(0.016)	(0.016)
Widowed	0.010	0.031	0.037*
	(0.010)	(0.020)	(0.021)
10th Grade	0.003	0.010	0.009
	(0.022)	(0.038)	(0.041)
11th Grade	−0.045***	−0.069***	−0.075***
	(0.015)	(0.023)	(0.025)

9th Grade	−0.032 (0.020)	−0.014 (0.027)	−0.023 (0.027)
College	0.015** (0.006)	0.009 (0.008)	0.009 (0.008)
High School	−0.017*** (0.006)	−0.015* (0.008)	−0.016* (0.008)
Grad Deg	0.015** (0.007)	0.021** (0.009)	0.019** (0.009)
Ind 1	0.024 (0.022)	0.036 (0.024)	0.032 (0.025)
Ind 2	−0.101*** (0.018)	−0.094*** (0.021)	−0.091*** (0.021)
Ind 3	−0.058*** (0.014)	−0.051*** (0.017)	−0.050*** (0.017)
Ind 4	0.002 (0.011)	0.008 (0.015)	0.011 (0.016)
Ind 5	0.017 (0.013)	0.025 (0.016)	0.025 (0.018)
Ind 6	0.013 (0.008)	0.021 (0.013)	0.020 (0.013)
Ind 7	0.000 (0.006)	0.007 (0.012)	0.007 (0.012)
Ind 8	0.006	0.014	0.013

	(0.007)	(0.012)	(0.012)
Ind 9	0.037***	0.045***	0.044***
	(0.010)	(0.014)	(0.015)
Female	−0.008***	−0.010**	−0.011**
	(0.003)	(0.004)	(0.004)
Citizen	−0.017**	−0.016	−0.017*
	(0.009)	(0.010)	(0.010)
Hispan	0.209***	0.205***	0.209***
	(0.007)	(0.008)	(0.009)
Age	0.000**	0.001**	0.001**
	(0.000)	(0.000)	(0.000)
Fam Inc (k \$)	−0.000**	−0.000**	−0.000**
	(0.000)	(0.000)	(0.000)
COV Death/100k	−0.205***	−0.174***	−0.164***
	(0.009)	(0.011)	(0.012)
COV Cases/100k	−0.004***	−0.005***	−0.005***
	(0.000)	(0.000)	(0.000)
% Δ T Away Home	−15.614***	−15.741***	−16.338***
	(0.136)	(0.164)	(0.169)
Union Expen	0.001***	0.000**	0.000*
	(0.000)	(0.000)	(0.000)
Constant	−3.959***	−3.966***	−3.962***
	(0.020)	(0.024)	(0.025)

var(e.Y)			0.229*** (0.002)
Observations	673185	414227	376992

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table E.6: Instrumented: Month-Year FE, Std. Errors Clustered at Family with Int

	Labor Force	Employed	Hours Worked (log)
	(1)	(2)	(3)
2nd Stage			
# MH	0.698*** (0.035)	0.129*** (0.029)	0.031*** (0.003)
# Elem	0.424*** (0.025)	0.035 (0.022)	0.011*** (0.002)
Native American	0.222* (0.13)	0.098 (0.111)	0.033* (0.017)
Asian	-0.771*** (0.044)	-0.071** (0.033)	0.001 (0.005)
Black	-0.446*** (0.033)	-0.192*** (0.026)	0.066*** (0.004)
Mixed	-0.352*** (0.095)	-0.294*** (0.059)	-0.024** (0.012)

Pacific	0.119 (0.176)	−0.02 (0.134)	0.04** (0.019)
Divorced	0.331*** (0.035)	−0.026 (0.028)	0.043*** (0.004)
Separated	0.269*** (0.072)	−0.035 (0.058)	0.044*** (0.008)
Single	−0.76*** (0.036)	−0.251*** (0.022)	−0.059*** (0.003)
Spouse Absent	0.187** (0.074)	0.002 (0.062)	0.022** (0.009)
Widowed	−0.613*** (0.045)	−0.144*** (0.051)	−0.071*** (0.011)
10th Grade	0.063 (0.077)	−0.313*** (0.075)	−0.033** (0.015)
11th Grade	−0.619*** (0.066)	−0.49*** (0.051)	−0.202*** (0.015)
9th Grade	0.513*** (0.077)	0.000 (0.081)	0.001 (0.013)
College	0.197*** (0.031)	0.194*** (0.023)	0.08*** (0.004)
High School	0.406*** (0.027)	−0.019 (0.02)	0.038*** (0.003)
Grad Deg	−0.297***	0.256***	0.1***

	(0.037)	(0.029)	(0.004)
Ind 1	6.812***	0.582***	0.053***
	(0.157)	(0.082)	(0.01)
Ind 2	6.872***	0.657***	0.052***
	(0.165)	(0.077)	(0.008)
Ind 3	7.029***	0.715***	0.057***
	(0.119)	(0.061)	(0.006)
Ind 4	6.749***	0.74***	−0.025***
	(0.081)	(0.05)	(0.007)
Ind 5	6.635***	0.399***	−0.128***
	(0.074)	(0.05)	(0.008)
Ind 6	6.952***	0.515***	0.009
	(0.072)	(0.042)	(0.006)
Ind 7	6.994***	0.385***	−0.074***
	(0.047)	(0.036)	(0.006)
Ind 8	6.987***	0.555***	−0.082***
	(0.046)	(0.037)	(0.006)
Ind 9	7.043***	0.623***	−0.049***
	(0.074)	(0.05)	(0.007)
Female	−1.669***	0.013	−0.083***
	(0.024)	(0.016)	(0.003)
Citizen	−0.571***	−0.138***	0.004
	(0.041)	(0.033)	(0.004)

Hispan	0.235*** (0.031)	−0.002 (0.024)	0.028*** (0.003)
Age	−0.042*** (0.001)	−0.003*** (0.001)	−0.002*** (0.000)
Fam Inc (k \$)	0.008*** (0.000)	0.007*** (0.000)	0.001*** (0.000)
COV Death/100k	−0.053** (0.024)	−0.061*** (0.018)	0.008** (0.003)
COV Cases/100k	0.001 (0.001)	0.000 (0.001)	0.000*** (0.000)
% Δ T Away Home	2.431*** (0.36)	2.165*** (0.362)	0.195*** (0.063)
Ind 1 \times % Δ T Away Home	2.258* (1.362)	2.227*** (0.646)	0.067 (0.108)
Ind 2 \times % Δ T Away Home	0.09 (1.478)	−1.366* (0.722)	−0.21*** (0.077)
Ind 3 \times % Δ T Away Home	3.96*** (0.954)	0.671 (0.495)	−0.084 (0.064)
Ind 4 \times % Δ T Away Home	1.801*** (0.687)	1.433*** (0.415)	−0.139** (0.068)
Ind 5 \times % Δ T Away Home	1.03 (0.668)	2.798*** (0.407)	−0.103 (0.082)
Ind 6 \times % Δ T Away Home	0.328	0.934***	−0.099*

	(0.562)	(0.347)	(0.055)
Ind 7 \times % Δ T Away Home	0.248	0.13	−0.169***
	(0.359)	(0.298)	(0.053)
Ind 8 \times % Δ T Away Home	1.952***	3.692***	0.01
	(0.348)	(0.301)	(0.056)
Ind 9 \times % Δ T Away Home	0.048	−1.063***	−0.268***
	(0.569)	(0.409)	(0.061)
Female \times # MH \times % MH Closed	−0.939***	−0.198***	−0.041***
	(0.115)	(0.066)	(0.011)
Female \times # Elem \times % Elem Closed	−1.258***	−0.293***	−0.057***
	(0.117)	(0.066)	(0.01)
Black \times # MH \times % MH Closed	−0.277	0.12	−0.034**
	(0.209)	(0.122)	(0.016)
Black \times # Elem \times % Elem Closed	−0.253	0.046	−0.025*
	(0.161)	(0.105)	(0.014)
Asian \times # MH \times % MH Closed	−0.143	−0.307***	−0.022
	(0.191)	(0.114)	(0.021)
Asian \times # Elem \times % Elem Closed	0.095	0.021	0.003
	(0.174)	(0.117)	(0.016)
Native American \times # MH \times % MH Closed	0.276	−0.136	−0.104
	(0.765)	(0.427)	(0.097)
Native American \times # Elem \times % Elem Closed	0.602	0.792	−0.011
	(0.608)	(0.631)	(0.054)

Pacific \times # MH \times % MH Closed	-1.218** (0.476)	-0.404 (0.471)	-0.132 (0.104)
Pacific \times # Elem \times % Elem Closed	0.94 (0.714)	-0.132 (0.372)	-0.107 (0.075)
Mixed \times # MH \times % MH Closed	-0.42 (0.42)	-0.305 (0.271)	-0.006 (0.053)
Mixed \times # Elem \times % Elem Closed	0.384 (0.364)	0.757** (0.335)	0.029 (0.042)
Hispan \times # MH \times % MH Closed	-0.143 (0.163)	0.134 (0.103)	-0.009 (0.015)
Hispan \times # Elem \times % Elem Closed	0.139 (0.149)	0.069 (0.097)	-0.033** (0.013)
Citizen \times # MH \times % MH Closed	0.337** (0.169)	0.162 (0.121)	0.039* (0.021)
Citizen \times # Elem \times % Elem Closed	0.292* (0.164)	0.063 (0.115)	0.029* (0.016)
Divorced \times # MH \times % MH Closed	-0.396* (0.23)	0.171 (0.117)	0.008 (0.02)
Divorced \times # Elem \times % Elem Closed	0.134 (0.227)	-0.051 (0.131)	-0.001 (0.026)
Single \times # MH \times % MH Closed	0.82*** (0.208)	-0.025 (0.124)	0.092*** (0.021)
Single \times # Elem \times % Elem Closed	0.658***	0.145	0.071***

	(0.196)	(0.102)	(0.018)
Separated \times # MH \times % MH Closed	-0.087	-0.057	0.003
	(0.392)	(0.199)	(0.037)
Separated \times # Elem \times % Elem Closed	-0.701***	-0.039	0.048*
	(0.24)	(0.192)	(0.027)
Spouse Absent \times # MH \times % MH Closed	-0.067	0.207	0.039
	(0.429)	(0.325)	(0.049)
Spouse Absent \times # Elem \times % Elem Closed	-0.395	0.235	0.088***
	(0.404)	(0.331)	(0.03)
College \times # MH \times % MH Closed	-0.762***	0.185*	-0.075***
	(0.176)	(0.101)	(0.016)
College \times # Elem \times % Elem Closed	-0.07	-0.039	-0.065***
	(0.176)	(0.09)	(0.015)
High School \times # MH \times % MH Closed	-0.45***	-0.11	-0.036**
	(0.165)	(0.092)	(0.016)
High School \times # Elem \times % Elem Closed	-0.198	-0.058	-0.024*
	(0.151)	(0.093)	(0.014)
Grad Deg \times # MH \times % MH Closed	-0.362*	0.293**	-0.039**
	(0.22)	(0.116)	(0.016)
Grad Deg \times # Elem \times % Elem Closed	0.053	0.072	-0.034**
	(0.189)	(0.12)	(0.015)
9th Grade \times # MH \times % MH Closed	-0.299	0.302	-0.083
	(0.377)	(0.252)	(0.055)

9th Grade \times # Elem \times % Elem Closed	0.254 (0.317)	-0.271 (0.257)	0.018 (0.038)
10th Grade \times # MH \times % MH Closed	-0.644 (0.443)	0.009 (0.298)	0.011 (0.056)
10th Grade \times # Elem \times % Elem Closed	0.404 (0.504)	0.255 (0.31)	0.02 (0.07)
11th Grade \times # MH \times % MH Closed	0.128 (0.283)	0.075 (0.279)	0.247*** (0.035)
11th Grade \times # Elem \times % Elem Closed	0.494 (0.515)	-0.049 (0.227)	0.091** (0.037)
Fam Inc (k \$) \times # MH \times % MH Closed	0.006*** (0.001)	0.003*** (0.001)	0.000 (0.000)
Fam Inc (k \$) \times # Elem \times % Elem Closed	0.001 (0.001)	0.002** (0.001)	0.000 (0.000)
% MH Closed \times # MH	0.028 (0.265)	-0.5*** (0.167)	0.002 (0.029)
% Elem Closed \times # Elem	0.184 (0.247)	-0.101 (0.165)	0.021 (0.024)
Constant	0.802*** (0.072)	1.782*** (0.067)	3.629*** (0.01)
<hr/> 1st Stage: % Elem Closed			
# MH	-0.02***	-0.017**	-0.017**

	(0.007)	(0.007)	(0.008)
# Elem	−0.002	−0.002	0.000
	(0.006)	(0.006)	(0.006)
Native American	0.308***	0.29***	0.308***
	(0.036)	(0.038)	(0.04)
Asian	0.081***	0.07***	0.074***
	(0.008)	(0.009)	(0.009)
Black	0.134***	0.13***	0.131***
	(0.008)	(0.01)	(0.011)
Mixed	0.006	−0.001	0.008
	(0.019)	(0.023)	(0.024)
Pacific	−0.068**	−0.09**	−0.089**
	(0.034)	(0.041)	(0.043)
Divorced	0.008	0.015	0.016*
	(0.008)	(0.009)	(0.009)
Separated	0.000	0.001	−0.001
	(0.018)	(0.019)	(0.02)
Single	0.041***	0.035***	0.036***
	(0.006)	(0.008)	(0.008)
Spouse Absent	0.061***	0.061***	0.062***
	(0.014)	(0.016)	(0.016)
Widowed	−0.006	0.01	0.012
	(0.009)	(0.017)	(0.018)

10th Grade	−0.001 (0.017)	0.004 (0.029)	0.014 (0.032)
11th Grade	−0.023 (0.014)	−0.035* (0.02)	−0.03 (0.022)
9th Grade	0.006 (0.019)	0.046* (0.026)	0.046 (0.029)
College	0.018*** (0.006)	0.024*** (0.007)	0.024*** (0.007)
High School	−0.008 (0.006)	0.001 (0.007)	0.000 (0.007)
Grad Deg	0.025*** (0.007)	0.035*** (0.008)	0.031*** (0.008)
Ind 1	0.000 (0.019)	0.019 (0.02)	0.016 (0.021)
Ind 2	−0.033** (0.016)	−0.017 (0.018)	−0.003 (0.018)
Ind 3	−0.035*** (0.013)	−0.019 (0.015)	−0.009 (0.015)
Ind 4	−0.022** (0.01)	−0.005 (0.013)	0.000 (0.013)
Ind 5	0.002 (0.01)	0.021 (0.013)	0.02 (0.014)
Ind 6	0.016**	0.033***	0.037***

	(0.008)	(0.011)	(0.012)
Ind 7	0.034***	0.051***	0.059***
	(0.006)	(0.01)	(0.01)
Ind 8	0.006	0.025**	0.022**
	(0.006)	(0.01)	(0.01)
Ind 9	0.035***	0.054***	0.06***
	(0.009)	(0.012)	(0.012)
Female	−0.002	−0.006*	−0.008**
	(0.003)	(0.004)	(0.004)
Citizen	−0.012	−0.003	−0.003
	(0.008)	(0.01)	(0.01)
Hispan	0.251***	0.241***	0.241***
	(0.007)	(0.008)	(0.008)
Age	0.001***	0.001**	0.001**
	(0.000)	(0.000)	(0.000)
Fam Inc (k \$)	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)
COV Death/100k	−0.155***	−0.12***	−0.099***
	(0.009)	(0.011)	(0.012)
COV Cases/100k	−0.004***	−0.004***	−0.004***
	(0.000)	(0.000)	(0.000)
% Δ T Away Home	−15.724***	−16.277***	−16.774***
	(0.128)	(0.176)	(0.187)

Ind 1 \times % Δ T Away Home	−0.246 (0.205)	−0.114 (0.226)	−0.002 (0.243)
Ind 2 \times % Δ T Away Home	0.549*** (0.18)	0.677*** (0.202)	0.89*** (0.214)
Ind 3 \times % Δ T Away Home	0.467*** (0.119)	0.603*** (0.148)	0.821*** (0.158)
Ind 4 \times % Δ T Away Home	−0.066 (0.1)	0.075 (0.132)	0.184 (0.146)
Ind 5 \times % Δ T Away Home	0.071 (0.103)	0.224* (0.132)	0.288* (0.15)
Ind 6 \times % Δ T Away Home	0.172** (0.068)	0.363*** (0.107)	0.471*** (0.121)
Ind 7 \times % Δ T Away Home	0.471*** (0.05)	0.666*** (0.097)	0.789*** (0.11)
Ind 8 \times % Δ T Away Home	0.067 (0.058)	0.236** (0.1)	0.244** (0.114)
Ind 9 \times % Δ T Away Home	0.007 (0.075)	0.198* (0.114)	0.326*** (0.125)
Union Expen	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Constant	−4.44*** (0.017)	−4.459*** (0.021)	−4.461*** (0.021)

1st Stage: % MH Closed

# MH	−0.015*	−0.011	−0.01
	(0.008)	(0.009)	(0.009)
# Elem	0.000	−0.002	0.001
	(0.006)	(0.007)	(0.007)
Native American	0.444***	0.4***	0.407***
	(0.045)	(0.054)	(0.053)
Asian	0.096***	0.088***	0.089***
	(0.009)	(0.01)	(0.01)
Black	0.156***	0.155***	0.156***
	(0.009)	(0.011)	(0.012)
Mixed	0.046**	0.048**	0.058***
	(0.018)	(0.021)	(0.022)
Pacific	0.1**	0.109*	0.108
	(0.05)	(0.061)	(0.067)
Divorced	0.022***	0.022**	0.018*
	(0.008)	(0.01)	(0.011)
Separated	−0.015	−0.018	−0.017
	(0.021)	(0.021)	(0.022)
Single	0.036***	0.035***	0.035***
	(0.007)	(0.009)	(0.009)
Spouse Absent	0.044***	0.05***	0.046***
	(0.014)	(0.016)	(0.016)

Widowed	0.01 (0.01)	0.031 (0.02)	0.037* (0.021)
10th Grade	0.004 (0.022)	0.01 (0.037)	0.01 (0.041)
11th Grade	−0.045*** (0.015)	−0.069*** (0.023)	−0.074*** (0.025)
9th Grade	−0.032 (0.02)	−0.014 (0.027)	−0.022 (0.027)
College	0.015** (0.006)	0.009 (0.008)	0.009 (0.008)
High School	−0.017*** (0.006)	−0.015* (0.008)	−0.016* (0.008)
Grad Deg	0.015** (0.007)	0.021** (0.009)	0.019** (0.009)
Ind 1	−0.018 (0.019)	0.000 (0.02)	−0.003 (0.021)
Ind 2	−0.076*** (0.017)	−0.061*** (0.018)	−0.044** (0.019)
Ind 3	−0.032*** (0.012)	−0.018 (0.014)	−0.005 (0.014)
Ind 4	−0.022** (0.009)	−0.009 (0.012)	−0.001 (0.012)
Ind 5	0.008	0.024*	0.023

	(0.01)	(0.013)	(0.014)
Ind 6	0.032***	0.048***	0.053***
	(0.007)	(0.011)	(0.011)
Ind 7	0.036***	0.052***	0.059***
	(0.006)	(0.01)	(0.011)
Ind 8	0.012**	0.028***	0.027***
	(0.006)	(0.01)	(0.01)
Ind 9	0.037***	0.053***	0.061***
	(0.009)	(0.012)	(0.012)
Female	−0.008***	−0.01**	−0.011**
	(0.003)	(0.004)	(0.004)
Citizen	−0.017**	−0.016	−0.017*
	(0.009)	(0.01)	(0.01)
Hispan	0.208***	0.204***	0.208***
	(0.007)	(0.008)	(0.009)
Age	0.001**	0.001**	
	(0.000)	(0.000)	(0.000)
Fam Inc (k \$)			
	(0.000)	(0.000)	(0.000)
COV Death/100k	−0.205***	−0.174***	−0.163***
	(0.009)	(0.011)	(0.012)
COV Cases/100k	−0.004***	−0.005***	−0.005***
	(0.000)	(0.000)	(0.000)

% Δ T Away Home	−15.775*** (0.14)	−16.129*** (0.199)	−16.845*** (0.211)
Ind 1 \times % Δ T Away Home	−0.719*** (0.255)	−0.612** (0.275)	−0.628** (0.306)
Ind 2 \times % Δ T Away Home	0.41** (0.189)	0.531** (0.215)	0.781*** (0.227)
Ind 3 \times % Δ T Away Home	0.409*** (0.14)	0.54*** (0.174)	0.752*** (0.187)
Ind 4 \times % Δ T Away Home	−0.396*** (0.131)	−0.264 (0.166)	−0.177 (0.184)
Ind 5 \times % Δ T Away Home	−0.144 (0.141)	−0.013 (0.174)	−0.037 (0.201)
Ind 6 \times % Δ T Away Home	0.289*** (0.08)	0.44*** (0.129)	0.555*** (0.144)
Ind 7 \times % Δ T Away Home	0.557*** (0.06)	0.717*** (0.116)	0.867*** (0.131)
Ind 8 \times % Δ T Away Home	0.08 (0.068)	0.221* (0.118)	0.239* (0.134)
Ind 9 \times % Δ T Away Home	0.003 (0.101)	0.159 (0.144)	0.306* (0.157)
Union Expen	0.001*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Constant	−3.966***	−3.986***	−3.987***

	(0.02)	(0.024)	(0.025)
var(e.Y)			0.228*** (0.002)
Observations	673185	414227	376992

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

E.2 Parents

Table E.7: Base: Month-Year FE, Std Errors Clustered at the Family Level

	Labor Force	Employed	Hours Worked (log)
	(1)	(2)	(3)
% Elem	−0.106 (0.069)	−0.050 (0.045)	−0.019*** (0.005)
Native American	0.035 (0.364)	0.087 (0.258)	−0.031 (0.041)
Asian	−0.682*** (0.112)	−0.152** (0.070)	−0.006 (0.008)
Black	−0.788*** (0.105)	−0.094 (0.060)	0.033*** (0.007)
Mixed	−0.359 (0.258)	−0.328** (0.162)	−0.020 (0.023)
Pacific	−0.161	−0.256	−0.067

	(0.461)	(0.241)	(0.050)
Divorced	0.300**	0.106*	0.052***
	(0.118)	(0.063)	(0.007)
Separated	0.079	−0.012	0.051***
	(0.187)	(0.109)	(0.014)
Single	−0.050	−0.242***	0.022***
	(0.094)	(0.059)	(0.008)
Spouse Absent	0.078	−0.026	0.057***
	(0.277)	(0.148)	(0.018)
Widowed	−0.614***	−0.088	−0.037
	(0.204)	(0.189)	(0.029)
10th Grade	−0.360*	−0.409**	−0.036
	(0.196)	(0.174)	(0.026)
11th Grade	−0.128	−0.593***	−0.033*
	(0.165)	(0.128)	(0.019)
9th Grade	0.446***	−0.117	−0.026
	(0.165)	(0.143)	(0.020)
College	−0.277***	0.144***	0.007
	(0.090)	(0.053)	(0.006)
High School	0.126*	−0.071	−0.001
	(0.075)	(0.049)	(0.006)
Grad Deg	−0.548***	0.290***	0.052***
	(0.108)	(0.067)	(0.007)

Ind 1	6.261*** (0.331)	0.082 (0.147)	0.052*** (0.015)
Ind 2	7.290*** (0.429)	0.575*** (0.146)	0.063*** (0.010)
Ind 3	6.733*** (0.255)	0.333*** (0.106)	0.052*** (0.009)
Ind 4	6.739*** (0.210)	0.586*** (0.097)	0.036*** (0.010)
Ind 5	6.564*** (0.178)	0.087 (0.099)	−0.075*** (0.014)
Ind 6	7.026*** (0.165)	0.249*** (0.081)	0.014 (0.009)
Ind 7	7.256*** (0.117)	0.249*** (0.070)	−0.034*** (0.008)
Ind 8	7.067*** (0.111)	0.193*** (0.071)	−0.032*** (0.008)
Ind 9	6.985*** (0.176)	0.545*** (0.093)	−0.008 (0.010)
Female	−2.979*** (0.070)	−0.218*** (0.041)	−0.151*** (0.005)
Citizen	−0.215** (0.088)	−0.036 (0.066)	0.041*** (0.008)
Hispan	0.280***	0.137**	0.009

	(0.081)	(0.055)	(0.006)
Age	−0.044***	−0.007***	−0.001***
	(0.003)	(0.002)	(0.000)
Fam Inc (k \$)	0.012***	0.010***	0.001***
	(0.001)	(0.001)	(0.000)
COV Death/100k	−0.216***	−0.132***	0.011
	(0.065)	(0.039)	(0.006)
COV Cases/100k	0.002	0.002	0.000**
	(0.002)	(0.002)	(0.000)
% Δ T Away Home	1.717	4.016***	0.168*
	(1.117)	(0.671)	(0.101)
Closed Prob	−0.056	−0.380***	−0.012
	(0.182)	(0.126)	(0.016)
Constant	2.126***	2.139***	3.660***
	(0.218)	(0.170)	(0.019)
var(e.Y)			0.171***
			(0.004)
Observations	99448	83791	77591

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table E.8: Base: Month-Year FE, Std. Errors Clustered at the Family Level with Int

	Labor Force	Employed	Hours Worked (log)
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	(1)	(2)	(3)
% Elem	-0.108 (0.069)	-0.052 (0.046)	-0.019*** (0.005)
Native American	-0.357 (0.351)	-0.383 (0.318)	-0.016 (0.047)
Asian	-0.565*** (0.137)	-0.054 (0.101)	-0.007 (0.009)
Black	-0.867*** (0.120)	-0.181** (0.077)	0.035*** (0.008)
Mixed	-0.326 (0.317)	-0.384** (0.192)	-0.024 (0.024)
Pacific	-0.066 (0.437)	0.145 (0.381)	-0.063 (0.056)
Divorced	0.447*** (0.140)	0.193** (0.086)	0.057*** (0.008)
Separated	0.154 (0.217)	-0.010 (0.149)	0.049*** (0.015)
Single	-0.060 (0.114)	-0.318*** (0.074)	0.021** (0.008)
Spouse Absent	0.217 (0.348)	-0.184 (0.192)	0.057*** (0.020)
Widowed	-0.605*** (0.207)	-0.083 (0.191)	-0.035 (0.029)

10th Grade	−0.428** (0.210)	−0.507** (0.215)	−0.040 (0.030)
11th Grade	−0.081 (0.180)	−0.690*** (0.159)	−0.045* (0.023)
9th Grade	0.500** (0.196)	−0.226 (0.194)	−0.018 (0.023)
College	−0.219** (0.104)	0.002 (0.071)	0.011 (0.007)
High School	0.201** (0.087)	−0.037 (0.067)	−0.001 (0.007)
Grad Deg	−0.591*** (0.127)	−0.016 (0.085)	0.048*** (0.008)
Ind 1	6.587*** (0.435)	0.051 (0.193)	0.064*** (0.017)
Ind 2	7.417*** (0.560)	0.629*** (0.203)	0.065*** (0.012)
Ind 3	7.147*** (0.400)	0.494*** (0.140)	0.054*** (0.011)
Ind 4	6.911*** (0.267)	0.767*** (0.135)	0.038*** (0.012)
Ind 5	6.655*** (0.240)	0.391*** (0.140)	−0.062*** (0.016)
Ind 6	7.314***	0.363***	0.021**

	(0.216)	(0.102)	(0.010)
Ind 7	7.533***	0.320***	−0.029***
	(0.155)	(0.090)	(0.010)
Ind 8	7.447***	0.520***	−0.016
	(0.147)	(0.093)	(0.010)
Ind 9	7.055***	0.508***	−0.015
	(0.225)	(0.122)	(0.012)
Female	−3.076***	−0.210***	−0.159***
	(0.079)	(0.055)	(0.005)
Citizen	−0.237**	−0.040	0.039***
	(0.103)	(0.093)	(0.009)
Hispan	0.313***	0.152**	0.009
	(0.095)	(0.074)	(0.007)
Age	−0.044***	−0.007***	−0.001***
	(0.003)	(0.002)	(0.000)
Fam Inc (k \$)	0.012***	0.009***	0.001***
	(0.001)	(0.001)	(0.000)
COV Death/100k	−0.184***	−0.139***	0.010
	(0.057)	(0.041)	(0.006)
COV Cases/100k	0.001	0.002	0.001***
	(0.002)	(0.002)	(0.000)
% Δ T Away Home	0.813	2.787***	0.118
	(1.117)	(0.981)	(0.132)

Ind 1 \times % Δ T Away Home	4.614 (4.322)	-0.536 (1.644)	0.216 (0.170)
Ind 2 \times % Δ T Away Home	1.619 (4.374)	0.712 (1.855)	0.054 (0.132)
Ind 3 \times % Δ T Away Home	5.280 (3.214)	2.025* (1.155)	0.048 (0.134)
Ind 4 \times % Δ T Away Home	2.556 (2.324)	2.128* (1.110)	0.025 (0.133)
Ind 5 \times % Δ T Away Home	1.450 (2.251)	3.491*** (1.138)	0.225 (0.182)
Ind 6 \times % Δ T Away Home	3.727** (1.526)	1.408 (0.859)	0.114 (0.104)
Ind 7 \times % Δ T Away Home	3.537*** (1.139)	0.905 (0.783)	0.093 (0.101)
Ind 8 \times % Δ T Away Home	4.937*** (1.112)	3.775*** (0.799)	0.283*** (0.107)
Ind 9 \times % Δ T Away Home	1.198 (1.834)	-0.237 (1.025)	-0.110 (0.112)
Female \times Closed Prob	0.356*** (0.137)	-0.038 (0.095)	0.030** (0.012)
Black \times Closed Prob	0.235 (0.229)	0.242 (0.148)	-0.011 (0.018)
Asian \times Closed Prob	-0.355	-0.199	0.007

	(0.229)	(0.173)	(0.020)
Native American \times Closed Prob	1.873**	1.438**	-0.058
	(0.874)	(0.725)	(0.119)
Pacific \times Closed Prob	-0.310	-0.812	-0.010
	(0.685)	(0.697)	(0.096)
Mixed \times Closed Prob	-0.117	0.176	0.015
	(0.563)	(0.376)	(0.047)
Hispan \times Closed Prob	-0.114	-0.003	0.006
	(0.167)	(0.136)	(0.016)
Citizen \times Closed Prob	0.072	-0.002	0.005
	(0.188)	(0.165)	(0.020)
Divorced \times Closed Prob	-0.544**	-0.252	-0.020
	(0.246)	(0.154)	(0.021)
Single \times Closed Prob	0.012	0.178	0.004
	(0.217)	(0.141)	(0.021)
Separated \times Closed Prob	-0.254	-0.032	0.010
	(0.358)	(0.258)	(0.035)
Spouse Absent \times Closed Prob	-0.526	0.434	0.004
	(0.551)	(0.371)	(0.048)
College \times Closed Prob	-0.222	0.384***	-0.013
	(0.194)	(0.132)	(0.018)
High School \times Closed Prob	-0.295*	-0.105	-0.001
	(0.167)	(0.125)	(0.017)

Grad Deg \times Closed Prob	0.092 (0.232)	0.781*** (0.160)	0.017 (0.019)
9th Grade \times Closed Prob	-0.216 (0.381)	0.299 (0.332)	-0.029 (0.055)
10th Grade \times Closed Prob	0.249 (0.419)	0.265 (0.386)	0.017 (0.072)
11th Grade \times Closed Prob	-0.202 (0.354)	0.244 (0.323)	0.062 (0.045)
Fam Inc (k \$) \times Closed Prob	0.000 (0.002)	0.002 (0.001)	0.000** (0.000)
Closed Prob	-0.075 (0.320)	-0.663*** (0.253)	-0.064* (0.034)
Constant	2.113*** (0.227)	2.127*** (0.191)	3.666*** (0.020)
var(e.Y)			0.171*** (0.004)
Observations	99448	83791	77591

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table E.9: Base: County RE, Heteroskedasticity Robust Std. Errors

	Labor Force	Employed	Hours Worked (log)
	(1)	(2)	(3)

% Elem	−0.099 (0.072)	−0.062 (0.050)	−0.019*** (0.005)
Native American	−0.033 (0.412)	0.040 (0.262)	−0.029 (0.033)
Asian	−0.749*** (0.171)	−0.088 (0.067)	−0.005 (0.010)
Black	−0.805*** (0.115)	−0.114* (0.063)	0.029*** (0.008)
Mixed	−0.481* (0.271)	−0.278* (0.160)	−0.022 (0.023)
Pacific	−0.447 (0.309)	−0.132 (0.157)	−0.075 (0.050)
Divorced	0.280** (0.123)	0.113 (0.070)	0.052*** (0.008)
Separated	0.124 (0.172)	−0.026 (0.120)	0.054*** (0.013)
Single	−0.034 (0.101)	−0.234*** (0.057)	0.025*** (0.008)
Spouse Absent	0.197 (0.274)	−0.002 (0.160)	0.060*** (0.020)
Widowed	−0.624*** (0.218)	−0.085 (0.179)	−0.039 (0.029)
10th Grade	−0.314	−0.424**	−0.036

	(0.216)	(0.169)	(0.026)
11th Grade	−0.134	−0.588***	−0.033*
	(0.169)	(0.109)	(0.019)
9th Grade	0.427**	−0.098	−0.023
	(0.177)	(0.150)	(0.018)
College	−0.256**	0.127**	0.007
	(0.104)	(0.051)	(0.006)
High School	0.134	−0.066	−0.001
	(0.090)	(0.041)	(0.005)
Grad Deg	−0.522***	0.269***	0.053***
	(0.116)	(0.076)	(0.007)
Ind 1	6.410***	0.084	0.052***
	(0.286)	(0.160)	(0.016)
Ind 2	7.467***	0.567***	0.067***
	(0.471)	(0.146)	(0.011)
Ind 3	6.956***	0.314***	0.055***
	(0.234)	(0.104)	(0.009)
Ind 4	6.891***	0.571***	0.036***
	(0.192)	(0.089)	(0.011)
Ind 5	6.749***	0.099	−0.074***
	(0.189)	(0.096)	(0.015)
Ind 6	7.194***	0.243***	0.015
	(0.167)	(0.072)	(0.009)

Ind 7	7.433*** (0.124)	0.257*** (0.067)	−0.032*** (0.009)
Ind 8	7.267*** (0.130)	0.200** (0.078)	−0.030*** (0.009)
Ind 9	7.175*** (0.211)	0.547*** (0.095)	−0.007 (0.011)
Female	−3.067*** (0.081)	−0.217*** (0.047)	−0.152*** (0.005)
Citizen	−0.260*** (0.100)	−0.038 (0.064)	0.040*** (0.008)
Hispan	0.265*** (0.093)	0.128** (0.062)	0.007 (0.006)
Age	−0.043*** (0.004)	−0.007** (0.003)	−0.001*** (0.000)
Fam Inc (k \$)	0.012*** (0.001)	0.010*** (0.001)	0.001*** (0.000)
COV Death/100k	−0.163** (0.063)	−0.140*** (0.042)	0.012** (0.006)
COV Cases/100k	0.003** (0.001)	0.006*** (0.001)	0.000*** (0.000)
% Δ T Away Home	1.513** (0.720)	4.191*** (0.578)	0.227*** (0.066)
Closed Prob	−0.022	−0.516***	−0.028**

	(0.137)	(0.100)	(0.012)
Constant	2.150***	2.352***	3.653***
	(0.218)	(0.174)	(0.018)
var(County RE)	0.393***	0.097***	0.001***
	(0.061)	(0.017)	(0.000)
var(e.Y)			0.171***
			(0.005)
Observations	99448	83791	77591

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table E.10: Base: County RE, Heteroskedasticity Robust Std. Errors with Int

	Labor Force	Employed	Hours Worked (log)
	(1)	(2)	(3)
% Elem	-0.100	-0.065	-0.019***
	(0.072)	(0.051)	(0.005)
Native American	-0.448	-0.396	-0.016
	(0.371)	(0.388)	(0.045)
Asian	-0.634***	-0.024	-0.008
	(0.219)	(0.093)	(0.009)
Black	-0.874***	-0.209***	0.032***
	(0.120)	(0.079)	(0.009)
Mixed	-0.501*	-0.398**	-0.025

	(0.286)	(0.199)	(0.025)
Pacific	−0.357	0.173	−0.072
	(0.296)	(0.290)	(0.064)
Divorced	0.431***	0.193**	0.056***
	(0.148)	(0.089)	(0.009)
Separated	0.199	−0.016	0.051***
	(0.193)	(0.133)	(0.015)
Single	−0.055	−0.310***	0.023**
	(0.121)	(0.079)	(0.009)
Spouse Absent	0.352	−0.179	0.060**
	(0.338)	(0.193)	(0.024)
Widowed	−0.615***	−0.078	−0.037
	(0.224)	(0.183)	(0.029)
10th Grade	−0.387*	−0.518**	−0.043
	(0.225)	(0.209)	(0.029)
11th Grade	−0.084	−0.698***	−0.046*
	(0.176)	(0.137)	(0.023)
9th Grade	0.500***	−0.198	−0.018
	(0.174)	(0.186)	(0.023)
College	−0.189	−0.020	0.010
	(0.124)	(0.070)	(0.007)
High School	0.221**	−0.034	−0.002
	(0.097)	(0.063)	(0.006)

Grad Deg	−0.560*** (0.134)	−0.041 (0.084)	0.048*** (0.008)
Ind 1	6.754*** (0.494)	0.044 (0.196)	0.066*** (0.018)
Ind 2	7.648*** (0.560)	0.628*** (0.190)	0.072*** (0.013)
Ind 3	7.387*** (0.383)	0.467*** (0.143)	0.058*** (0.011)
Ind 4	7.095*** (0.251)	0.756*** (0.139)	0.039*** (0.012)
Ind 5	6.852*** (0.245)	0.410*** (0.142)	−0.061*** (0.016)
Ind 6	7.506*** (0.214)	0.359*** (0.106)	0.022** (0.011)
Ind 7	7.742*** (0.152)	0.328*** (0.087)	−0.027** (0.011)
Ind 8	7.676*** (0.157)	0.539*** (0.104)	−0.015 (0.010)
Ind 9	7.269*** (0.253)	0.511*** (0.129)	−0.015 (0.013)
Female	−3.174*** (0.084)	−0.215*** (0.062)	−0.159*** (0.006)
Citizen	−0.288**	−0.054	0.039***

	(0.115)	(0.090)	(0.008)
Hispan	0.300***	0.125*	0.006
	(0.106)	(0.073)	(0.006)
Age	-0.043***	-0.007**	-0.001***
	(0.004)	(0.003)	(0.000)
Fam Inc (k \$)	0.012***	0.010***	0.001***
	(0.001)	(0.001)	(0.000)
COV Death/100k	-0.128**	-0.147***	0.012*
	(0.050)	(0.044)	(0.006)
COV Cases/100k	0.002*	0.006***	0.001***
	(0.001)	(0.001)	(0.000)
% Δ T Away Home	0.745	2.735***	0.151
	(0.700)	(0.794)	(0.095)
Ind 1 \times % Δ T Away Home	4.811	-0.633	0.249
	(4.560)	(1.517)	(0.167)
Ind 2 \times % Δ T Away Home	2.278	0.800	0.089
	(3.677)	(1.762)	(0.141)
Ind 3 \times % Δ T Away Home	5.505*	1.941	0.057
	(2.959)	(1.186)	(0.132)
Ind 4 \times % Δ T Away Home	2.986	2.169*	0.038
	(2.308)	(1.181)	(0.125)
Ind 5 \times % Δ T Away Home	1.572	3.618***	0.225
	(2.331)	(1.269)	(0.184)

Ind 6 \times % Δ T Away Home	4.026** (1.627)	1.451 (0.894)	0.114 (0.105)
Ind 7 \times % Δ T Away Home	3.889*** (1.298)	0.926 (0.828)	0.086 (0.113)
Ind 8 \times % Δ T Away Home	5.298*** (1.134)	3.926*** (0.905)	0.277*** (0.107)
Ind 9 \times % Δ T Away Home	1.431 (1.831)	-0.220 (1.036)	-0.112 (0.102)
Female \times Closed Prob	0.387** (0.155)	-0.025 (0.096)	0.029** (0.014)
Black \times Closed Prob	0.217 (0.241)	0.271* (0.158)	-0.012 (0.015)
Asian \times Closed Prob	-0.345 (0.241)	-0.136 (0.133)	0.009 (0.021)
Native American \times Closed Prob	2.029** (0.895)	1.374 (0.913)	-0.054 (0.104)
Pacific \times Closed Prob	-0.314 (0.335)	-0.621 (0.596)	-0.012 (0.077)
Mixed \times Closed Prob	0.060 (0.566)	0.322 (0.349)	0.010 (0.047)
Hispan \times Closed Prob	-0.116 (0.153)	0.037 (0.139)	0.005 (0.015)
Citizen \times Closed Prob	0.086	0.022	0.005

	(0.213)	(0.181)	(0.022)
Divorced \times Closed Prob	-0.549**	-0.233	-0.017
	(0.229)	(0.148)	(0.020)
Single \times Closed Prob	0.052	0.176	0.007
	(0.212)	(0.132)	(0.020)
Separated \times Closed Prob	-0.245	-0.059	0.013
	(0.375)	(0.247)	(0.037)
Spouse Absent \times Closed Prob	-0.596	0.480	0.005
	(0.593)	(0.306)	(0.049)
College \times Closed Prob	-0.249	0.398***	-0.011
	(0.191)	(0.127)	(0.020)
High School \times Closed Prob	-0.334*	-0.092	0.003
	(0.174)	(0.118)	(0.018)
Grad Deg \times Closed Prob	0.079	0.798***	0.017
	(0.209)	(0.165)	(0.023)
9th Grade \times Closed Prob	-0.290	0.277	-0.018
	(0.360)	(0.306)	(0.065)
10th Grade \times Closed Prob	0.268	0.257	0.028
	(0.420)	(0.358)	(0.074)
11th Grade \times Closed Prob	-0.210	0.284	0.066
	(0.314)	(0.287)	(0.046)
Fam Inc (k \$) \times Closed Prob	0.000	0.002	0.000**
	(0.002)	(0.001)	(0.000)

Closed Prob	−0.079 (0.284)	−0.851*** (0.246)	−0.085*** (0.031)
Constant	2.126*** (0.235)	2.371*** (0.196)	3.662*** (0.021)
var(County RE)	0.405*** (0.063)	0.099*** (0.017)	0.001*** (0.000)
var(e.Y)			0.170*** (0.005)
Observations	99448	83791	77591

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table E.11: Instrumented: Month-Year FE, Std. Errors Clustered at the Family Level

	Labor Force	Employed	Hours Worked (log)
	(1)	(2)	(3)
2nd Stage			
% Elem	−0.106 (0.069)	−0.050 (0.045)	−0.019*** (0.005)
Native American	0.035 (0.364)	0.087 (0.258)	−0.031 (0.041)
Asian	−0.682*** (0.112)	−0.152** (0.070)	−0.006 (0.008)

Black	−0.788*** (0.105)	−0.094 (0.060)	0.033*** (0.007)
Mixed	−0.359 (0.258)	−0.328** (0.162)	−0.020 (0.023)
Pacific	−0.161 (0.461)	−0.256 (0.241)	−0.067 (0.050)
Divorced	0.300** (0.118)	0.106* (0.063)	0.052*** (0.007)
Separated	0.079 (0.187)	−0.012 (0.109)	0.051*** (0.014)
Single	−0.050 (0.094)	−0.242*** (0.059)	0.022*** (0.008)
Spouse Absent	0.078 (0.277)	−0.026 (0.148)	0.057*** (0.018)
Widowed	−0.614*** (0.204)	−0.088 (0.189)	−0.037 (0.029)
10th Grade	−0.360* (0.196)	−0.409** (0.174)	−0.036 (0.026)
11th Grade	−0.128 (0.165)	−0.593*** (0.128)	−0.033* (0.019)
9th Grade	0.446*** (0.165)	−0.117 (0.143)	−0.026 (0.020)
College	−0.277***	0.144***	0.007

	(0.090)	(0.053)	(0.006)
High School	0.126*	−0.071	−0.001
	(0.075)	(0.049)	(0.006)
Grad Deg	−0.548***	0.290***	0.052***
	(0.108)	(0.067)	(0.007)
Ind 1	6.261***	0.082	0.052***
	(0.331)	(0.147)	(0.015)
Ind 2	7.290***	0.575***	0.063***
	(0.429)	(0.146)	(0.010)
Ind 3	6.733***	0.333***	0.052***
	(0.255)	(0.106)	(0.009)
Ind 4	6.739***	0.586***	0.036***
	(0.210)	(0.097)	(0.010)
Ind 5	6.564***	0.087	−0.075***
	(0.178)	(0.099)	(0.014)
Ind 6	7.026***	0.249***	0.014
	(0.165)	(0.081)	(0.009)
Ind 7	7.256***	0.249***	−0.034***
	(0.117)	(0.070)	(0.008)
Ind 8	7.067***	0.193***	−0.032***
	(0.111)	(0.071)	(0.008)
Ind 9	6.985***	0.545***	−0.008
	(0.176)	(0.093)	(0.010)

Female	−2.979*** (0.070)	−0.218*** (0.041)	−0.151*** (0.005)
Citizen	−0.215** (0.088)	−0.036 (0.066)	0.041*** (0.008)
Hispan	0.280*** (0.081)	0.137** (0.055)	0.009 (0.006)
Age	−0.044*** (0.003)	−0.007*** (0.002)	−0.001*** (0.000)
Fam Inc (k \$)	0.012*** (0.001)	0.010*** (0.001)	0.001*** (0.000)
COV Death/100k	−0.216*** (0.065)	−0.132*** (0.039)	0.011 (0.006)
COV Cases/100k	0.002 (0.002)	0.002 (0.002)	0.000** (0.000)
% Δ T Away Home	1.717 (1.117)	4.016*** (0.671)	0.168* (0.101)
Closed Prob	−0.056 (0.182)	−0.380*** (0.126)	−0.012 (0.016)
Constant	2.126*** (0.218)	2.139*** (0.170)	3.660*** (0.019)
1st Stage: Closed Prob			
% Elem	−0.027**	−0.027*	−0.023

	(0.013)	(0.014)	(0.015)
Native American	0.230***	0.278***	0.299***
	(0.067)	(0.078)	(0.082)
Asian	0.090***	0.078***	0.082***
	(0.020)	(0.021)	(0.021)
Black	0.169***	0.186***	0.194***
	(0.024)	(0.025)	(0.026)
Mixed	0.075	0.061	0.078
	(0.056)	(0.060)	(0.065)
Pacific	0.217	0.157*	0.160
	(0.133)	(0.090)	(0.098)
Divorced	−0.015	−0.017	−0.022
	(0.021)	(0.022)	(0.022)
Separated	−0.015	−0.018	−0.025
	(0.042)	(0.045)	(0.048)
Single	−0.011	−0.006	0.000
	(0.021)	(0.021)	(0.022)
Spouse Absent	0.035	0.041	0.025
	(0.040)	(0.045)	(0.047)
Widowed	−0.038	0.011	0.007
	(0.053)	(0.064)	(0.057)
10th Grade	−0.126**	−0.159**	−0.161*
	(0.059)	(0.078)	(0.085)

11th Grade	−0.021 (0.034)	−0.048 (0.039)	−0.047 (0.045)
9th Grade	0.059 (0.038)	0.041 (0.040)	0.035 (0.044)
College	−0.005 (0.016)	−0.000 (0.017)	−0.001 (0.018)
High School	−0.021 (0.017)	−0.024 (0.019)	−0.028 (0.019)
Grad Deg	0.002 (0.018)	0.005 (0.019)	0.001 (0.020)
Ind 1	0.034 (0.049)	0.031 (0.052)	0.025 (0.055)
Ind 2	−0.063* (0.036)	−0.067* (0.040)	−0.058 (0.041)
Ind 3	−0.012 (0.028)	−0.015 (0.033)	−0.017 (0.034)
Ind 4	0.024 (0.025)	0.021 (0.031)	0.029 (0.032)
Ind 5	0.038 (0.035)	0.034 (0.040)	0.025 (0.042)
Ind 6	0.019 (0.019)	0.015 (0.026)	0.019 (0.027)
Ind 7	0.014	0.010	0.014

	(0.016)	(0.024)	(0.024)
Ind 8	0.018	0.016	0.014
	(0.017)	(0.025)	(0.025)
Ind 9	0.061***	0.059**	0.058**
	(0.021)	(0.027)	(0.028)
Female	−0.005	−0.006	−0.008
	(0.006)	(0.008)	(0.008)
Citizen	−0.029*	−0.025	−0.027
	(0.017)	(0.019)	(0.020)
Hispan	0.231***	0.239***	0.246***
	(0.015)	(0.016)	(0.016)
Age	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)
Fam Inc (k \$)	−0.000**	−0.000**	−0.000**
	(0.000)	(0.000)	(0.000)
COV Death/100k	−0.143***	−0.128***	−0.094***
	(0.022)	(0.024)	(0.028)
COV Cases/100k	−0.006***	−0.006***	−0.006***
	(0.001)	(0.001)	(0.001)
% Δ T Away Home	−15.989***	−15.999***	−16.438***
	(0.316)	(0.331)	(0.339)
Bartik Instr.	4.206***	4.318***	4.302***
	(0.258)	(0.265)	(0.279)

Constant	−4.092*** (0.056)	−4.114*** (0.062)	−4.109*** (0.064)
var(e.Y)			0.171*** (0.004)
Observations	99448	83791	77591
Standard errors in parentheses			
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$			

Table E.12: Instrumented: Month-Year FE, Std. Errors Clustered at Family with Int

	Labor Force (1)	Employed (2)	Hours Worked (log) (3)
2nd Stage			
% Elem	−0.108 (0.069)	−0.052 (0.046)	−0.019*** (0.005)
Native American	−0.357 (0.351)	−0.383 (0.318)	−0.016 (0.047)
Asian	−0.565*** (0.137)	−0.054 (0.101)	−0.007 (0.009)
Black	−0.867*** (0.120)	−0.181** (0.077)	0.035*** (0.008)
Mixed	−0.326 (0.317)	−0.384** (0.192)	−0.024 (0.024)

Pacific	−0.066 (0.437)	0.145 (0.381)	−0.063 (0.056)
Divorced	0.447*** (0.140)	0.193** (0.086)	0.057*** (0.008)
Separated	0.154 (0.217)	−0.010 (0.149)	0.049*** (0.015)
Single	−0.060 (0.114)	−0.318*** (0.074)	0.021** (0.008)
Spouse Absent	0.217 (0.348)	−0.184 (0.192)	0.057*** (0.020)
Widowed	−0.605*** (0.207)	−0.083 (0.191)	−0.035 (0.029)
10th Grade	−0.428** (0.210)	−0.507** (0.215)	−0.040 (0.030)
11th Grade	−0.081 (0.180)	−0.690*** (0.159)	−0.045* (0.023)
9th Grade	0.500** (0.196)	−0.226 (0.194)	−0.018 (0.023)
College	−0.219** (0.104)	0.002 (0.071)	0.011 (0.007)
High School	0.201** (0.087)	−0.037 (0.067)	−0.001 (0.007)
Grad Deg	−0.591***	−0.016	0.048***

	(0.127)	(0.085)	(0.008)
Ind 1	6.587***	0.051	0.064***
	(0.435)	(0.193)	(0.017)
Ind 2	7.417***	0.629***	0.065***
	(0.560)	(0.203)	(0.012)
Ind 3	7.147***	0.494***	0.054***
	(0.400)	(0.140)	(0.011)
Ind 4	6.911***	0.767***	0.038***
	(0.267)	(0.135)	(0.012)
Ind 5	6.655***	0.391***	−0.062***
	(0.240)	(0.140)	(0.016)
Ind 6	7.314***	0.363***	0.021**
	(0.216)	(0.102)	(0.010)
Ind 7	7.533***	0.320***	−0.029***
	(0.155)	(0.090)	(0.010)
Ind 8	7.447***	0.520***	−0.016
	(0.147)	(0.093)	(0.010)
Ind 9	7.055***	0.508***	−0.015
	(0.225)	(0.122)	(0.012)
Female	−3.076***	−0.210***	−0.159***
	(0.079)	(0.055)	(0.005)
Citizen	−0.237**	−0.040	0.039***
	(0.103)	(0.093)	(0.009)

Hispan	0.313*** (0.095)	0.152** (0.074)	0.009 (0.007)
Age	-0.044*** (0.003)	-0.007*** (0.002)	-0.001*** (0.000)
Fam Inc (k \$)	0.012*** (0.001)	0.009*** (0.001)	0.001*** (0.000)
COV Death/100k	-0.184*** (0.057)	-0.139*** (0.041)	0.010 (0.006)
COV Cases/100k	0.001 (0.002)	0.002 (0.002)	0.001*** (0.000)
% Δ T Away Home	0.813 (1.117)	2.787*** (0.981)	0.118 (0.132)
Ind 1 \times % Δ T Away Home	4.614 (4.322)	-0.536 (1.644)	0.216 (0.170)
Ind 2 \times % Δ T Away Home	1.620 (4.374)	0.712 (1.855)	0.054 (0.132)
Ind 3 \times % Δ T Away Home	5.280 (3.214)	2.025* (1.155)	0.048 (0.134)
Ind 4 \times % Δ T Away Home	2.556 (2.324)	2.128* (1.110)	0.025 (0.133)
Ind 5 \times % Δ T Away Home	1.450 (2.251)	3.491*** (1.138)	0.225 (0.182)
Ind 6 \times % Δ T Away Home	3.727**	1.408	0.114

	(1.526)	(0.859)	(0.104)
Ind 7 \times % Δ T Away Home	3.537***	0.905	0.093
	(1.139)	(0.783)	(0.101)
Ind 8 \times % Δ T Away Home	4.937***	3.775***	0.283***
	(1.112)	(0.799)	(0.107)
Ind 9 \times % Δ T Away Home	1.198	-0.237	-0.110
	(1.834)	(1.025)	(0.112)
Female \times Closed Prob	0.356***	-0.038	0.030**
	(0.137)	(0.095)	(0.012)
Black \times Closed Prob	0.235	0.242	-0.011
	(0.229)	(0.148)	(0.018)
Asian \times Closed Prob	-0.355	-0.199	0.007
	(0.229)	(0.173)	(0.020)
Native American \times Closed Prob	1.873**	1.438**	-0.058
	(0.874)	(0.725)	(0.119)
Pacific \times Closed Prob	-0.310	-0.812	-0.010
	(0.685)	(0.697)	(0.096)
Mixed \times Closed Prob	-0.117	0.176	0.015
	(0.563)	(0.376)	(0.047)
Hispan \times Closed Prob	-0.114	-0.003	0.006
	(0.167)	(0.136)	(0.016)
Citizen \times Closed Prob	0.072	-0.002	0.005
	(0.188)	(0.165)	(0.020)

Divorced \times Closed Prob	−0.544** (0.246)	−0.252 (0.154)	−0.020 (0.021)
Single \times Closed Prob	0.012 (0.217)	0.178 (0.141)	0.004 (0.021)
Separated \times Closed Prob	−0.254 (0.358)	−0.032 (0.258)	0.010 (0.035)
Spouse Absent \times Closed Prob	−0.526 (0.551)	0.434 (0.371)	0.004 (0.048)
College \times Closed Prob	−0.222 (0.194)	0.384*** (0.132)	−0.013 (0.018)
High School \times Closed Prob	−0.295* (0.167)	−0.105 (0.125)	−0.001 (0.017)
Grad Deg \times Closed Prob	0.092 (0.232)	0.781*** (0.160)	0.017 (0.019)
9th Grade \times Closed Prob	−0.216 (0.381)	0.299 (0.332)	−0.029 (0.055)
10th Grade \times Closed Prob	0.249 (0.419)	0.265 (0.386)	0.017 (0.072)
11th Grade \times Closed Prob	−0.202 (0.354)	0.244 (0.323)	0.062 (0.045)
Fam Inc (k \$) \times Closed Prob	0.000 (0.002)	0.002 (0.001)	0.000** (0.000)
Closed Prob	−0.075	−0.663***	−0.064*

	(0.320)	(0.253)	(0.034)
Constant	2.113***	2.127***	3.666***
	(0.227)	(0.191)	(0.020)
1st Stage: Closed Prob			
% Elem	−0.028**	−0.027*	−0.023
	(0.013)	(0.014)	(0.015)
Native American	0.231***	0.279***	0.301***
	(0.067)	(0.078)	(0.082)
Asian	0.090***	0.078***	0.083***
	(0.020)	(0.021)	(0.020)
Black	0.169***	0.185***	0.193***
	(0.024)	(0.025)	(0.026)
Mixed	0.075	0.062	0.079
	(0.056)	(0.060)	(0.065)
Pacific	0.215	0.154*	0.156
	(0.133)	(0.090)	(0.098)
Divorced	−0.015	−0.017	−0.022
	(0.022)	(0.022)	(0.022)
Separated	−0.015	−0.018	−0.024
	(0.042)	(0.045)	(0.048)
Single	−0.011	−0.006	0.000
	(0.021)	(0.021)	(0.022)

Spouse Absent	0.035 (0.040)	0.040 (0.045)	0.023 (0.047)
Widowed	-0.039 (0.053)	0.009 (0.064)	0.006 (0.057)
10th Grade	-0.125** (0.059)	-0.159** (0.079)	-0.161* (0.085)
11th Grade	-0.020 (0.034)	-0.046 (0.039)	-0.046 (0.045)
9th Grade	0.059 (0.038)	0.042 (0.040)	0.037 (0.044)
College	-0.005 (0.016)	-0.000 (0.017)	-0.001 (0.018)
High School	-0.021 (0.017)	-0.023 (0.019)	-0.028 (0.019)
Grad Deg	0.002 (0.018)	0.005 (0.019)	0.002 (0.020)
Ind 1	0.000 (0.042)	0.012 (0.045)	0.015 (0.046)
Ind 2	-0.048 (0.035)	-0.032 (0.038)	-0.021 (0.038)
Ind 3	-0.013 (0.025)	0.002 (0.029)	0.003 (0.030)
Ind 4	0.011	0.025	0.023

	(0.022)	(0.026)	(0.026)
Ind 5	0.011	0.023	0.013
	(0.028)	(0.033)	(0.033)
Ind 6	0.020	0.035	0.040*
	(0.017)	(0.023)	(0.023)
Ind 7	0.044***	0.058***	0.062***
	(0.014)	(0.020)	(0.021)
Ind 8	0.018	0.032	0.025
	(0.014)	(0.021)	(0.021)
Ind 9	0.039**	0.053**	0.053**
	(0.019)	(0.024)	(0.024)
Female	−0.005	−0.006	−0.008
	(0.006)	(0.008)	(0.008)
Citizen	−0.029*	−0.024	−0.026
	(0.017)	(0.019)	(0.020)
Hispan	0.231***	0.239***	0.246***
	(0.015)	(0.016)	(0.016)
Age	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)
Fam Inc (k \$)	−0.000**	−0.000**	−0.000**
	(0.000)	(0.000)	(0.000)
COV Death/100k	−0.143***	−0.128***	−0.093***
	(0.022)	(0.024)	(0.028)

COV Cases/100k	−0.006*** (0.001)	−0.006*** (0.001)	−0.006*** (0.001)
% Δ T Away Home	−16.080*** (0.336)	−16.374*** (0.403)	−16.826*** (0.419)
Ind 1 \times % Δ T Away Home	−0.563 (0.514)	−0.323 (0.547)	−0.157 (0.597)
Ind 2 \times % Δ T Away Home	0.225 (0.391)	0.548 (0.431)	0.600 (0.455)
Ind 3 \times % Δ T Away Home	−0.017 (0.296)	0.277 (0.351)	0.336 (0.365)
Ind 4 \times % Δ T Away Home	−0.216 (0.262)	0.061 (0.326)	−0.090 (0.351)
Ind 5 \times % Δ T Away Home	−0.420 (0.357)	−0.146 (0.401)	−0.192 (0.460)
Ind 6 \times % Δ T Away Home	0.016 (0.184)	0.320 (0.266)	0.347 (0.283)
Ind 7 \times % Δ T Away Home	0.442*** (0.152)	0.732*** (0.241)	0.768*** (0.260)
Ind 8 \times % Δ T Away Home	−0.004 (0.164)	0.262 (0.244)	0.191 (0.263)
Ind 9 \times % Δ T Away Home	−0.332 (0.204)	−0.057 (0.278)	−0.040 (0.297)
Bartik Instr.	4.206***	4.319***	4.305***

	(0.258)	(0.265)	(0.279)
Constant	−4.096***	−4.135***	−4.129***
	(0.056)	(0.060)	(0.062)
var(e.Y)			0.171***
			(0.004)
Observations	99448	83791	77591

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$