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PAID SICK LEAVE AND CHILDCARE

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### **ABSTRACT**

Unlike most developed countries, the U.S. lacks a federal paid sick leave policy. As a result, many workers must choose between losing earnings and attending to childcare responsibilities. To date, 14 states and the District of Columbia have adopted paid sick leave mandates that provide up to seven days of paid leave per year that can be used for family responsibilities and healthcare. In this study, we estimate the effects of state paid sick leave mandates on parents' time spent providing childcare using time diaries from the 2004–2022 American Time Use Survey. Findings from difference-in-differences estimators suggest that post-mandate, parental time spent providing childcare increases by 4.9%. Effects are generally stronger among women and parents with younger children. Overall, our findings suggest that paid sick leave mandates allow parents to better balance work and family responsibilities.

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## 1. Introduction

Balancing work and childcare responsibilities is challenging for working parents or caregivers ('parents') in many families (Howington, 2024). Raising children often requires parents to respond to unexpected events such as a child's illness, school closure, and so forth. Regular care for children such as healthcare appointments and educational events often occurs during normal work hours (Zoc Doc, 2013), creating conflict between the dual responsibilities of work and childcare. The Bureau of Labor Statistics ('BLS') reports that the median daily earnings for full-time U.S. workers in 2024 was \$228 (BLS, 2024). Losing these earnings to attend to childcare responsibilities is likely non-trivial for many families.

A possible policy response to moderate work-family balance challenges is mandating that employers provide paid sick leave ('PSL'). PSL can allow parents to take financially protected time off work to attend to their children's needs. Advocates contend that parents with PSL access are better able to balance family and work (A Better Balance, N/D). For example, children whose parents have PSL access use more healthcare than other children (Seixas & Macinko, 2020). While most developed countries have federal policies that mandate the provision of PSL to workers, the U.S. does not (Pichler & Ziebarth, 2024). Instead, the provision of PSL benefits has been left mainly to firms to voluntarily provide, or not provide, PSL to their employees. However, there have been (unsuccessful) attempts to adopt a federal PSL policy, beginning with the introduction of the *Healthy Family Act* in 2005 (Pichler & Ziebarth, 2024) and most recently with the reintroduction of this Act in 2023 (Sanders & DeLauro, 2023).

The lack of a federal policy has led to a patchwork pattern of PSL among workers. In 2021, 27.5% of workers indicated that they did not have access to PSL (Rosa & Asfaw, 2023). There are disparities across workers in access, with more advantaged workers being more likely to report PSL access than less advantaged workers. For example, in the 2021 National Health Interview Survey, 66.3% of workers with a college degree reported access to PSL, while 48.8% of those with less than a college degree reported access (Rosa & Asfaw, 2023).

As of October 2023, according to the National Partnership for Women & Families ('NPWF'), 15 states, 17 cities, and four counties have adopted a PSL mandate (2023a). (We treat the District of Columbia ['DC'] as a state in our analysis.) All policies are employer mandates and similar to the 2005 *Healthy Families Act* (Pichler & Ziebarth, 2024). PSL mandates provide employees financially protected away from work that can be used for their own health needs and family responsibilities, including childcare.

We explore the extent to which state PSL policies allow families to provide care to their children, focusing on families with children under 18 years old in the household. We combine data on time spent providing care to children using the 2004–2022 American Time Use Survey (ATUS) with difference-in-differences (DID) methods that are robust to bias associated with dynamic and heterogeneous treatment effects from a staggered policy rollout. Given traditional sex differences in childcare responsibilities, we report results overall and for women and men separately. Further, because older and younger children have different care needs, we examine parents with and without a child under age six in the household. Finally, we separately consider parents without a

college degree who are less likely to have access to PSL benefits when their employers are not mandated to provide them.

We have several findings. First, we show that post-PSL mandate, parents report working fewer minutes per day, which we view as a proxy for PSL taking and demonstrates a ‘first-stage.’ Second, we find that time spent on primary childcare increases by 4.9% and face time with children rises by a similar percentage (3.4%), but provision of ‘secondary’ childcare, time spent supervising children while doing other activities, is unchanged, except for an increase for fathers living with older children (7.8%). Third, examining several other major time-use categories, we document that parents of young children spend more time on leisure and sleeping, while parents living with only older children spend less time sleeping; fathers have more leisure time when living with older children, which corresponds with the increase in secondary childcare for them alone; and parents spend less time on household activities if they live with a young child, suggesting substitution effects between primary childcare and housework.

## **2. U.S. paid sick leave**

The U.S. does not have a permanent federal PSL mandate. However, the U.S. has had a federal **unpaid** leave policy in place since the passage of the 1993 *Family and Medical Leave Act*. This Act provides up to 12 workweeks of unpaid leave for eligible workers, but is available for serious illnesses only and cannot be used for short-term childcare responsibilities, e.g., taking a child to a healthcare appointment. During the COVID-19 pandemic, the federal government enacted the *Families First Coronavirus Response Act* to provide up to two weeks of paid leave at 100% wage

replacement from April to December 2020 for specific workers ('nonessential workers') for own COVID-19-related health and two-thirds wage replacement for family care responsibilities (Andersen et al., 2023).

Several states and localities have adopted PSL policies, and we examine the impacts of state policies on time spent caring for children. Appendix Figure 1A reports the geographic distribution of these policies across U.S. states—the effective dates are listed in the notes, and Appendix Figure 1B shows the rollout of PSL policies over time. We rely on legal coding provided by the NPWF (2023a). These mandates offer up to seven days of PSL annually (with 100% wage replacement) and require limited documentation from employees utilizing leave. PSL can be used for one's own health needs and to provide care for dependents. While the allowable dependents vary to some extent across states, all mandates include employees' children. Though some states allow exemptions (e.g., small employers), prior research (described below) demonstrates that these mandates meaningfully confer PSL access to many employees. Simulations suggest that these mandates provided PSL to over 21M employees for the first time (NPWF, 2023a), with the full scope likely larger as many employees who had access to limited PSL pre-mandate gained more generous coverage as their employers increased benefits to satisfy mandate requirements. See a review by Pichler and Ziebarth (2024) for more details on U.S. PSL mandates.

There is a growing literature that investigates the impact of PSL mandates. Maclean, Pichler, et al. (2024) use the 2009–2022 National Compensation Survey (NCS) to show that adoption of a state PSL mandate increases the probability that private employers offer PSL to employees by 32% and that annual use of PSL by

workers increases by 22%. Other studies, report complementary increases in employee self-reported PSL access (Ahn & Yelowitz, 2016; Callison & Pesko, 2022).

A critique of mandated PSL is that these policies will impose financial hardship on businesses (Vander Weerd et al., 2023). However, Maclean, Pichler, et al. (2024) show that PSL mandates are relatively inexpensive: post-mandate PSL costs increase by 5.8 cents per employee-hour worked. Miller (2022) documents no change in business bankruptcies post-mandate, but personal bankruptcies decline, suggesting mandates provide financial protection for workers without harming businesses. Slopen (2024) finds that state PSL adoption improves women's wages and earnings. Studies find no evidence that employment rates decline or that employers attempt to mitigate PSL costs by reducing wages or benefits, while some suggest an **increase** in these metrics (Dong et al., 2024; Maclean, Pichler, et al., 2024; Maclean, Popovici, et al., 2023; Pichler & Ziebarth, 2017).

Research shows that mandated PSL increases healthcare use such as vaccines, prescriptions, screenings, and contraception (Callison et al., 2023; Maclean, Golberstein, et al., 2024; Maclean, Popovici, et al., 2023)—though Guo and Peng (2024) find inconclusive evidence on self-reported preventive care; reduces unnecessary healthcare use as measured by emergency department episodes (Ma et al., 2022); and improves health and decreases infectious disease spread (Pichler et al., 2021; Pichler & Ziebarth, 2017; Slopen, 2023; Stearns & White, 2018; Wolf et al., 2022). There is no evidence to date that PSL leads to moral hazard behaviors, as measured by excessive drinking, among adults (Guo & Peng, 2024). In a study complementary to ours, Arora and Wolf (2024) show that PSL mandates increase eldercare.

To the best of our knowledge, just two studies use the ATUS to study PSL mandate effects. Using ATUS data 2011–2019, Guo and Peng (2024) find no effect of PSL mandates on the probability that private sector workers aged 18–64 provide care to others, including primary childcare of all children; however, they report increases in the probability of caring for other adults for those working in construction and leisure and hospitality industries, the industries least likely to initially have PSL access. Bagalb (2023) tests whether PSL mandates influence youth behaviors in the Youth Risk Behavior Survey. Using the 2016–2021 ATUS in auxiliary analysis, Bagalb shows that adults aged 16–85 spend more time caring for children post-mandate.

Our study complements this existing work in several ways. First, our primary objective is to study the impact of PSL mandates on a proxy for the work-life balance of families, i.e., the provision of childcare, and in particular how findings differ by sex, given gendered childcare norms, and to examine families most likely to gain access to PSL post-mandate—those with lower levels of education (Rosa & Asfaw, 2023). Second, we consider primary and secondary childcare, and face time with children. When studying childcare, especially when using the ATUS due to the way time-use data are recorded, looking beyond primary childcare is crucial (Allard et al., 2007; Folbre, 2022; Stewart & Allard, 2016). As children age, the types of activities that parents engage in with their children change and are also reported in the time diaries differently (Stewart, 2010). For example, when children are young, an activity such as ‘playing a game’ might be recorded as primary childcare but when they are older, ‘playing a game’ will be reported as secondary childcare. Furthermore, an activity such as preparing dinner will be reported as a primary activity in the ATUS, but the parent might be helping



their children with homework or supervising play as a secondary activity. Face time with children captures both primary and some secondary childcare activities, those done in the same room, and time spent with teenagers. Secondary childcare is only captured in the ATUS for time with children under the age of 13. Considering childcare more broadly is important as both active (i.e., primary) and passive (i.e., secondary) childcare have been shown to be important for child development (Caetano et al., 2019). Third, we examine the amount of childcare, which proves to be empirically important in the PSL context. Most parents provide some primary childcare daily (64%), thus the extensive margin may miss developmentally important care.<sup>1</sup> Indeed, we show increases in the **amount** of childcare provided by parents post-mandate that are missed when focusing on the extensive margin only.

Fourth, because children of different ages have heterogeneous care needs (Drago, 2009; Zick & Bryant, 1996), we stratify our analysis by age of the youngest child to capture distinct periods of development—less than six years and 6–17 years (Currie & Almond, 2011). Finally, we consider a longer time-period than the other studies in this literature (2004–2022), which allows us to exploit variation from 14 of the 15 states with PSL mandates in our DID analyses and leverage several years of pre-treatment data for all adopting states when testing the parallel trends assumption.

### **3. Methods, data, and variables**

#### **3.1 Methods**

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<sup>1</sup> Authors' calculation from the primary childcare variable among adults with children <18 years in the household in the 2004–2022 ATUS.

PSL mandates were adopted at different points in time across states. Recent econometric literature (Goodman-Bacon, 2021) suggests that this setting can create bias when using two-way fixed-effects ('TWFE') regressions in application of DID methods. TWFE regressions recover a weighted average of the average treatment effect (ATT) using all possible two-by-two DID comparisons in the data. If there are dynamics in treatment effects, then using earlier treated states as a comparison group for later treated states can lead to bias—i.e., 'forbidden' comparisons (Borusyak et al., 2024). TWFE variance weights the data such that treated units in which the policy variable 'turns on' in the middle of the panel are upweighted in the ATT estimate. Thus, if there is heterogeneity in treatment effects across states, then TWFE may return a poor estimate of the ATT.

Given these concerns, we use a two-step DID imputation method proposed by Gardner (2022) that is robust to such sources of bias (Butts & Gardner, 2022). In the first step, the untreated or not-yet-treated states are used to impute counterfactual outcomes (i.e.,  $Y_{i,s,t}(0)$ ). In the second step, using treated and untreated outcomes, the procedure constructs an estimate of the ATT by contrasting treated outcomes and (imputed) untreated outcomes (i.e.,  $Y_{i,s,t}(1) - \hat{Y}_{i,s,t}(0)$ ). This procedure is also robust to bias associated with treatment heterogeneity that is correlated with covariates (Powell, 2021). Standard errors account for state clustering and counterfactual imputation.

Equation (1) outlines our estimating equation:

$$(1) Y_{i,s,t} = \alpha_0 + \alpha_1 PSL_{s,t-12} + \alpha_2' Z_{s,t} + \alpha_3' X_{i,s,t} + \gamma_s + \delta_t + \varepsilon_{i,s,t}$$

where  $Y_{i,s,t}$  is a measure of time use for individual  $i$  in state  $s$  at time  $t$  (month-year),  $PSL_{s,t-12}$  is an indicator for a state PSL mandate lagged one year (to allow workers to

learn about benefits, and accrue them);  $Z_{s,t}$  is a vector of state-level policies (paid medical and family leave and paid time off ['PTO'] laws sourced from the NPWF (2023a, 2023b)), poverty rate (UKCPR, 2023), and population (UKCPR, 2023);  $X_{i,s,t}$  is a vector of individual-level characteristics (see Appendix Table 1 for individual-level characteristics);  $\gamma_s$  and  $\delta_t$  are vectors of state and time (month-year) fixed-effects; and  $\varepsilon_{i,s,t}$  is the error term.  $\alpha_1$  is our coefficient of interest.

The Gardner approach uses least squares regression. For all analyses, we apply ATUS final weights that account for oversampling of weekend days. We merge PSL mandates onto the ATUS using month and year. In our main analyses, we analyze the effects of state-wide PSL mandate on time-use outcomes.

We choose not to emphasize results using the substate level mandates for two reasons. First, the relevant geography for PSL mandates is the work location, not residence, but the ATUS only includes location of residence. Using the 2019 American Community Survey (Ruggles et al., 2024), we find that 97% of employed working-age adults live and work in the same state, but just 77% live and work in the same county, suggesting that there is less measurement error in linking PSL mandates to the survey data with state (vs. substate) mandates. Second, although the ATUS includes several variables that can be used to link some substate information to the data, these variables are incomplete (e.g., smaller counties are suppressed) and not sufficiently fine enough to allow accurate isolation of all the localities in which substate mandates have been adopted (Van Riper et al., 2021). However, we show results that incorporate substate mandates (to the extent possible in the ATUS) in robustness checks.

### *3.2 American Time Use Survey*

The ATUS is a nationally representative dataset of individuals sampled from households completing their eighth month of the Current Population Survey (CPS). One respondent is randomly selected per CPS household. Since 2003, interviews have been conducted by telephone almost every day of the year except for major holidays and a seven-week closure of Census Bureau call centers early in the COVID-19 pandemic (March 18<sup>th</sup> through May 9<sup>th</sup> of 2020). Respondents are asked to sequentially report their activities occurring over a 24-hour period beginning at 4 a.m. the day before the interview ('diary day'). Half of the diaries are collected about a weekday and half about a weekend day. Estimates of time spent on activities from time diaries are considered to be more accurate than estimates from stylized survey questions (Juster, 1985).

Respondents are asked to report their primary activity. At the end of the time diary, respondents are asked to report activities during which children under 13 were 'in your care.' In some years, respondents also report secondary eating and drinking activities.<sup>2</sup> For most activities, respondents are asked who was in the room with them or accompanied them during an activity occurring while away from home and where the activity took place or the type of transit for travel activities. 'Who' and 'where' information was not collected for time spent sleeping, grooming, on personal/private activities, and when the respondent did not remember what they did or refused to answer for an activity. Before 2010, 'who' information was also not collected while working.

We extract ATUS data from IPUMS (Flood et al., 2023). Our analysis sample includes adults 22–59 years old living in households with minor children interviewed

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<sup>2</sup> Secondary eating and drinking is collected in the Eating and Health Module (2006–2008, 2014–2016, and 2022–2023).

2004–2022.<sup>3</sup> The main sample includes 77,527 persons (41,371 women and 36,156 men). We perform analyses stratified by the age of the youngest child (aged 0–5 vs. 6–17). We also examine subsamples of adults with minor children who do not have a college degree, because they may be more likely to be working at jobs not providing PSL when not mandated to do so (Rosa & Asfaw, 2023). We have regressed the probability of being in our sample on PSL mandates using Equation (1) and find no evidence that mandate passage impacts this probability ( $\hat{\alpha}_1 = 0.00$ ,  $\widehat{SE}=0.00$ ).

Our main analyses are based on **all** diary days, but in robustness checks, we consider the impacts on weekdays and weekend days separately, because people may reallocate their time across days of the week to deal with family responsibilities. We do not exclude the nonemployed or respondents based on industry of employment, as earlier work shows that employment may rise post-mandate (Section 2). However, in robustness checks, we show results excluding the nonemployed and those working in industries with low PSL access.

### 3.3. Outcomes

We use three variables to characterize time spent caring for household children. Appendix Table 1 provides a description of activities included in our time-use variables.

Our first measure is minutes spent on primary childcare defined as an activity that includes time spent on the direct care of children, including physical care, child-related healthcare, reading to children, playing with children, educational activities, talking with children, etc. Our second measure is ‘face time with children.’ This variable is constructed by summing time spent on activities when household children under age

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<sup>3</sup> 2003 is excluded as secondary childcare for household children (one of our outcomes) is not available.

18 were present during the activity using information from 'who' variables. The respondent was doing primary childcare or some other activity and was in the same room as the child when at home or in the company of a child while away from home. We exclude paid work time from face time with children, because respondents were not asked who they spent time with while working pre-2010. Excluding work time from this childcare metric allows us to consistently measure the variable over time and separate changes in paid work time from changes in childcare time.

Our final measure is secondary childcare, which is recorded in diaries for time respondents spend doing an activity other than primary childcare for which they also indicate that a household child under age 13 was in their care (we exclude paid work). For this measure, we only include households where the youngest child is less than 13 years. Children do not need to be in the same room as the respondent during the activity but could be in another room in the house under the respondent's supervision.

### *3.4. Summary statistics*

Appendix Figure 2 reports childcare trends for states that do and do not adopt/announce a state PSL mandate by October 2023. The data are somewhat noisy given the smaller sample sizes of the ATUS and we use two-year bins. Beginning in 2012/2013 (when Connecticut adopts a mandate), the two trends begin to depart for primary childcare and face time with children. These findings are somewhat obscured in 2020, with the onset of the COVID-19 pandemic and the temporary federal PSL policy. Trends in secondary childcare are inconclusive.

Appendix Table 2 reports summary statistics for the full sample, PSL adopting states (pre-mandate), and states that do not adopt a PSL mandate. Time spent on

primary and secondary childcare and face time with children are similar across states that do and do not adopt PSL mandates. State-level and individual-level characteristics also are comparable across the two groups.

## 4. Results

### 4.1 *Time spent working*

Before proceeding to our main analyses of time spent on childcare, we first explore the impact of state PSL mandates on time spent working as a ‘first-stage’ (Table 1). We view this variable as a proxy for PSL **use**. Work time includes minutes of work on main and other jobs, work-related activities, travel related to work-related activities, and commuting time.<sup>4</sup> Results are reported in Table 1. Columns 1, 2, and 3 list results for women and men, women only, and men only. We also stratify the sample based on the age of the youngest child in the household (no restriction, youngest child under six years old, and youngest child 6–17 years old). Finally, we estimate regressions for parents without a college degree.

In the full sample (Panel A), we observe that post-mandate, all adults, women, and men with children in the household work 13.0, 11.6, and 15.3 fewer minutes on the average day. Comparing these coefficient estimates to the mean value in PSL adopting states pre-mandate (we use this comparison in all conversions from absolute to relative effects) implies declines of 4.9%, 5.8%, and 4.5%. Effect sizes are larger among

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<sup>4</sup> We include commuting time in work time because this is time devoted to paid work that may be saved when using PSL. Pabilonia and Vernon (2022) find that those working from home on their diary day save an hour by not commuting. Results are qualitatively similar if we exclude commuting time.

parents without a college degree (Panel D): minutes spent working decline by 18.8 (7.6%), 20.2 (11.0%), and 18.1 (5.6%) among all adults, women, and men.

When we consider the age of the youngest child, we observe some sex differences. Among women (men), declines in minutes working are larger when the youngest child is <6 (6–17). These findings are consistent with gendered childcare patterns, with women doing more of the routine physical childcare when children are young and men spending more time with children when they are older.

Appendix Table 3 mirrors Table 1, but the outcome is **any** work on the diary day. We observe declines in the probability of any work for most groups, which suggests that parents take off more full workdays post-mandate.

#### *4.2 Time spent on childcare and associated activities*

Table 2 shows our main results, the effects of a PSL mandate on minutes spent on childcare per average day. For women and men combined (Panel A), we find that a PSL mandate leads them to spend 3.8 minutes more on primary childcare and 10.5 minutes more face time with children, but that secondary childcare for children under age 13 does not change. Relative to the pre-treatment mean, these coefficient estimates imply a 4.9% increase in primary childcare and a 3.4% increase in face time with children. PSL mandate effects on primary childcare are driven entirely by changes for those with a child under age six, who increase their primary childcare by 9.1 minutes (8.0%) (Panel B). The effects of a PSL mandate on face time with children are larger (in absolute magnitude) for families with younger children (15.0 minutes vs. 11.1 minutes), though relative effect sizes (given different baselines) are more similar (3.9% vs. 4.5%).



Estimating effects separately by sex, we find that the coefficients estimates are less precise with the smaller samples. We further show that the effects of a PSL mandate on primary childcare are driven entirely by women with children under age six. Turning to face time with children, we find that women spend more face time with children when there are younger children in the household (24.1 minutes), while men spend more face time with children when there are only school-aged children in the household (19.4 minutes). This difference is not surprising given the larger differences in care time between men and women when their children are young. Pre-treatment, the gender gap in mean face time with children when children are young is 160 minutes per day, but only 78 minutes per day when all children are school-aged. The pre-treatment gender gap in mean primary childcare is larger when there are young children in the household. We also find that men spend more time on secondary childcare post-mandate (18.2 minutes or 7.8%) when their children are school-aged (Panel I).

These results suggest that when mothers have access to PSL and need to take time off work to stay home with sick children, mothers provide more direct care on average to meet their children's needs, but secondary supervision does not change because this is not the type of care required in these instances. However, for men, the face time and secondary time with school-aged children may overlap more, and men who stay home with their school-aged children (when they are ill, or schools are closed) are not doing more direct childcare but instead more supervisory care while enjoying leisure activities (see below) because of the different development needs of these older children. Thus, the results indicate some sex differences in the effects of a PSL mandate on the types of care provided, with women playing a more traditional role by

providing direct care for younger children and men playing more of a supervisory role for older children. When we restrict the sample to those without a college degree, we find similar results, but the coefficient estimates are less precise, likely due to the drop in sample size (Appendix Table 4).

We study ‘second-stage’ impacts of PSL mandates, thus assessing the extent to which our effect sizes are reasonable is important. To do so, we compare findings for time spent working and time spent on primary childcare for all men and women. In Table 2, we show that time spent working declines by 13.0 minutes and in Table 3, we find that time spent in primary childcare increases by 3.8 minutes. Second-stage effects are only 29% as large as first-stage effects. Findings for face time with children are larger (10.5 minutes), but still smaller than first-stage effects. Overall, our second-stage effect sizes appear reasonable.

Using Equation (1) to recover an estimate of the effect of a state PSL mandate requires that the data satisfy the parallel trends assumption: in the absence of a mandate, states that adopt a PSL mandate would have followed the same trends in outcomes as states that do not adopt a mandate. This assumption, while untestable because counterfactual outcomes are not observed, allows us to use untreated states as a comparison group. To provide suggestive evidence on the ability of our data to satisfy this assumption, we conduct an event-study. Because sample sizes are somewhat small in the ATUS, we use two-year time-to-event bins from -6/-5 to +4/+5 years and the larger sample of all women and men. We incorporate all state mandates adopted or announced by October 2023. The coefficient estimates reflect the difference in outcomes between treated and untreated observations in each time-to-event period

(Figure 1). Though coefficient estimates are somewhat noisy, there are no systematic differences prior to mandate adoption between the two groups of states. We dig deeper into this question later in this section and detrend the data; results are not appreciably different. In the post-period, we see that time spent on primary childcare and face time with children increases in adopting versus non-adopting states.

In Table 3, we break total primary childcare into routine and health, educational, and other care (e.g., reading to children). While coefficient estimates do not always rise to conventional levels of statistical significance, all three types of care increase post-mandate in most groups of parents, though the relative effects are larger for educational and other care. Appendix Table 5 reports complementary results for parents without a college degree; patterns are similar.

Table 4 shows results for several other major time-use outcomes. We examine time spent on household activities (which include time spent on housework and preparing meals), sleep, and leisure activities.<sup>5</sup> These outcomes may be substitutes or complements to childcare. Looking first at household activities, we find that parents spend less time on household activities post-mandate when they have young children (7.9 minutes). Parents may be reallocating time from household activities to primary childcare, because childcare activities are likely the highest priority when children are sick and parents are able to take time off of work to care for them. Turning to sleep, we find that post-mandate, women and men spend more time sleeping if they live with a young child but less time sleeping if they live with school-aged children only (5.1 minutes more vs. 8.8 fewer minutes). This change might be because young children

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<sup>5</sup> Reid (1934) wrote of maternal responsibility: “Even though she may not be on active duty, evidence of her labor is about her. She is continually on call. Much so-called leisure has a ‘string attached’.” (p. 319).

sleep longer than older children, giving their parents a reprieve to also sleep longer. Looking at leisure activities, post-PSL mandate, leisure time increases by 6.9 minutes or 3.0% among parents. This effect is driven by men who have 8.8% more leisure time, which looks to be concentrated among men living with school-aged children (10.7%) who require less physical care but still require supervision when home sick. Given that the leisure results are larger than the secondary results suggests that men are either reallocating time from other activities that we do not examine on the days that they stay home with sick children or are also more likely to stay home sick from work for their own illness or otherwise take time off from work for leisure activities (i.e., playing 'hooky'). We also examine effects on those without a college degree (Appendix Table 6). The findings are similar but less precise.

#### *4.3. Robustness and extensions*

We test the robustness of our main finding (the effect of state PSL on time spent on primary childcare for men and women combined) to different specifications and samples. Results, while not identical, are generally robust (Appendix Figure 3). First, we change the variables included in Equation (1) by separately: removing time-varying state and individual characteristics, replacing time fixed-effects with region-by-time fixed-effects (four U.S. Census regions), and including industry and occupation fixed-effects. Second, we vary how we operationalize PSL mandates. We code a state as having a PSL mandate if there is a PSL **or** PTO mandate, and we incorporate substate mandates in two ways: redefine a state PSL mandate as a state-wide mandate **or** a substate mandate in which the affected locality has a population of 500,000 or more residents in 2010 according to the U.S. Census (this classification recodes California,

Illinois, Maryland, Minnesota, New York, Oregon, Pennsylvania, and Washington from zero to one in some years), and code substate mandates (NPWF, 2023a) for which we can isolate the affected geography, e.g., we code San Francisco, California as having a mandate in 2008. Relatedly, we lag the mandate variable two years.

Third, we examine different samples: excluding the pandemic period, dropping groups of states that display substantial shares of workers living in one state and working in another (DC, Maryland, and Virginia; Connecticut, New Jersey, and New York), keeping only the employed, and including only those working in industries with low access to PSL benefits pre-policy. Fourth, we detrend the data to address remaining concerns about differential pre-trends between adopting and non-adopting states (we estimate a separate linear time trend for each state using pre-mandate data for treatment states and all years for control states, and we remove the trend). In Appendix Table 7, we present estimates using TWFE and an alternative imputation DID estimator (Borusyak et al., 2024). We conduct a Goodman-Bacon (2021) decomposition to assess the importance of bias from a staggered treatment rollout and find 92% of the two-by-two DID comparisons are ‘reasonable.’ The similarity in results using the imputation approaches and TWFE is thus not surprising. Fifth, we estimate the  $t$ -statistic generated by testing the null of no treatment effect using a score bootstrap approach that has been shown to have better properties with few treated units (Brewer et al., 2018; Kline & Santos, 2012; Roodman et al., 2019). The  $t$ -statistic is 2.75.

Sixth, we report results for weekday and weekend diary days (Appendix Figure 4). Effects are driven by weekdays, which is consistent with respondents taking time off work to provide childcare. Seventh, we conduct a ‘leave-one-out’ analysis where we

sequentially exclude each treated state and re-estimate Equation (1). Given California's large population and the fact that this state has a particularly generous PSL mandate (NPWF, 2023a), we estimate Equation (1) using only California and non-PSL states. Results are robust, though California is empirically important (Appendix Figure 5).

Finally, we consider the effect of PSL mandates on the extensive and intensive margins of primary childcare (Appendix Table 8). We find no evidence that PSL mandate adoption leads to changes in the probability of any time spent on primary childcare, comparable to Guo and Peng (2024), with but an increase along the intensive margin that is comparable to our main result. These findings suggest that examining the total amount of childcare is important.

## **5. Discussion**

In this study, we explore the extent to which U.S. state PSL mandates allow families to better balance work and childcare. Given that balancing work and family responsibilities is a key argument made by PSL mandate proponents and policymakers, and that the majority of families report that achieving this balance is challenging (Howington, 2024), evaluating the impacts of PSL mandates on childcare provision is a first-order question for assessing whether these mandates are effective.

Our findings provide evidence that these mandates are meeting one of the core objectives touted by policymakers: allowing families the flexibility to provide care to their children. Combining data from the 2004–2022 ATUS with DID methods, we show that post-mandate, time spent on primary childcare increases by 4.9% among respondents with children under age 18 in the household. Parents also spend 3.4% more face time

with their children. We observe some evidence of heterogeneity in treatment effects by sex, age of the youngest child, and education. Primary childcare changes are driven by mothers of young children, mothers also spend more face time with children when they have younger children while fathers spend more face time with children when they have school-aged children only, and fathers living with children aged 6–12 (but no younger children) spend 7.8% more time on secondary childcare of these children. The heterogeneity in effect size by sex is in line with gendered norms around childcare in the U.S. and development needs of children.

Our study has some limitations. The ATUS, the only data source that records time use at the national level and over time, is not designed to be representative at the state level (the level at which our treatment varies), which can lead to bias (Maclean, Tello-Trillo, et al., 2023). We also focus on early adopting states; thus our findings may not generalize to all states.

Our findings suggest that PSL mandates improve the well-being of parents and children by allowing parents to better balance work and family responsibilities. This evidence is useful for assessing the overall efficiency of mandated PSL.

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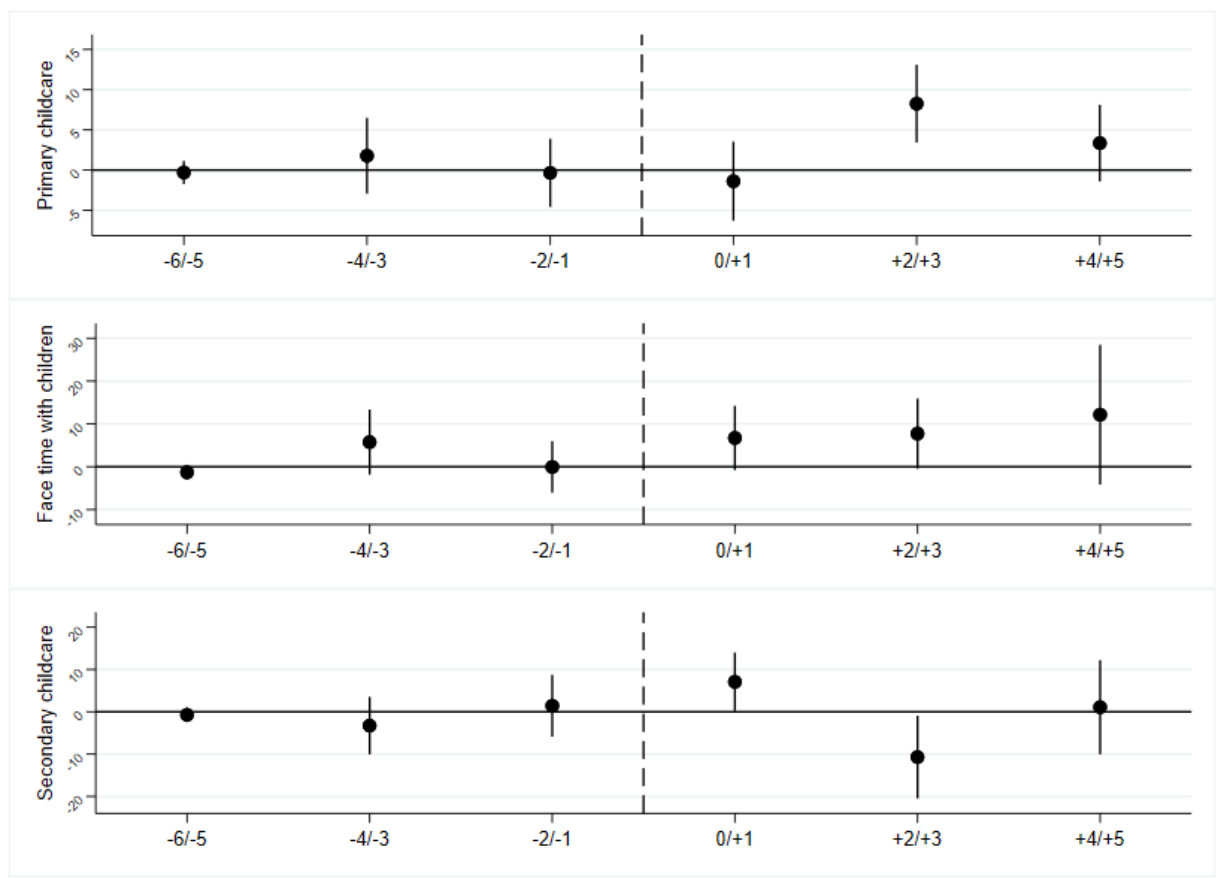
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Figure 1. Effect of a PSL mandate on childcare outcomes among adults 22–59 years old with children in the household using an event study (minutes per average day)



Notes: The sample includes only those with children under age 18 in the household. Each outcome includes childcare related to household children only. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Beta coefficient estimates are reported with black circles and 95% confidence intervals that account for within-state clustering are reported with vertical lines. We impose endpoint restrictions: periods more than six years pre-event are coded one for the -6/-5 indicator and periods more than five years post-event are coded one for the +4/+5 indicator. The Gardner (2022) event study estimator does not have an omitted category. All coefficient estimates are implicitly normalized to the pre-period average. For the one state (Minnesota) that adopts a mandate after 2022 (effective January 2024), we code that state in its pre-treatment period (e.g., in 2022, Minnesota is coded as being two years in advance of the mandate being adopted). In unreported analyses, we have i) ignored the Minnesota mandate (treating Minnesota as a never-treated state) and ii) excluding Minnesota from the analysis, results (which are available on request) are not appreciably different. Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Table 1. Effect of a PSL mandate (lagged one year) on time devoted to work among adults 22–59 years old with children in the household (minutes per average day)

Sample:	Women and men	Women	Men
<u>Panel A:</u> All	-12.97** (5.82)	-11.56*** (4.23)	-15.25*** (4.03)
Pre-treatment mean, PSL states	263.27	198.05	338.86
Percent change	-4.93	-5.84	-4.50
Observations	77527	45455	32072
<u>Panel B:</u> Youngest child 0–5 years old	-16.55** (8.12)	-23.48*** (8.66)	-8.01* (4.40)
Pre-treatment mean, PSL states	245.30	166.80	337.20
Percent change	-6.75	-14.08	-2.38
Observations	36156	20963	15193
<u>Panel C:</u> Youngest child 6–17 years old	-9.52 (8.18)	-0.67 (5.26)	-18.74*** (5.32)
Pre-treatment mean, PSL states	279.14	225.88	340.32
Percent change	-3.41	-0.30	-5.51
Observations	41371	24492	16879
<u>Panel D:</u> No college degree	-18.77** (8.07)	-20.22*** (4.89)	-18.13*** (5.52)
Pre-treatment mean, PSL states	248.40	183.20	323.34
Percent change	-7.56	-11.03	-5.61
Observations	46050	27352	18698
<u>Panel E:</u> No college degree, youngest child 0–5 years old	-24.39*** (9.37)	-34.62*** (7.90)	-13.42* (7.48)
Pre-treatment mean, PSL states	226.84	150.14	317.19
Percent change	-10.75	-23.06	-4.23
Observations	21006	12404	8602
<u>Panel F:</u> No college degree, youngest child 6–17 years old	-16.28 (10.81)	-8.92 (7.00)	-25.44*** (6.52)
Pre-treatment mean, PSL states	267.38	212.94	328.62
Percent change	-6.09	-4.19	-7.74
Observations	25044	14948	10096

Notes: The sample includes only those with children under age 18 in the household. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Standard errors clustered at the state level are reported in parentheses. Percent change is calculated by comparing the coefficient estimate with the pre-treatment mean in PSL adopting states.

\*\*\*, \*\*, \* = statistically different from zero at the 1%, 5%, 10% level.

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Table 2. Effect of a PSL mandate (lagged one year) on childcare outcomes among adults 22–59 years old with children in the household (minutes per average day)

Outcome:	Primary childcare	Face time with children	Secondary childcare
<b>Women and men</b>			
<u>Panel A: All</u>	3.75*** (1.40)	10.51** (4.47)	-2.88 (3.62)
Pre-treatment mean, PSL states	76.46	312.15	312.46
Percent change	4.90	3.37	-0.92
Observations	77527	77527	64202
<u>Panel B: Youngest child</u>	9.11*** (2.94)	15.02** (6.16)	-4.43 (6.29)
0–5 years old			
Pre-treatment mean, PSL states	114.06	387.07	329.02
Percent change	7.98	3.88	-1.35
Observations	36156	36156	36156
<u>Panel C: Youngest child</u>	-0.23 (2.95)	11.08** (5.04)	4.74 (6.90)
6–17 years old			
Pre-treatment mean, PSL states	43.27	246.03	289.35
Percent change	-0.54	4.50	1.64
Observations	41371	41371	28046
<b>Women</b>			
<u>Panel D: All</u>	4.75* (2.45)	13.05* (7.76)	-4.43 (6.93)
Pre-treatment mean, PSL states	96.90	366.51	370.15
Percent change	4.90	3.56	-1.20
Observations	45455	45455	37596
<u>Panel E: Youngest child</u>	13.53** (6.15)	24.13* (13.69)	-3.74 (11.24)
0–5 years old			
Pre-treatment mean, PSL states	144.18	460.82	392.20
Percent change	9.38	5.24	-0.95
Observations	20963	20963	20963
<u>Panel F: Youngest child</u>	-3.27 (4.28)	3.35 (7.29)	-6.12 (8.86)
6–17 years old			
Pre-treatment mean, PSL states	54.79	282.50	338.91
Percent change	-5.97	1.19	-1.81
Observations	24492	24492	16633
<b>Men</b>			
<u>Panel G: All</u>	2.99 (3.02)	9.00 (8.40)	0.46 (8.69)
Pre-treatment mean, PSL states	52.78	249.17	245.83
Percent change	5.67	3.61	0.19
Observations	32072	32072	26606
<u>Panel H: Youngest child</u>	2.37 (4.60)	2.53 (12.69)	-4.92 (9.85)
0–5 years old			
Pre-treatment mean, PSL states	78.80	300.70	255.05
Percent change	3.01	0.84	-1.93
Observations	15193	15193	15193
<u>Panel I: Youngest child</u>	3.72 (2.55)	19.35** (8.41)	18.16* (9.78)
6–17 years old			
Pre-treatment mean, PSL states	30.04	204.14	233.18
Percent change	12.37	9.48	7.79
Observations	16879	16879	11413

Notes: The sample for primary childcare and face time with children includes only those with children under age 18 in the household, while the sample for secondary childcare includes only those with children under age 13 in the household. Each outcome includes childcare related to household children only. The

regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Standard errors clustered at the state level are reported in parentheses. Percent change is calculated by comparing the coefficient estimate with the pre-treatment mean in PSL adopting states.

\*\*\*, \*\*, \* = statistically different from zero at the 1%, 5%, 10% level.

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Table 3. Effect of a PSL mandate (lagged one year) on specific types of primary childcare among adults 22–59 years old with children in the household (minutes per average day)

Outcome:	Total	Routine and health	Educational	Other
<b>Women and men</b>				
<u>Panel A:</u> All	3.75*** (1.40)	0.37 (1.27)	1.01 (0.68)	2.37*** (0.90)
Pre-treatment mean, PSL states	76.46	35.65	7.27	33.55
Percent change	4.90	1.03	13.87	7.07
Observations	77527	77527	77527	77527
<u>Panel B:</u> Youngest child 0–5 years old	9.11*** (2.94)	1.46 (2.49)	2.09* (1.14)	5.55*** (1.94)
Pre-treatment mean, PSL states	114.06	59.70	5.77	48.59
Percent change	7.98	2.45	36.21	11.43
Observations	36156	36156	36156	36156
<u>Panel C:</u> Youngest child 6–17 years old	-0.23 (2.95)	-0.55 (0.91)	0.20 (1.04)	0.11 (1.54)
Pre-treatment mean, PSL states	43.27	14.41	8.59	20.28
Percent change	-0.54	-3.81	2.37	0.56
Observations	41371	41371	41371	41371
<b>Women</b>				
<u>Panel D:</u> All	4.75* (2.45)	0.77 (1.98)	1.35 (1.26)	2.62 (1.73)
Pre-treatment mean, PSL states	96.90	48.03	9.45	39.41
Percent change	4.90	1.61	14.33	6.65
Observations	45455	45455	45455	45455
<u>Panel E:</u> Youngest child 0–5 years old	13.53** (6.15)	2.50 (4.00)	2.50 (1.86)	8.52** (3.99)
Pre-treatment mean, PSL states	144.18	79.43	7.72	57.03
Percent change	9.38	3.15	32.44	14.94
Observations	20963	20963	20963	20963
<u>Panel F:</u> Youngest child 6–17 years old	-3.27 (4.28)	-1.51 (1.64)	0.33 (1.90)	-2.09 (2.13)
Pre-treatment mean, PSL states	54.79	20.07	11.00	23.72
Percent change	-5.97	-7.53	2.96	-8.80
Observations	24492	24492	24492	24492
<b>Men</b>				
<u>Panel G:</u> All	2.99 (3.02)	-0.00 (2.05)	0.80 (0.51)	2.20 (1.71)
Pre-treatment mean, PSL states	52.78	21.29	4.73	26.75
Percent change	5.67	-0.01	16.82	8.21
Observations	32072	32072	32072	32072
<u>Panel H:</u> Youngest child 0–5 years old	2.37 (4.60)	-0.85 (3.25)	1.65* (0.88)	1.57 (2.55)
Pre-treatment mean, PSL states	78.80	36.61	3.49	38.70
Percent change	3.01	-2.34	47.37	4.05
Observations	15193	15193	15193	15193

Panel I: Youngest child	3.72	0.54	0.28	2.89*
6–17 years old	(2.55)	(1.59)	(0.75)	(1.57)
Pre-treatment mean, PSL states	30.04	7.91	5.82	16.32
Percent change	12.37	6.86	4.81	17.73
Observations	16879	16879	16879	16879

Notes: The sample includes only those with children under age 18 in the household. Each outcome includes childcare related to household children only. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Standard errors clustered at the state level are reported in parentheses. Percent change is calculated by comparing the coefficient estimate with the pre-treatment mean in PSL adopting states.

\*\*\*, \*\*, \* = statistically different from zero at the 1%, 5%, 10% level.

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).



Table 4. Effect of a PSL mandate (lagged one year) on other time-use outcomes among adults 22–59 years old with children in the household (minutes per average day)

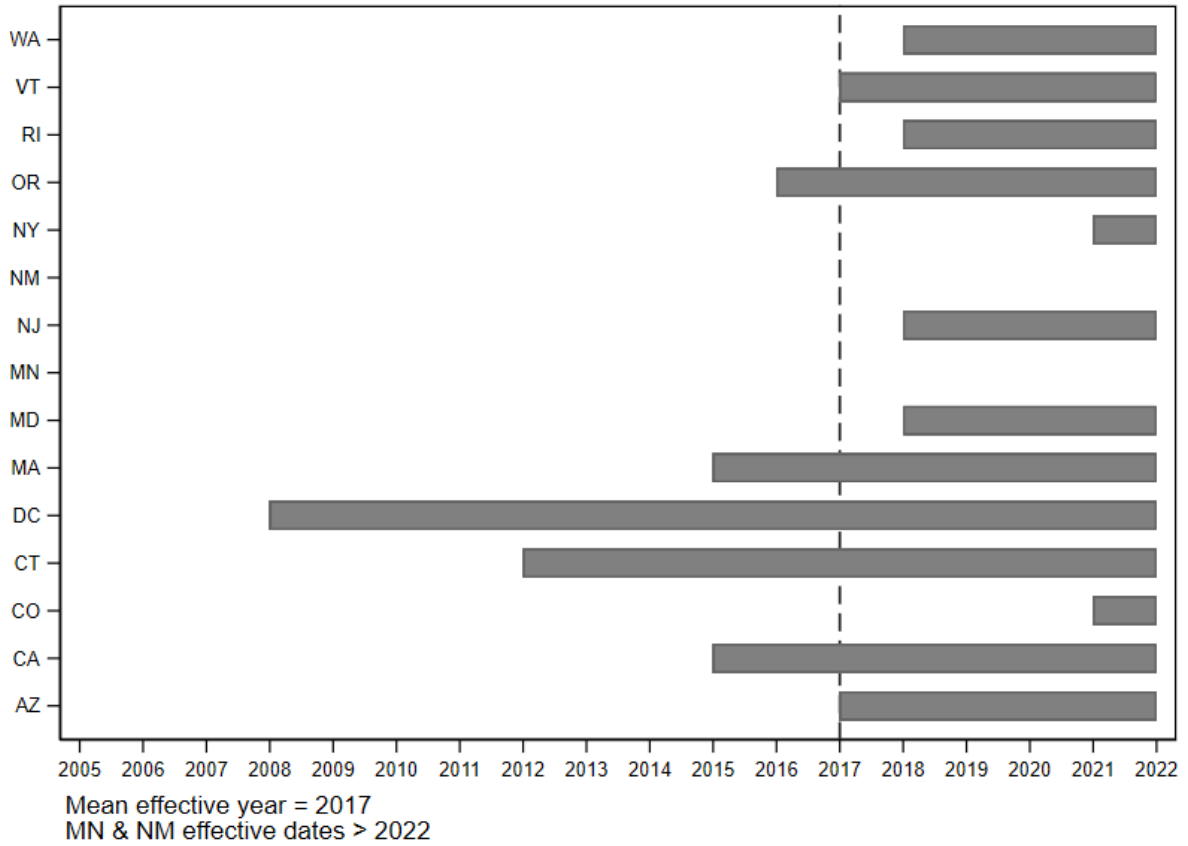
Outcome:	Household activities	Sleep	Leisure
<b>Women and men</b>			
<u>Panel A: All</u>	-1.99 (3.20)	-2.28 (1.94)	6.92* (3.54)
Pre-treatment mean, PSL states	119.51	510.66	234.18
Percent change	-1.67	-0.45	2.96
Observations	77527	77527	77527
<u>Panel B: Youngest child</u> 0–5 years old	-7.88* (4.46)	5.10* (2.82)	4.12 (3.18)
Pre-treatment mean, PSL states	116.81	512.81	224.98
Percent change	-6.75	0.99	1.83
Observations	36156	36156	36156
<u>Panel C: Youngest child</u> 6–17 years old	3.38 (4.42)	-8.78** (4.18)	8.65 (5.76)
Pre-treatment mean, PSL states	121.90	508.75	242.31
Percent change	2.78	-1.73	3.57
Observations	41371	41371	41371
<b>Women</b>			
<u>Panel D: All</u>	-1.24 (3.67)	1.50 (3.61)	-4.62 (3.20)
Pre-treatment mean, PSL states	155.02	517.43	218.62
Percent change	-0.80	0.29	-2.11
Observations	45455	45455	45455
<u>Panel E: Youngest child</u> 0–5 years old	-8.08 (5.44)	6.78 (5.31)	-1.09 (4.54)
Pre-treatment mean, PSL states	153.25	524.13	211.04
Percent change	-5.27	1.29	-0.52
Observations	20963	20963	20963
<u>Panel F: Youngest child</u> 6–17 years old	4.94 (6.11)	-2.84 (4.73)	-8.07 (7.14)
Pre-treatment mean, PSL states	156.60	511.47	225.37
Percent change	3.15	-0.56	-3.58
Observations	24492	24492	24492
<b>Men</b>			
<u>Panel G: All</u>	-2.99 (4.57)	-6.39* (3.67)	21.39*** (6.09)
Pre-treatment mean, PSL states	78.36	502.80	252.23
Percent change	-3.82	-1.27	8.48
Observations	32072	32072	32072
<u>Panel H: Youngest child</u> 0–5 years old	-5.91 (5.12)	2.95 (4.22)	10.98 (6.91)
Pre-treatment mean, PSL states	74.14	499.56	241.30
Percent change	-7.98	0.59	4.55
Observations	15193	15193	15193
<u>Panel I: Youngest child</u> 6–17 years old	0.80 (6.00)	-15.57*** (5.73)	28.09*** (8.44)
Pre-treatment mean, PSL states	82.05	505.63	261.77
Percent change	0.98	-3.08	10.73
Observations	16879	16879	16879

Notes: The sample includes only those with children under age 18 in the household. Each outcome includes childcare related to household children only. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation

is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Standard errors clustered at the state level are reported in parentheses. Percent change is calculated by comparing the coefficient estimate with the pre-treatment mean in PSL adopting states. \*\*\*, \*\*, \* = statistically different from zero at the 1%, 5%, 10% level.  
Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

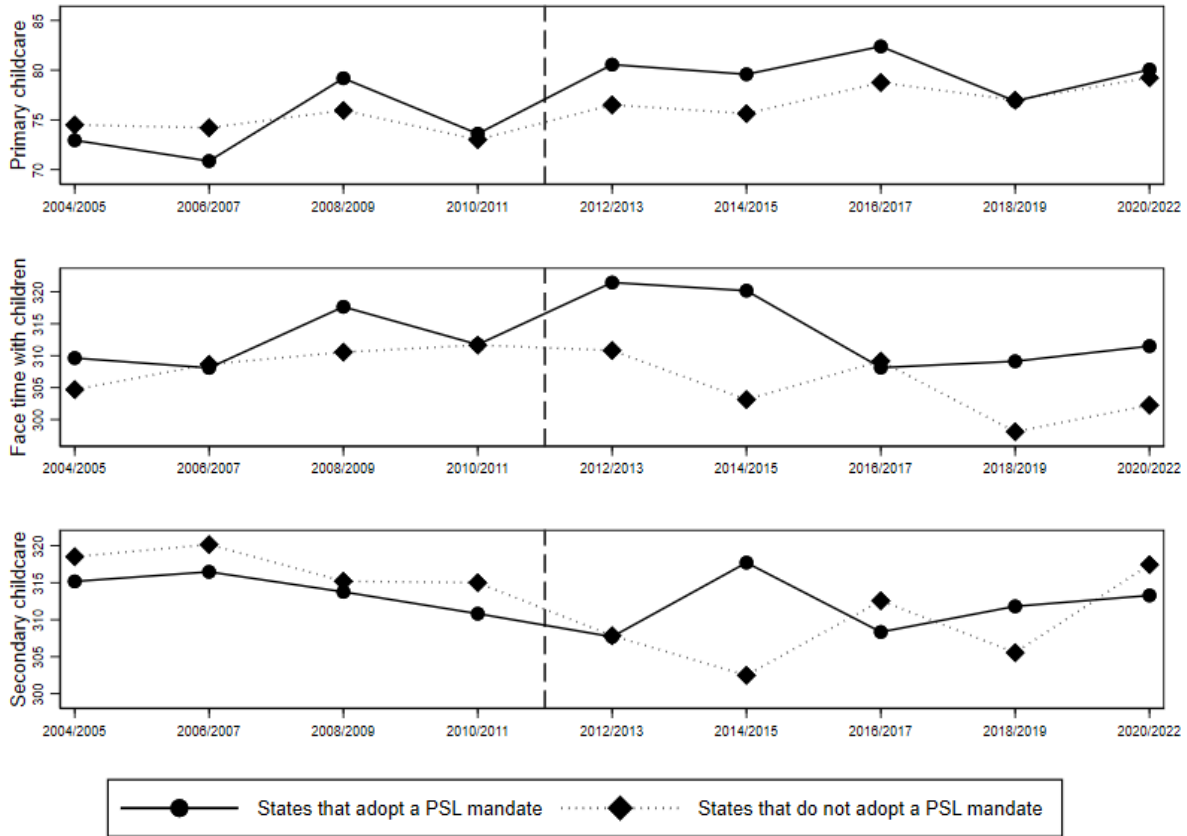


Appendix Figure 1B. State paid sick leave mandates adopted or announced by October 2023: Temporal distribution



Notes: All state paid sick leave mandates effective or announced by October 2023, the most recent data available at the time of writing. Treatment states (effective dates MM/YY) are as follows: AZ (7/2017), CA (7/2015), CO (1/2021), CT (1/2012), DC (5/2008), MA (7/2015), MD (2/2018), MN (1/2024), NJ (10/2018), NM (7/2022), NY (1/2021), OR (1/2016), RI (7/2018), VT (1/2017), and WA (1/2018). See notes to Appendix Table 1A for additional details on state PSL mandates.  
 Source: National Partnership for Women & Families (2023).

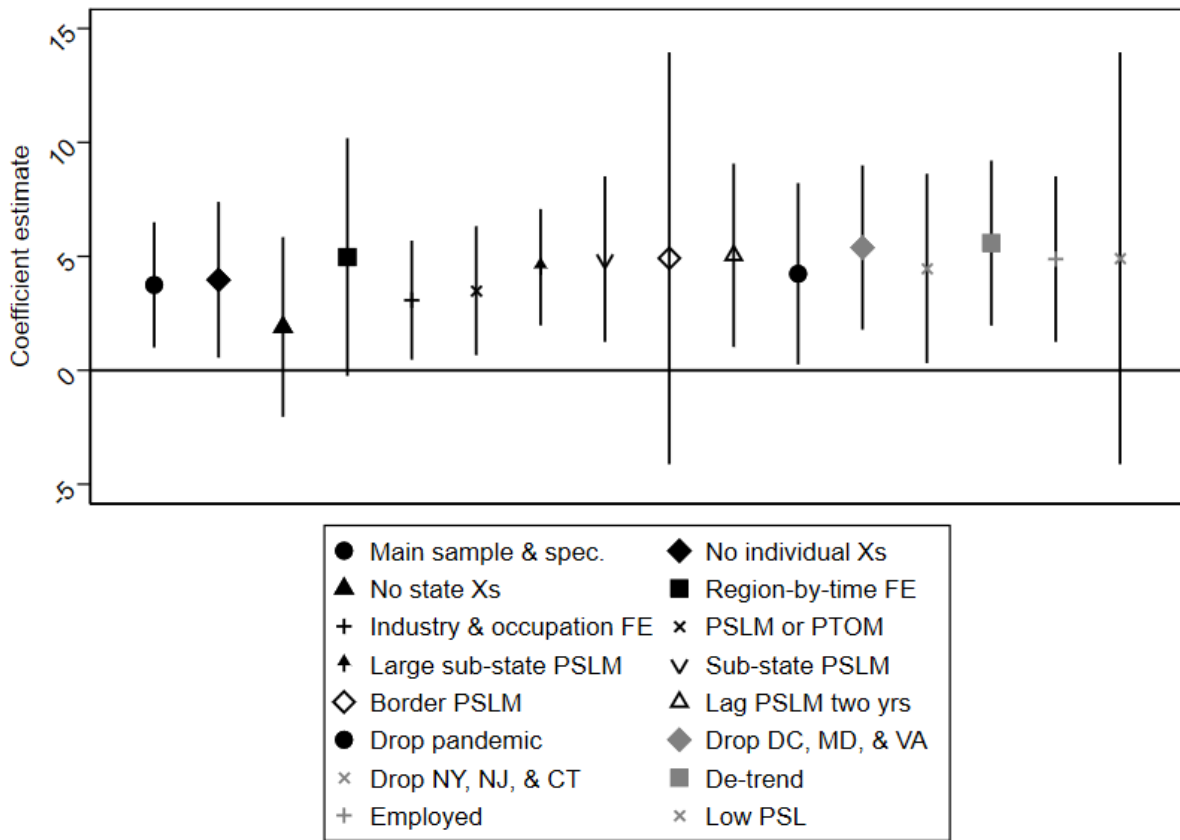
Appendix Figure 2. Trends in childcare outcomes among adults 22–59 years old with children in the household (minutes per average day)



Notes: The sample includes only those with children under age 18 in the household. Each outcome includes childcare related to household children only. The unit of observation is a treatment group (treatment = 1 if state adopts a paid sick leave mandate, comparison = 0 if state did not adopt a paid sick leave mandate) in a two-year year bin (an exception is the bin 2020-2022, which includes three years), data are aggregated from the respondent-state-year level. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Thus, the year 2020 value is not an annual estimate and not strictly comparable. Data are weighted by ATUS weights prior to aggregation.

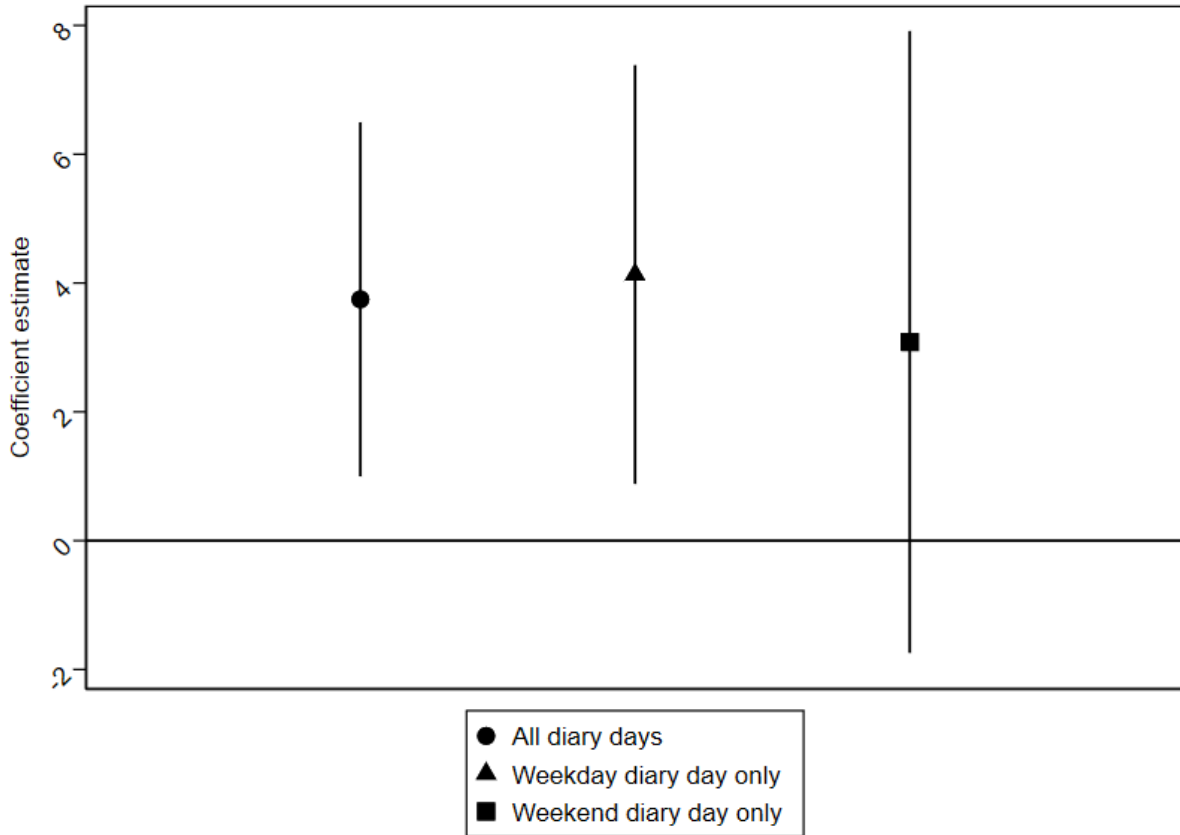
Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Appendix Figure 3. Effect of a PSL mandate (lagged one year) on primary childcare among adults 22–59 years old with children in the household (minutes per average day): Alternative samples and specifications



Notes: FE = fixed-effects, PSML = paid sick leave mandate, and PTOM = paid time off mandate. We use two-digit industry and occupation codes in the specification that includes industry and occupation fixed-effects. When, we incorporate sub-state PSLM, we incorporate two cities (Portland, Oregon and Jersey City, New Jersey) that are reported as having a PSLM in A Better Balance (N/D) but not in NPWF (2023a). The sample includes only those with children under age 18 in the household. Each outcome includes primary childcare related to household children only. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects unless otherwise noted. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Beta coefficient estimates are reported with shapes and vertical lines report 95% confidence intervals that account for within-state clustering. Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

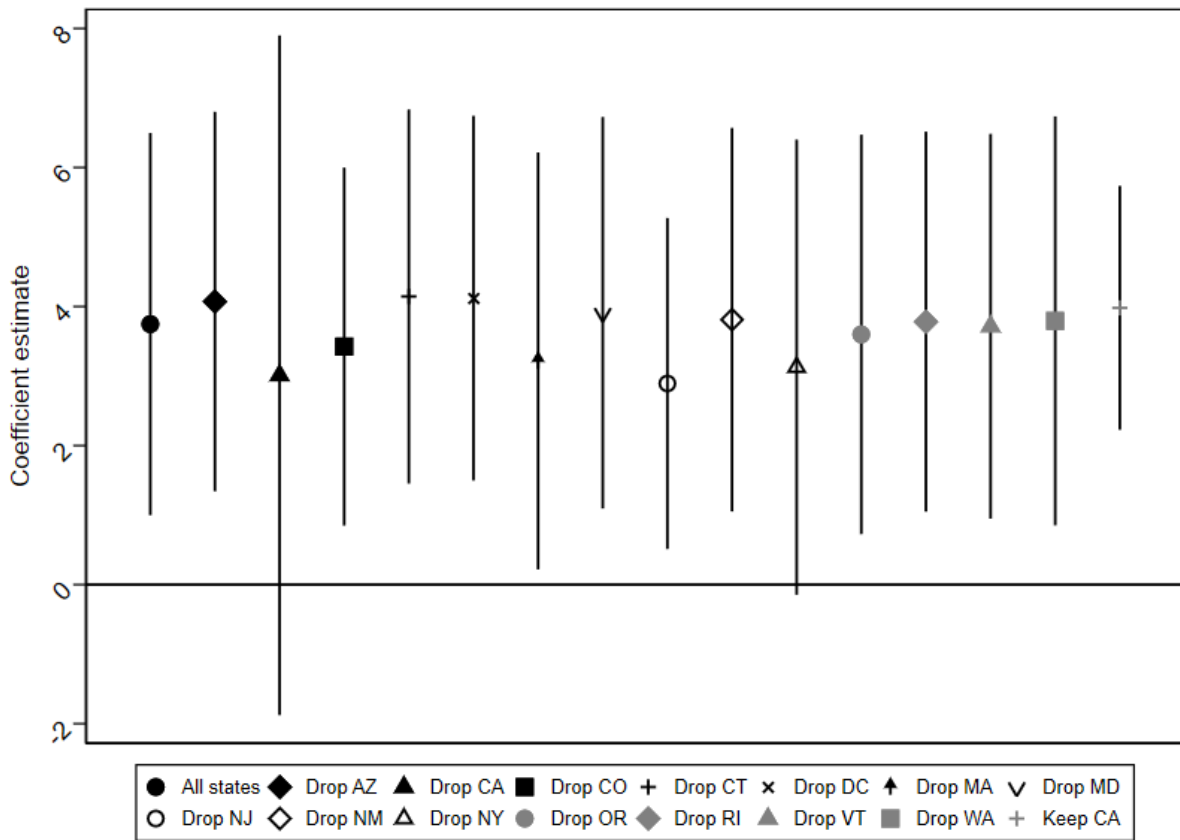
Appendix Figure 4. Effect of a PSL mandate (lagged one year) on primary childcare among adults 22–59 years old with children in the household (minutes per average day): Importance of day of the week



Notes: The sample includes only those with children under age 18 in the household. Each outcome includes childcare related to household children only. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Beta coefficient estimates are reported with shapes and vertical lines report 95% confidence intervals that account for within-state clustering.

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Appendix Figure 5. Effect of a PSL mandate (lagged one year) on primary childcare among adults 22–59 years old with children in the household (minutes per average day): Leave-one-out analysis and keeping only California as the treated state



Notes: The sample includes only those with children under age 18 in the household. Each outcome includes childcare related to household children only. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Beta coefficient estimates are reported with shapes and vertical lines report 95% confidence intervals that account for within-state clustering.

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).



Appendix Table 1. Detailed ATUS activity codes used for time use outcomes

Activity	Activity codes and explanations
Primary childcare to household children	030100, 030200, 030300. We do not include travel related to caring for and helping household children in this measure. If a child is sick, they might stay home from school, and thus travel time would decrease if parents rather than buses are the primary form of transit; however, other childcare time would increase. Conversely, parents may increase travel time if they are taking their children to healthcare appointments.
Routine and health childcare (sub-category of primary childcare to household children)	030101, 030109, 030301, 030302, 030303, 030399.
Educational childcare (sub-category of primary childcare to household children)	030201, 030202, 030203, 030204, 030299.
Other childcare (sub-category of primary childcare to household children)	030102, 030103, 030104, 030105, 030106, 030107, 030108, 030110, 030111, 030112, 030199.
Face time with children	All activities with household children under age 18 excluding main and other job work time, work-related activities, commuting, and travel related to work-related activities, i.e., 050100, 050200, 180501, 180502.
Secondary childcare	All secondary childcare for household children under age 13 excluding main and other job work time, work-related activities, commuting, travel related to work-related activities, and sleeping, primary childcare, and travel related to primary childcare. This variable is not recorded when all children under age 13 are sleeping during an activity.
Work	050100, 050200, 180501, 180502.
Household production	020100, 020200, 020300, 020400, 020500, 020600, 020700, 200800, 020901, 020902, 020905, 020999, 029999, 180200
Sleep	010100
Leisure	120000, 130000, 181200, 181300
Primary childcare to nonhousehold children	040100, 040200, 040300

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Appendix Table 2. Summary statistics for adults 22–59 years old with children in the household

Sample:	All states	States that adopt a PSL, pre-policy	States that do not adopt a PSL
Primary childcare (min/day)	76.6	76.5	76.2
Face time with children (min/day)	308.6	312.2	306.4
Secondary childcare (min/day)	312.9	312.5	312.9
Household activities (min/day)	118.1	119.5	116.9
Sleep (min/day)	509.8	510.7	507.7
Leisure (min/day)	235.4	234.2	236.3
State-level characteristics			
PSL mandate (lagged one year)	0.076	0	0
Paid family and medical leave mandate*	0.16	0.39	0
Paid time off mandate	0.01	0	0.011
Poverty rate*	12.9	13.1	13.2
Population*	13687403	17882746	10950530
Individual-level characteristics			
Male**	0.46	0.46	0.45
Female	0.54	0.54	0.55
Age‡	38.6	38.8	38.4
White**	0.80	0.80	0.81
Non-white	0.20	0.20	0.19
Non-Hispanic**	0.78	0.70	0.83
Hispanic	0.22	0.30	0.17
Not married**	0.25	0.24	0.25
Married	0.75	0.76	0.75
Not cohabiter**	0.25	0.24	0.25
Cohabiter	0.75	0.76	0.75
Less than high school**	0.12	0.14	0.11
High school	0.28	0.25	0.29
Some college, no degree	0.25	0.25	0.26
College degree	0.22	0.22	0.22
Graduate degree	0.13	0.14	0.12
Number of children under 18 years old in household	1.92	1.93	1.92
Any children under 1 year old in household**	0.10	0.10	0.10
Any children 1–5 years old in household	0.37	0.37	0.37
Any children 6–17 years old in household	0.53	0.53	0.53
Rides in metro area**	0.85	0.93	0.80
Resides outside a metro area	0.15	0.069	0.20
Observations	77527	20004	52014

Notes: The sample includes only those with children under age 18 in the household, while the sample for secondary childcare includes only those with children under age 13 in the household. Each outcome includes childcare related to household children only. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights.

\*Varies at the annual level due to data availability.

\*\*Omitted category in regression.

‡We also control for age-squared in regressions.

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Appendix Table 3. Effect of a PSL mandate (lagged one year) on time devoted to work among adults 22–59 years old with children in the household (any minutes per average day)

Sample:	Women and men	Women	Men
<u>Panel A:</u> All	-0.02** (0.01)	-0.02*** (0.01)	-0.03*** (0.01)
Pre-treatment mean, PSL states	0.54	0.44	0.64
Percent change	-4.33	-5.17	-4.07
Observations	77527	45455	32072
<u>Panel B:</u> Youngest child 0–5 years old	-0.01 (0.02)	-0.04*** (0.01)	0.01** (0.01)
Pre-treatment mean, PSL states	0.50	0.38	0.64
Percent change	-2.91	-10.39	2.32
Observations	36156	20963	15193
<u>Panel C:</u> Youngest child 6–17 years old	-0.03* (0.02)	-0.01 (0.01)	-0.06*** (0.01)
Pre-treatment mean, PSL states	0.57	0.50	0.64
Percent change	-5.26	-1.61	-8.57
Observations	41371	24492	16879
<u>Panel D:</u> No college degree	-0.03* (0.02)	-0.04*** (0.01)	-0.02* (0.01)
Pre-treatment mean, PSL states	0.49	0.40	0.60
Percent change	-5.40	-9.97	-2.59
Observations	46050	27352	18698
<u>Panel E:</u> No college degree, youngest child 0–5 years old	-0.03* (0.02)	-0.07*** (0.01)	0.02 (0.01)
Pre-treatment mean, PSL states	0.45	0.33	0.60
Percent change	-6.97	-22.22	3.37
Observations	21006	12404	8602
<u>Panel F:</u> No college degree, youngest child 6–17 years old	-0.03 (0.02)	-0.01 (0.01)	-0.05*** (0.01)
Pre-treatment mean, PSL states	0.53	0.46	0.61
Percent change	-5.33	-2.65	-8.18
Observations	25044	14948	10096

Notes: The sample includes only those with children under age 18 in the household. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Standard errors clustered at the state level are reported in parentheses. Percent change is calculated by comparing the coefficient estimate with the pre-treatment mean in PSL adopting states.

\*\*\*, \*\*, \* = statistically different from zero at the 1%, 5%, 10% level.

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Appendix Table 4. Effect of a PSL mandate (lagged one year) on childcare outcomes among adults 22–59 years old with children in the household and no college degree (minutes per average day)

Outcome:	Primary childcare	Face time with children	Secondary childcare
<b>Women and men</b>			
<u>Panel A: All</u>	1.00 (1.63)	7.32 (5.94)	-6.66 (5.86)
Pre-treatment mean, PSL states	68.22	311.19	317.07
Percent change	1.47	2.35	-2.10
Observations	46050	46050	37761
<u>Panel B: Youngest child</u>	8.75* (4.81)	10.29 (9.60)	-11.06 (9.27)
0–5 years old			
Pre-treatment mean, PSL states	101.20	388.61	340.52
Percent change	8.65	2.65	-3.25
Observations	21006	21006	21006
<u>Panel C: Youngest child</u>	-4.29 (3.36)	11.81* (7.12)	9.95 (8.15)
6–17 years old			
Pre-treatment mean, PSL states	39.19	243.04	284.66
Percent change	-10.94	4.86	3.50
Observations	25044	25044	16755
<b>Women</b>			
<u>Panel D: All</u>	3.15 (3.02)	12.57 (8.48)	-0.94 (6.81)
Pre-treatment mean, PSL states	86.83	368.75	381.13
Percent change	3.63	3.41	-0.25
Observations	27352	27352	22417
<u>Panel E: Youngest child</u>	16.08* (9.05)	22.49 (15.24)	-5.89 (13.10)
0–5 years old			
Pre-treatment mean, PSL states	126.87	463.88	410.45
Percent change	12.68	4.85	-1.44
Observations	12404	12404	12404
<u>Panel F: Youngest child</u>	-8.62* (4.85)	6.58 (11.29)	8.66 (7.08)
6–17 years old			
Pre-treatment mean, PSL states	50.83	283.19	339.40
Percent change	-16.96	2.32	2.55
Observations	14948	14948	10013
<b>Men</b>			
<u>Panel G: All</u>	-1.86 (2.65)	1.76 (11.66)	-13.03 (11.09)
Pre-treatment mean, PSL states	46.82	245.03	243.56
Percent change	-3.98	0.72	-5.35
Observations	18698	18698	15344
<u>Panel H: Youngest child</u>	-2.93 (5.62)	-5.31 (15.49)	-16.51 (14.16)
0–5 years old			
Pre-treatment mean, PSL states	70.96	299.95	258.15
Percent change	-4.12	-1.77	-6.40
Observations	8602	8602	8602
<u>Panel I: Youngest child</u>	0.05 (2.64)	17.62 (17.73)	14.18 (13.15)
6–17 years old			
Pre-treatment mean, PSL states	26.09	197.88	224.07
Percent change	0.18	8.91	6.33
Observations	10096	10096	6742

Notes: The sample for primary childcare and face time with children includes only those with children under age 18 in the household, while the sample for secondary childcare includes only those with children under age 13 in the household. Each outcome includes childcare related to household children only. The

regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Standard errors clustered at the state level are reported in parentheses. Percent change is calculated by comparing the coefficient estimate with the pre-treatment mean in PSL adopting states.

\*\*\*, \*\*, \* = statistically different from zero at the 1%, 5%, 10% level.

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Appendix Table 5. Effect of a PSL mandate (lagged one year) on specific types of primary childcare among adults 22–59 years old with children in the household and less than a college degree (minutes per average day)

Outcome:	Total	Routine	Education	Other
<b>Women and men</b>				
<u>Panel A:</u> All	1.00 (1.63)	-1.67 (1.46)	0.98 (0.89)	1.69 (1.33)
Pre-treatment mean, PSL states	68.22	32.43	7.21	28.59
Percent change	1.47	-5.14	13.64	5.91
Observations	46050	46050	46050	46050
<u>Panel B:</u> Youngest child 0–5 years old	8.75* (4.81)	-0.75 (3.34)	2.91* (1.50)	6.59** (3.36)
Pre-treatment mean, PSL states	101.20	53.77	6.17	41.25
Percent change	8.65	-1.40	47.17	15.99
Observations	21006	21006	21006	21006
<u>Panel C:</u> Youngest child 6–17 years old	-4.29 (3.36)	-2.31* (1.40)	-0.44 (1.29)	-1.53 (1.56)
Pre-treatment mean, PSL states	39.19	13.63	8.11	17.44
Percent change	-10.94	-16.94	-5.48	-8.79
Observations	25044	25044	25044	25044
<b>Women</b>				
<u>Panel D:</u> All	3.15 (3.02)	-0.57 (2.54)	1.21 (1.56)	2.51 (2.19)
Pre-treatment mean, PSL states	86.83	44.05	9.42	33.36
Percent change	3.63	-1.29	12.84	7.51
Observations	27352	27352	27352	27352
<u>Panel E:</u> Youngest child 0–5 years old	16.08* (9.05)	2.63 (6.01)	2.90 (2.31)	10.56** (5.12)
Pre-treatment mean, PSL states	126.87	71.20	8.05	47.61
Percent change	12.68	3.69	36.00	22.17
Observations	12404	12404	12404	12404
<u>Panel F:</u> Youngest child 6–17 years old	-8.62* (4.85)	-3.95** (1.99)	-0.37 (2.41)	-4.31** (1.88)
Pre-treatment mean, PSL states	50.83	19.63	10.65	20.55
Percent change	-16.96	-20.11	-3.45	-20.97
Observations	14948	14948	14948	14948
<b>Men</b>				
<u>Panel G:</u> All	-1.86 (2.65)	-2.98** (1.33)	0.96 (0.80)	0.15 (1.94)
Pre-treatment mean, PSL states	46.82	19.06	4.66	23.10
Percent change	-3.98	-15.63	20.63	0.67
Observations	18698	18698	18698	18698
<u>Panel H:</u> Youngest child 0–5 years old	-2.93 (5.62)	-5.99** (2.46)	2.79 (1.76)	0.27 (4.59)
Pre-treatment mean, PSL states	70.96	33.24	3.96	33.76
Percent change	-4.12	-18.02	70.40	0.81
Observations	8602	8602	8602	8602

Panel I: Youngest child	0.05	-0.84	-0.33	1.22
6–17 years old	(2.64)	(1.79)	(0.63)	(1.68)
Pre-treatment mean, PSL states	26.09	6.89	5.26	13.94
Percent change	0.18	-12.23	-6.26	8.74
Observations	10096	10096	10096	10096

Notes: The sample includes only those with children under age 18 in the household. Each outcome includes childcare related to household children only. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Standard errors clustered at the state level are reported in parentheses. Percent change is calculated by comparing the coefficient estimate with the pre-treatment mean in PSL adopting states. \*\*\*, \*\*, \* = statistically different from zero at the 1%, 5%, 10% level.

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Appendix Table 6. Effect of a PSL mandate (lagged one year) on other time-use outcomes among adults 22–59 years old with children in the household and no college degree (minutes per average day)

Outcome:	Household activities	Sleep	Leisure
<b>Women and men</b>			
<u>Panel A: All</u>	-3.02 (4.41)	0.73 (2.80)	10.34* (5.50)
Pre-treatment mean, PSL states	124.76	522.52	247.80
Percent change	-2.42	0.14	4.17
Observations	46050	46050	46050
<u>Panel B: Youngest child</u>	-6.80 (6.04)	10.53** (4.36)	2.31 (5.07)
0–5 years old			
Pre-treatment mean, PSL states	124.21	525.15	240.14
Percent change	-5.48	2.01	0.96
Observations	21006	21006	21006
<u>Panel C: Youngest child</u>	0.79 (6.58)	-6.38 (5.26)	17.16** (7.19)
6–17 years old			
Pre-treatment mean, PSL states	125.25	520.21	254.55
Percent change	0.63	-1.23	6.74
Observations	25044	25044	25044
<b>Women</b>			
<u>Panel D: All</u>	1.43 (5.45)	6.66 (4.20)	-4.55 (5.26)
Pre-treatment mean, PSL states	164.25	529.13	230.32
Percent change	0.87	1.26	-1.98
Observations	27352	27352	27352
<u>Panel E: Youngest child</u>	-6.22 (7.56)	9.73 (7.23)	-3.57 (8.64)
0–5 years old			
Pre-treatment mean, PSL states	165.61	537.40	225.45
Percent change	-3.75	1.81	-1.58
Observations	12404	12404	12404
<u>Panel F: Youngest child</u>	7.79 (10.09)	4.83 (5.31)	-3.90 (6.94)
6–17 years old			
Pre-treatment mean, PSL states	163.02	521.69	234.70
Percent change	4.78	0.93	-1.66
Observations	14948	14948	14948
<b>Men</b>			
<u>Panel G: All</u>	-7.70* (4.55)	-5.79 (6.24)	28.92*** (8.84)
Pre-treatment mean, PSL states	79.38	514.93	267.90
Percent change	-9.70	-1.13	10.79
Observations	18698	18698	18698
<u>Panel H: Youngest child</u>	-3.95 (6.69)	10.69 (8.43)	8.39 (9.97)
0–5 years			
Pre-treatment mean, PSL states	75.43	510.72	257.45
Percent change	-5.24	2.09	3.26
Observations	8602	8602	8602
<u>Panel I: Youngest child</u>	-7.43 (6.16)	-16.74** (8.31)	41.11*** (12.94)
6–17 years			
Pre-treatment mean, PSL states	82.77	518.55	276.87
Percent change	-8.98	-3.23	14.85
Observations	10096	10096	10096

Notes: The sample includes only those with children under age 18 in the household. Each outcome includes childcare related to household children only. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation



is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Standard errors clustered at the state level are reported in parentheses. Percent change is calculated by comparing the coefficient estimate with the pre-treatment mean in PSL adopting states. \*\*\*, \*\*, \* = statistically different from zero at the 1%, 5%, 10% level.  
Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Appendix Table 7. Effect of a PSL mandate (lagged one year) on primary childcare among adults 22–59 years old with children in the household and less than a college degree (minutes per average day) using alternative estimators

Outcome:	Gardner	TWFE	BJS
PSL mandate	3.75*** (1.40)	4.41*** (1.43)	3.32*** (0.73)
Pre-treatment mean, PSL states	76.46	76.46	76.46
Percent change	4.90	5.77	2.55
Observations	77527	77527	77527

Notes: TWFE = two-way fixed-effects. BJS = Borusyak et al. (2024). The sample includes only those with children under age 18 in the household. Each outcome includes childcare related to household children only. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Standard errors clustered at the state level are reported in parentheses. Percent change is calculated by comparing the coefficient estimate with the pre-treatment mean in PSL adopting states.

\*\*\*, \*\*, \* = statistically different from zero at the 1%, 5%, 10% level.

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).

Appendix Table 8. Effect of a PSL mandate (lagged one year) on any primary childcare (average day) and primary childcare (conditional on providing any care, minutes per average day) among adults 22–59 years old with children in the household

Outcome:	Primary childcare (any)	Primary childcare (minutes if minutes>0)
PSL mandate	0.01 (0.01)	3.81*** (1.10)
Pre-treatment mean, PSL states	0.64	119.20
Percent change	1.70	3.20
Observations	77527	51177

Notes: The sample includes only those with children under age 18 in the household. Each outcome includes childcare related to household children only. The regression includes state-level variables, individual characteristics, state fixed-effects, and time (month-year) fixed-effects. The unit of observation is a respondent in a state in a year. Diary days from March 18<sup>th</sup>–May 9<sup>th</sup>, 2020 are excluded, because Census Bureau call centers were closed due to the COVID-19 pandemic. Data are weighted by ATUS weights. Regressions are estimated with OLS. We use a two-step DID procedure proposed by Gardner (2022). Standard errors clustered at the state level are reported in parentheses. Percent change is calculated by comparing the coefficient estimate with the pre-treatment mean in PSL adopting states. \*\*\*, \*\*, \* = statistically different from zero at the 1%, 5%, 10% level.

Source: 2004–2022 American Time Use Survey (Flood et al. 2023).