



Leaving it to the Family: the Effects of Paid Leave on Adult Child Caregivers

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ABSTRACT

Our study uses the introductions of California’s Paid Family Care Leave Act (CA-FLI) and New Jersey’s Family Leave Insurance (NJ-FLI) to examine the effects of paid-leave laws on labor market outcomes for individuals who are likely to provide care to an elderly parent. A 2012 survey of employees in the United States showed that work leaves related to the health of a family member (parent, spouse, or child) were almost as common as leaves related to caring for a newborn child (Klerman, Daley, and Pozniak, 2014). Despite the high level of work leaves to care for a family member, the number of family leave insurance (FLI) claims to care for a parent in California and New Jersey are low. Between California’s fiscal years 2006 to 2013, 71,249 caregiving leaves were taken to care for a parent, compared to 1,442,491 bonding leaves (Employment Development Department, n.d.) to care for a newborn child. In New Jersey, while leaves to care for a parent comprise a higher proportion of all leaves, between eight and nine percent, the number of parent-care leaves are still low, around 10,500 from 2010 through 2013 (NJ Department of Labor and Workforce Development, n.d.). Using data from the Health and Retirement Study (HRS) and American Community Survey (ACS), we identify a population of likely caregivers (HRS) and estimate effects of the FLI on leave-taking, employment, and labor force participation on this population (ACS). Complementing the low take-up of FLI for parent-care, we find no evidence in the ACS to suggest that likely caregivers experienced changes in leave-taking, employment, or labor force participation after the implementation of the CA-FLI or NJ-FLI. Lack of awareness of both FLI legislation and its availability for caregivers may be an initial hurdle that needs to be cleared in order to increase leave taking by employed caregivers, which may ultimately mitigate negative labor market consequences of providing care. Additionally, the current structures of FLI may not be an appropriate solution for caregivers because of the intermittency, increasing intensity, or the duration of time over which leaves are necessary to provide care for the elderly.

Introduction

The U.S. population is aging such that one in five residents will be 65 or older by 2030 (Ortman, Velkoff, & Hogan, 2014), with most needing care during their lifetimes. Kemper, Komisar, and Alecxih (2005) estimate that over two-thirds of individuals who live to be at least 65 years old will need long-term care before they die. The majority of this long-term care, however, is informal and provided by family or friends. In just a two-year period (2013-2014), the Bureau of Labor Statistics estimated that forty million civilians aged 15 years and older provided unpaid eldercare in the U.S., the majority of whom (~ 60%) were employed at the time (Bureau of Labor Statistics, 2015).

While the caregiver employment ratio was similar to that of the broader U.S. civilian population aged 16 years and older for the same two-years (Bureau of Labor Statistics, n.d.), a large body of literature documents negative effects of eldercare on labor market outcomes—lower labor force participation, lower employment, reduced hours of work— which in turn lead to lost wages, especially for caregivers providing more intensive care.¹ Furthermore, caregiving leave can be associated with employment interruptions, which may indirectly reduce future job opportunities, wages or work hours if caregivers decide to return to work (Skira, 2015).

A 2012 survey of 2,852 U.S. employees, conducted by the Department of Labor and Abt Associates to examine leave taking in relation to the Family and Medical Leave Act (FMLA), estimated that work leaves, aligned to leaves related to the health of a family member (parent, spouse, or child) were almost as common as parental leave taken to care for a newborn child, often referred to as bonding leave (Klerman, Daley, and Pozniak, 2014).² The same survey suggests that 1.6 percent of all workers faced an unmet need for leave due to a parent's, spouse's, or child's health condition, whereas only 0.4 percent note an unmet need for bonding leave due.³

Current state and federal laws providing support for families taking eldercare leave reflect a patchwork of coverage that includes the federal FMLA, state-level variations of the FMLA, and FLI legislation in California and New Jersey.⁴ The FMLA provides job protection for up to 12 work weeks of leave (these may be intermittent or allow for shorter workdays) within a 12-month period for employees in covered private sector or all public sector positions. However, access to the FMLA is restrictive. To be eligible, employees must have worked for at least one year, supplying at least 1,250 hours in the previous 12 months, for any public agency or a private employer with 50 or more employees within 75 miles. Approximately 11 percent of private

¹ Bolin, Lindgren, and Lundborg, 2008; Crespo and Mira, 2010; Nguyen and Connelly, 2014; Ettner, 1995; Ettner, 1996; Jacobs, Laporte, Van Houtven, and Coyte, 2014; Jacobs, Van Houtven, Laporte, and Coyte, 2014; Heitmuller, 2007; Jacobs, Van Houtven, Laporte, and Coyte, 2014b; Johnson and LoSasso, 2000; Johnson and LoSasso, 2006; Pavalko and Henderson, 2006; Pavalko and Artis, 1997; Arora and Wolf, 2014.

² The survey used random-digit dialing to construct a sampling frame of employed individuals for interviews; leave-takers were oversampled; sampling weights were used to correct for the sampling design and non-response; and, results were weighted to reflect the Current Population Survey distributions in gender, age, education, race/ethnicity, region, and phone service (Klerman, Daley, and Pozniak, 2014).

³ According to Klerman, Daley, and Pozniak, those with an 'unmet' need for leave needed to take a leave for an FMLA-covered reason, but were unable to, regardless of cause.

⁴ The California Family Rights Act and New Jersey Family Leave Act provide similar leave with similar eligibility requirements to FMLA. Rhode Island enacted a paid family leave law in 2014, allowing for four weeks of time off with job and health benefits protection. Washington State also passed paid leave legislation through the Washington Family and Medical Leave Insurance Act in 2007, but the law has not been enacted.

establishments, reflecting 58 percent of all employees nationwide, qualify for job protection under this law (Department of Labor, n.d).

Both the CA-FLI and NJ-FLI provide paid leave to a broader cross-section of their states' populations than are offered job protection under FMLA or through additional state laws largely aligned to FMLA. These paid leave laws also alleviate the loss of pay associated with leave taking; the most commonly cited reason for any unmet leave was an inability to afford it (Klerman, Daley, and Pozniak, 2014). The literature documents low awareness of paid family leave benefits (Appelbaum & Milkman, 2011; Silver, 2015; Houser and White, 2012; Tisinger et.al., 2016) and FLI claims, while growing, are pervasively low for caregiving relative to bonding.

In the following, we use the introductions of CA-FLI legislation in California and NJ-FLI in New Jersey to more closely examine the effects of paid-leave laws on labor market outcomes and caregiving behavior among those likely to provide care to an elderly parent. To our knowledge, this study is the first to examine the effect of leave laws on leave taking and labor force outcomes (employment and labor force participation) for those who may provide care to elderly family members with serious health conditions. Complementing low take-up rates of the CA-FLI and NJ-FLI for parental caregiving, we find little evidence that these laws have affected the rates of leave taking or labor force outcomes of one group of likely caregivers, those with a residing with a parent who has difficulties with basic personal care activities.

Background

The CA-FLI, implemented in July of 2004, offers approximately 55 percent of lost wages (up to \$1,129 in 2016) for up to six weeks of leave (consecutive or not) within a 12-month period to provide care for a sick relative or to bond with a new child. Eligible Californians: (1) are at work or actively looking for work at the time that they need paid leave, (2) have earnings from which state disability insurance deductions were taken during a base period (the previous 5 to 18 months), and (3) are unable to conduct their customary work or have lost wages for at least eight days because they are providing care.

The NJ-FLI, in place since 2009, is similar to California's in that it allows for six (consecutive or non-consecutive) weeks of time off, but differs in that it compensates family members for 66 percent of their weekly wage, measured immediately before the leave period begins (up to \$614 in 2016). In order to be eligible for FLI, NJ residents must have at least 20 weeks of employment (earning \$168 or more per week) in the previous 52 weeks leading up to the claim, and have earned at least \$8,400 in covered NJ employment during that base year. If the claim were to begin 14 or more days after a claimant's last day of work in covered employment, then the resident must apply to the Family Leave During Unemployment program, which offers similar benefits to the state-paid family leave.

While the CA-FLI and NJ-FLI provide paid leaves for both newborn bonding and caregiving to an ill family member, the number of leaves taken for caregiving is small relative to those taken for bonding. Between the California fiscal years 2006 to 2013, California's Employment Development Department reports that 201,980 caregiving leaves were taken, compared to 1,442,491 bonding leaves (Employment Development Department, n.d.). Roughly one third of caregiving leaves were taken to provide care to an ill parent. These numbers suggest that 71,294 FLI claims, roughly four

percent of all leaves, were made to care for an ill parent. In New Jersey, while leaves to care for a parent are a higher proportion of all leaves, between eight and nine percent, the number of parent-care leaves are still low, around 10,500 from 2010 through 2013 (NJ Department of Labor and Workforce Development, n.d.). As such, while one may not expect to observe changes in leave taking behavior due to the CA-FLI or NJ-FLI in datasets, we may still observe labor market effects.

Existing studies of the CA-FLI that examine its effects on maternity and paternity leave, and subsequent labor force outcomes for mothers and fathers of newborn children, consistently find increased leave-taking after the implementation of the law. However, FLI mandates may affect eldercare givers differently than the parent of a newborn. Eldercare givers typically hold a different place in the earnings life cycle than new parents and face leave spells that likely differ from a maternity- or paternity-type leave; providing care for an older relative, or other adult may require greater intermittency than the longer, continuous, one-time leave spell associated with the birth of a child, for example. In separate work, the research team conducted interviews with members of caregiving and bonding support groups in California and New Jersey between November 2015 and January 2016, finding caregivers reporting more discomfort with potential employer reactions or conflict with work leaves than did new parents (Tisinger et.al., 2016). Facing differing life-cycle circumstances, caregiving demands, and potential negative consequences from employers, the effects of FLI policies are likely different for elder caregivers than they are for new parents.

It is not clear, theoretically, whether the FLI policies will attenuate negative labor force effects or even increase leave-taking behavior for elder caregiving. Klerman and Leibowitz (1994) demonstrate that the introduction or expansion of a job-protected leave mandate will increase leave-taking behavior, but has an ambiguous effect on employment. However, there is reason to question the relevance of these predictions for caregivers in California and New Jersey as they are based on job-protected leave, which is not provided in the CA-FLI or NJ-FLI. Without job protection, the FLI laws simply alter the non-labor income, or pay, of individuals who are on leave. All else equal, one may expect the rise in non-labor income to reduce the marginal employee's incentive to return to work.

The theoretical framework of Summers (1989) suggests that it is not necessary for individuals to take leave under the mandate, but the availability of a benefit may alter employment outcomes. Specifically, the tax on employees effectively reduces wages of employees, making work less attractive. However, the ability to receive pay when a leave is needed is seen as a benefit of employment, making work more attractive. Summers demonstrates that a mandate, solely funded by a tax on employees, as both the CA-FLI and NJ-FLI are funded, may increase or decrease equilibrium employment depending on whether the employees value the mandate more or less than it cost, respectively. The employee tax implications of the FLI laws are small, however. For instance, in 2016, the tax rate was 0.08% of taxable wages, up to a maximum of \$26.08, in New Jersey (New Jersey Department of Labor and Workforce Development, n.d.).

The frameworks of Summers (1989) and Klerman and Leibowitz (1994) do not provide clear predictions regarding the effects of the CA-FLI and NJ-FLI on labor market outcomes. Additionally, market imperfections, such as sticky wages or potential discrimination against likely caregivers, may also induce employment effects of FLI laws, moving in either direction. As such, the predicted effects of the laws on employment are ambiguous.

Also, there is little empirical evidence of how access to FLI may alter employment outcomes of caregivers. Using data from the Health and Retirement Study, Skira (2015) simulates the effect of several two-year job-protected unpaid and paid leave laws on 42 to 70 year old females in the U.S., as well as a caregiver allowance, which is unrelated to employment, for intensive caregivers. The simulation results indicate that while job-protected leaves increase employment among intensive caregivers, the income effect of a caregiver allowance reduces employment among caregivers. The simulations also demonstrate that all three policies would increase caregiving. Geyer and Thorben (2015) examine labor market effects of long-term care insurance benefits supplementing family care in Germany. The authors find differential labor market effects with in-kind benefits increasing average working hours and cash benefits decreasing working hours.⁵ Together, these studies suggest that FLI policies will reduce time spent working and, possibly, employment of caregivers. FLI effectively increases non-labor income for leave takers. As such, FLI will induce lower levels of work through increased leave and reduced employment if the leave pay increases non-labor income such that the reservation wage of the leave-taker rises above the current wage. Alternatively, if FLI alleviates labor market failures, for example increasing job stability or job mobility, then employment may increase as a result of the FLI legislation.

Existing literature around paid family leave and the labor force

The literature described above notes the importance of caregiving on employment outcomes. We add to this literature the first study, to our knowledge, of FLI in the U.S. on outcomes for caregivers. However, more directly related to the FLI laws in question, seven studies investigate the labor market effects of the CA-FLI for maternity or paternity leave. The studies use various implementations of difference-in-difference estimators, similar to our analyses, and find that the CA-FLI significantly effects both leave taking and labor market activity.

Studies regarding the effects of the CA-FLI on leave-taking behavior find that the CA-FLI is associated with increased leaves for new parents. Rossin-Slater, Ruhm, and Waldfogel (2013), Baum and Ruhm (2013), and Bartel, Rossin-Slater, Ruhm, Stearns, and Waldfogel (2015) find that the CA-FLI increased leave taking for mothers of newborn children. The studies also find that the CA-FLI increased bonding leaves for fathers (Baum and Ruhm, 2013 and Bartel et al., 2015).

The study of other labor market outcomes produces more ambiguous conclusions. Two studies examine labor market outcomes for young women, a group of potential new mothers. Das and Polachek (2015) find increased labor force participation for women younger than 42 years in California after implementation of CA-FLI. However, the authors find that the increased labor force participation is accompanied by increased unemployment. Further support for labor market disruptions of young women after the CA-FLI comes from Curtis, Hirsch, and Schroeder (2015), who examine labor market transitions of women, ages 19 to 34. Their work indicates that young women experience increased churn in the labor market after implementation of the law, as observed through increased job separations and hiring. Espinola-Arredondo and Mondal (2010) do not find effects of the CA-FLI on the labor force participation of young women.

Narrowing the focus to mothers of young children, Byker (2014) finds that the CA-FLI increased labor force participation near the birth of a child for mothers with less than a Bachelor's degree,

⁵ Carers in Germany are also covered by unpaid job-protected leave, though take-up rates are reported to be low.

but does not find an effect on labor force participation more than a few months before or after the birth of the child. Espinola-Arredondo and Mondal (2010) do not find effects of the CA-FLI on labor force participation for women with a child younger than one year. However, after birth, there is some evidence of increased employment for mothers. Baum and Ruhm (2013) find increased work and employment probabilities for CA-FLI mothers nine to twelve months after birth. And, Baum and Ruhm (2013) and Rossin-Slater, Ruhm, and Waldfogel (2013) find increases work hours for mothers of children aged two to three years and one to three years, respectively.

In the following, we use a similar framework to previous work examining effects of the CA-FLI on maternal and paternal leave and employment outcomes to examine whether the implementation of FLI in California or New Jersey affected leave-taking, employment, or labor force participation for adult children who are likely to provide high levels care to their elderly parents. As with other studies using survey data, we are not able to distinguish leaves taken under the FLI programs versus other paid or unpaid leaves. We use a difference-in-differences framework to distinguish changes leave-taking or other labor market outcomes in FLI states relative to changes occurring in non-FLI states. As described below, our study assumes that any changes in leave-taking behavior experienced in the FLI states and not elsewhere are effects of the FLI laws. Our approach uses the rich information provided from the nationally representative Health and Retirement Study to identify those likely to provide high levels of caregiving to elderly parents. We then investigate how leave-taking, employment, and labor force participation change for similar high-level caregivers in FLI states after paid leaves were made available to care for a parent in the larger American Community Survey.

Data Sources

We use two nationally representative surveys to study the implications of state paid-leave laws on leave taking and employment, the 2000-2013 American Community Survey (ACS) and the 1998-2012 longitudinal Health and Retirement Study (HRS). We analyze each dataset separately, first focusing on the HRS to examine the personal care needs of parents and identify likely caregivers, and then using the ACS to estimate the effects of the FLI laws.

The HRS includes information on parental needs regardless of whether the respondent's parent lives in the household of the respondent. A major limitation of the HRS data is that the longitudinal survey is limited in the number of observations in our target age demographic, younger than 65 years.⁶ Given the limited number of observations, the use of these data provide insufficient power to identify effects of the FLI legislation on outcomes. As such, we use information from the HRS to inform how we identify the treatment and comparison populations in the ACS. More specifically, we identify characteristics associated with caregivers in the U.S. using the HRS data and then study the effects of the FLI laws on outcomes caregivers with similar characteristics in the ACS data, which has greater statistical power to identify effects of the laws.

Comparability of the analytic populations from the two data sources is important to this study, as we infer whether an ACS respondent is more or less likely to have personal care needs and is more likely to need caregiving based on information available in both the ACS and HRS data. Appendix

⁶ Our analytic dataset includes 20,649 US residents meeting the age restrictions, with 2,249 residing in California and 667 in New Jersey. The individuals contribute 3 observations, on average, during the 1998-2012 surveys.

Table 1. Descriptive statistics of ACS analytic population, 40 to 64 years and 50 to 64 years, and the Health and Retirement Study analytic population, 50 to 64 years displays weighted means from the two data sources used in our analyses. The ACS data are restricted to individuals 40 to 64 years of age, column (1), and 50 to 64 years of age, column (2). The subset of ACS respondents aged 50 to 64 years matches the HRS sample in age restriction. The HRS and matching ACS samples differ statistically across a number of characteristics. Though the differences are statistically significant they are often small relative to the mean—less than 10 percent. And, as we demonstrate below, with the exception of whether a respondent is female, personal characteristics are not significantly related to the amount of time spent providing care for parents after accounting for whether the respondent states that a parent needs help with basic personal care and whether a parent resides in the same household as the adult child.

Health and Retirement Study

We use the more detailed and longitudinal data from the Health and Retirement Study to more closely identify the populations of interest. Beginning in 1994, the Health and Retirement Study collects information on parents of participants whether or not they reside in the same household. This information includes whether the parent is alive, the parent’s health status, and health limitations (e.g. hearing, vision, memory). Furthermore, the respondents report whether (and how much) the respondent, a spouse, and/or sibling of the adult child spent time caring for basic personal-care needs of the parent and helping with different activities such as “household chores, errands, transportation, etc.” Using the detailed nature of these data, we will be able to identify the characteristics of those more likely to have a parent in need of care.

The analytic file combines variables from HRS core files with publicly available, cleaned and easy-to-use HRS data products provided by RAND. The RAND HRS Data File, which includes cleaned personal information from the HRS data, and RAND HRS Family Data File, which includes cleaned information regarding family members of HRS respondents, cover a broad, though not complete, range of measures derived from HRS core questionnaire variables. Because the state of residence is restricted data, we use restricted geographic files to identify the locations of study participants, accessed using the Michigan Center on the Demography of Aging Virtual Data Enclave.

Data were restricted to observations in the 1998 to 2012 waves to allow for consistent survey structure. Beginning in 1998, the HRS integrated study cohorts into a single 2-year study cycle. Age restrictions were placed on the data and include respondents ages 50 to 64, as those 65 and older are less likely to be balancing work and care of an elderly parent, and individuals not in the military (N=60,667).

American Community Survey

The American Community Survey contains employment, economic, and demographic information for a random sample of the United States population across the 50 states and the District of Columbia. Data are available from 2000-2014.⁷ The sample sizes have increased over the years.

⁷ In 2014, the CA-FLI altered eligibility requirements and individuals paid leaves became available to care for an ill parent-in-law. Our work makes use of the eligibility difference between those with an ill parent versus parents-in-law and the 2014 change blurs this distinction. Additionally, Rhode Island, one of our comparison states, implemented an

Beginning in 2000, the ACS sampled approximately 1 in 750 Americans, increasing to 1 in 100 Americans beginning in 2005. Due to the ACS's large sample size, we see the power necessary to detect effects of the FLI laws. The smallest identifiable geographic unit across all time periods is at the state level.

Using the Integrated Public Use Microdata Series, created from the ACS by the University of Minnesota⁸, the L&M team selected a sample of individuals ages 40-64⁹ and all members of their households for all available ACS years. Because the ACS sample was smaller in earlier years, we have added the 5% Census in 2000, which includes the same variables used in analysis, to the analytic sample. The Census adds observations to more precisely measure the period before implementation of the CA-FLI. Based on this sample, we constructed a data set that includes flags for key outcome variables such as employment, labor force participation, and income. We also used available demographic and income data—like age, race, marital status, types of disabilities, whether a parent or in-law resides with the respondent, and unearned income—to create flags that mirrored flags that we created the Health and Retirement Study (HRS). Finally, we created a flag for whether or not someone was absent from work within the past week for a reason other than a layoff; this is the best metric available in the ACS for whether or not someone is actively taking leave.¹⁰ Once all the flags were in place, we further limited the data to create our final set by keeping observations only on respondents ages 40-64 who are not in the military (n=16,598,546).

Methods

Because the HRS data include information on the respondents' parents, we first descriptively examine information regarding individuals who may need to provide care for an elderly parent; this information will be used to identify and examine similar individuals in the ACS. Over the 1998 to 2012 waves of the HRS, nationally, 10.67 percent of 50 to 64 year olds have a mother or father who is reported to need help “with basic personal needs such as dressing, eating or bathing.” To identify whether observed characteristics are related to those in need, we ran a logistic regression where the dependent variable is an indicator that the respondent has a parent who needs help with basic personal needs. This descriptive model informs which characteristics are independently correlated with whether an individual provides care to her parent. Average marginal effects from the regression are reported in Appendix Table 2 and show that a number of characteristics are significantly correlated with the probability that an individual has a parent requiring help with basic personal needs. The variables most strongly related to having a parent in need of help are indicators for a mother or father living in the household with the respondent. Having a parent reside in the household informs us that: 1) the parent is alive and, 2) is more likely

FLI law in 2014. For these reasons, although 2014 data are available, our analytic sample does not include the latest year.

⁸ Steven Ruggles, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek. Integrated Public Use Microdata Series: Version 6.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2015.

⁹ The age range includes those most likely to provide unpaid eldercare, and limits the age range to exclude individuals most likely to be retirees. Aumann, Galinsky, Sakai, Brown, and Bond (2010) report the “vast majority” of working caregivers are 40 years or older. The BLS reports those most likely to provide unpaid eldercare as individuals 45 to 64 years (2015).

¹⁰ We note that employer provided paid and unpaid vacation or sick days account for leaves within this group. Additionally, we do not know the reasoning for any leave. Our model, described in the Methods section below assumes than any changes in leave-taking behavior is the result of FLI.

to need help with personal activities. Still, of those with a parent living in the household, the majority of respondents do not indicate that the parent needs help with these basic personal needs. Using information from these two variables--whether a parent resides with the adult child and whether the respondent reports that the parent needs help—provides information on the amount of eldercare that is necessary.

Table 1 displays the average hours of help with basic personal care that a respondent provided in the previous year to her parent, conditional on whether the respondent states that a parent needs help with such basic personal care and whether a parent resides in the same household as the adult child.¹¹ On average, respondents residing with a parent who is reported to need aid with personal care hours, provide 1,161 hours of help with personal care over the year, more than five times the amount of care provided by respondents who have a non-resident parent in need of help. Despite the high average hours of care, respondents residing with a parent in need of care are still more likely to be employed than not.¹²

Table 1. Mean Hours of Care Provided to Help Parents with Personal Care over Last Year and Employment Status of HRS Respondents, 1998 to 2010

Parent Needs Aid?	Parent in Household?	
	No Resident Parent	Resident Parent
No Aid Needed		
Hours of Care	50*** (3.4)	85*** (25.4)
Employed	0.66*** (0.004)	0.62* (0.027)
Aid Needed		
Hours of Care	202*** (14.8)	1,161 (112.4)
Employed	0.65*** (0.009)	0.54 (0.027)

Notes: Data are from the 1998 to 2010 waves of the Health and Retirement Study RAND Family File. Observations are limited to individuals aged 50 to 64 years and means are weighted by the person-level weights to be nationally representative. Standard errors clustered at the person level are listed in parentheses. Statistical differences determined relative to those with a resident parent in need of aid; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

¹¹ Hours of personal care are constructed in the RAND HRS Family Data Files. These data are available only through the 2010 wave of the HRS. All 2012 parental information was recreated using the raw HRS files and verified by replicating pre-2012 years of data. However, the analytic team was not able to recreate the variables indicating the number of hours provided to help with basic personal needs. As such, information regarding hours of parental help omit 2012 responses.

¹² While the HRS collects information on the amount of personal care help an individual provided to her parent in the past year, the amount of care provided is potentially affected by the implementation of the paid leave laws and is not suitable for identifying the treatment group for analysis.

The strength of the relationship between whether the respondent states that an in-household parent needs help with such basic personal care and the amount of care provided overwhelms most other personal characteristics and hours of parental care. Appendix Table 3 displays coefficient estimates from HRS data regressing the number of hours a respondent provided help with personal care for her parent and covariates, including: whether the parent resides in the household; whether a parent is reported to need help with personal care; whether the respondent is employed; and other respondent characteristics. When controlling for residency of the parent and whether the parent is reported to need help, as well as employment of the respondent, the other personal characteristics are not strongly related to the amount of care provided. The sex of the respondent is the only other covariate that is statistically significant at the 5% level of significance, demonstrating that adult daughters provide a greater amount of care than adult sons.

Much like the HRS, the ACS data can be used to identify parents of adult children residing in the household who need assistance with personal needs. However, the question wording in the ACS differs from the HRS and differs over time. Specifically, the HRS asks about the parent, “Does he/she need help with basic personal needs like dressing, eating, or bathing?” The ACS in 2000 to 2007 asked, “Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities: dressing, bathing, or getting around inside the home?” The 2008 and later ACS questionnaire posed the question as, “Does this person have difficulty dressing or bathing?”

The change in the ACS questionnaire regarding self-care difficulties has implications for the proportion of respondents who indicate “yes,” especially over the age of 65 (Brault, 2009). It is important that our study, therefore, compare differences in the changes in outcomes for similarly defined groups. For instance, it would not be appropriate to compare changes in outcomes over time for respondents in California who do and do not report a self-care difficulty, as the composition of these populations may fundamentally change over time. Instead, our difference-in-difference estimators compare changes in outcomes for those responding to having self-care difficulties—both within and outside of California. As such, the time varying change is assumed to affect both populations in the same manner and may be differenced from the resulting estimate.

The treatment population in our study is defined as individuals, ages 40 to 64, residing in California or New Jersey with a parent who is reported to have self-care difficulties. A comparison population comprises individuals of similar age, residing with a parent having self-care difficulties in one of the 48 non-treatment states or the District of Columbia.

To identify effects of the leave law on this treatment population, we use a difference-in-differences framework to measure the effects of the California and New Jersey paid-leave laws on the outcomes of interest for both those who are and those are not affected by the legislation. Specifically, the difference-in-differences estimator is:

Equation 1

$$Y_{it} = \beta_0 + \beta_1 Cal_{it} * Post_{2004}_t + \beta_2 NJ_{it} * Post_{2009}_t + X_{it}\beta_X + K_{st}\beta_K + \delta_s + \theta_t + \epsilon_{it}$$

where Y_{it} is one of the labor market outcomes studied for the i^{th} individual during the t^{th} year. Cal_{it} and NJ_{it} are indicators for whether the individual is in the group determined to be affected by the

law. $Post_2004_t$ is an indicator for whether the year of observation is after 2004, when California's FLI was implemented, providing five years of pre-implementation and nine years of post-implementation observations for California. Similarly, $Post_2009_t$ is an indicator for whether the year of observation is after 2009, when New Jersey's FLI was implemented, providing ten years of pre-implementation and four years of post-implementation observations. β_1 and β_2 , the difference in post-implementation years relative to the comparisons, are the parameters of interest. δ_s and θ_t are state and time fixed effects, respectively, which capture both the general "Treat" effects of residing in California or New Jersey and the "Post" effects common to all states. X_{it} is a vector of characteristics for the i^{th} individual during the t^{th} year and includes the following individual-level variables: indicators for the respondent's age in five year groups over the age ranges 40 to 64 or 50 to 64, depending on the estimation sample; an indicator for the respondent's sex being female; an indicator for whether the respondent is married; indicators for the respondent's level of education (less than a high school degree, high school degree, some college but less than a bachelor's degree, a bachelor's degree or higher); an indicator if the respondent is foreign born; indicators of the respondent's race or ethnicity (white, black, another race, or Hispanic); an indicator if the respondent is a homeowner; an indicator if the respondent is married and the spouse is in the labor force; and household income from sources other than the respondent's earnings. The vector K_{st} includes state-level characteristics that may influence labor market conditions in the state, s , in year t : state-level unemployment rate; average TANF plus SNAP benefits for a four-person family; poverty rate; per capita personal income; the natural log of the population; and an indicator for a Democratic governor.¹³ And, ϵ_{it} is an idiosyncratic error term. All estimates are weighted using sampling weights provided by the American Community Survey. Standard errors are in parentheses and are adjusted for sample design stratification used to identify respondents and clustering at the sampling unit.

The difference-in-difference estimator assumes that any time-varying changes in the outcomes of interest, except for the effect of treatment, will be experienced similarly by both the treatment and comparison populations. Unobserved differences in state labor markets, state employment mandates, and other potentially time-varying unobserved factors, such as the great recession, may have affected residents of California or New Jersey differently than the rest of the nation. Comparing residents of California or New Jersey to other states with such time-varying unobserved differences can violate the difference-in-difference assumption that in the absence of the treatment the adjusted outcomes would move in parallel.

To further verify our findings, we suggest a second comparison population that includes individuals residing in the same states as the treated population with similar elder care needs but who are not eligible for paid leave under the legislation. To this end, we exploit coverage restrictions in the FLI laws to identify likely caregivers, similar to the treatment group, but who are not eligible for eldercare leave under the legislation. Specifically, the CA-FLI and the NJ-FLI allow paid leaves to care for an ill parent, but do not cover leaves to care for an ill parent-in-law¹⁴. As such, we consider as a second comparison population, individuals with a parent-in-law who is in need of help with personal care needs, but are ineligible to take leave under the FLI. Including a second comparison population allows the model to control for time-varying effects across states,

¹³ State-level covariates are taken from the University of Kentucky Center for Poverty Research, (<http://www.ukcpr.org/data>) and are those used by Bartel et al (2015) in the study of the CA-FLI on paternity leave.

¹⁴ The CA-FLI was updated to allow leaves for in-laws beginning in 2014.

assuming that those with a parent or parent-in-law are affected similarly by these state-level effects.

Much like those living with a parent, individuals living with a parent-in-law who reportedly needs help with basic personal care provide over a thousand annual hours of care, while maintaining high levels of employment. From the HRS, Table 2 displays the average hours of help with basic personal care that a respondent provided in the previous year to her parent-in-law, conditional on whether the respondent states that a parent-in-law needs help with such basic personal care and whether a parent resides in the same household as the adult child. Unlike California or New Jersey residents who live with a parent in need of care, those with a resident parent-in-law would not have been eligible to take paid leave, as the care is for an in-law rather than a parent. Assuming that potential cross-state violations of the difference-in-differences assumption are not specific to those residing with a parent rather than a parent-in-law, we can use individuals residing with a parent-in-law, even in the treatment states, as a second comparison population.

Table 2. Mean Hours of Care Provided to Help Parents-in-law with Personal Care over Last Year and Employment Status of HRS Respondents, 1998 to 2010

Parent-in-law Needs Aid?	Parent-in-law in Household?	
	No Resident Parent	Resident Parent
No Aid Needed		
Hours of Care	37***	43***
	(3.4)	(14.9)
Employed	0.66	0.77**
	(0.004)	(0.029)
Aid Needed		
Hours of Care	148***	1,070
	(13.5)	(154.5)
Employed	0.69	0.66
	(0.011)	(0.038)

Notes: Data are from the 1998 to 2010 waves of the Health and Retirement Study RAND Family File. Observations are limited to individuals aged 50 to 64 years and means are weighted by the person-level weights to be nationally representative. Standard errors listed in parentheses.

We combine the two comparison populations to estimate a difference-in-difference-in-differences (DDD) model that compares pre- to post-implementation changes in the difference between those residing with a parent in need of care and a parent-in-law in need of care, in California or New Jersey versus other states. By using the DDD approach, we will be able to control for time varying differences across states, assuming these differences are common to both the treatment and comparison populations within the state, and time-varying differences between the within-state treatment and comparisons, assuming the differential effects between the within-state treatment and comparisons are commonly shared across states. Estimation of the DDD model is completed in the following regression:

Equation 2

$$\begin{aligned}
 Y_{it} = & \beta_0 + \beta_1 \text{Parent}_{it} * \text{Cal}_{it} * \text{Post}_{2004}_t + \beta_2 \text{Parent}_{it} * \text{NJ}_{it} * \text{Post}_{2009}_t + \beta_3 \text{Parent}_{it} \\
 & * \text{Cal}_{it} + \beta_4 \text{Parent}_{it} * \text{NJ}_{it} + \beta_5 \text{Parent}_{it} * \text{Post}_{2004}_t + \beta_6 \text{Parent}_{it} \\
 & * \text{Post}_{2009}_t + \beta_7 \text{Cal}_{it} * \text{Post}_{2009}_t + \beta_8 \text{NJ}_{it} * \text{Post}_{2004}_t + \beta_9 \text{Parent}_{it} \\
 & + X_{it} \beta_X + K_{st} \beta_K + \delta_s + \theta_t + \epsilon_{it}
 \end{aligned}$$

where Parent_{it} is an indicator that a respondent's parent needs care, rather than a parent-in-law, and all other variables are defined as in Equation 1. β_1 and β_2 are the parameters of interest.

While the DDD model accounts for time-varying differences across states that are common to both those residing with a parent and those residing with an in-law within a state, the estimator may still be biased if caregivers choose their state of residence or residency with the parent, or report the parent's need for personal care help as a result of the FLI legislation. To investigate whether individuals were more likely to fit our definition of likely caregiver in the affected states after FLI implementation, we estimate a difference-in-differences model over all 40-65 year olds in our analytic ACS dataset to investigate to identify if individuals were more or less likely to fit our definition of likely caregiver after the implementation of the California and New Jersey FLI laws, relative to other states. Because we are simply looking at the proportion of residents residing with a parent who requires help with basic personal care, the regression includes state-level covariates as well as state and year fixed effects but does not control for respondent-level characteristics. Column (1) of Table 3 displays results from the difference-in-differences regression and suggests that neither California nor New Jersey experienced changes in this population as a result of the law.

Additionally, the model may be biased if individuals fitting the likely caregiver definition differ in employment status or other characteristics related to labor force outcomes as a result of the implementation of FLI. We investigate how employment probabilities change after the law as a primary outcome, below. However, results in columns (2) through (8) of Table 3 display results from a DDD specification, indicating whether our likely parental caregivers differed in terms of age, sex, education, or proportion that are non-Hispanic whites differentially from those residing with a similar need parent-in-law for California and New Jersey after the FLI laws were implemented relative to the comparison states. Again, we control only for state-level characteristics, state fixed effects, and year fixed effects. The results of Table 3 suggest that the implementation of FLI is not statistically or meaningfully correlated with this set of personal characteristics likely related to employment outcomes. More specifically, the proportion of individuals living with a parent, requiring help with basic personal care, nor the characteristics of these caregivers are significantly affected by the implementation of the law. As such, our identification strategy, which assumes that changes in labor market outcomes occur as the result of FLI rather than selection, is less likely violated due to selection of likely caregivers after the implementation of FLI in California or New Jersey.

Table 3. Relationship between FLI Implementation and Likely Caregiver Characteristics in ACS

	(1) HH Parent in Need of Care	(2) Age	(3) Female	(4) Married	(5) HS Degree	(6) Some College	(7) College Graduate	(8) Non- Hispanic White
California*Post(2004)	-0.009							
	(0.00095)							
New Jersey*Post(2009)	0.0188							
	(0.0133)							
California*Post(2004)*ParentNeeds		0.360	-0.034	0.013	0.010	-0.032	0.014	0.013
		(0.4035)	(0.0342)	(0.0154)	(0.0266)	(0.0247)	(0.0223)	(0.0252)
NJ*Post(2009)*ParentNeeds		0.459	-0.006	0.013	-0.008	0.001	-0.008	-0.014
		(0.5487)	(0.0525)	(0.0215)	(0.0415)	(0.0330)	(0.0390)	(0.0353)
Observations	175,945	175,945	175,945	175,945	175,945	175,945	175,945	175,945
R-squared	0.005	0.015	0.016	0.323	0.009	0.006	0.013	0.109
Pre-Treatment Mean for CA “Treated”	0.768	50.06	0.517	0.524	0.328	0.255	0.240	0.469
Pre-Treatment Mean for NJ “Treated”	0.748	51.52	0.515	0.530	0.450	0.176	0.294	0.713

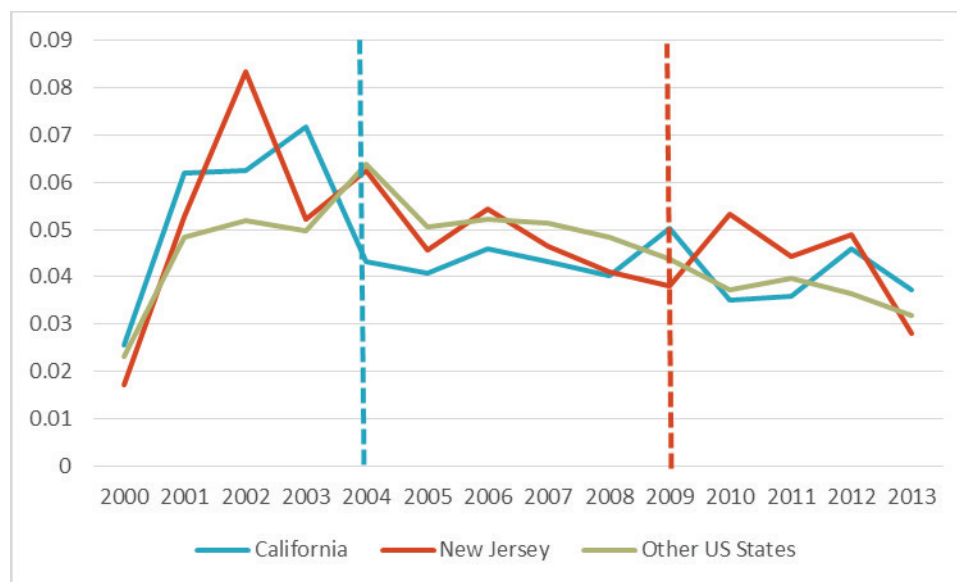
Notes: Data are from the 2000 to 2013 waves of the American Community Survey and the 5% sample of the 2000 Census. All estimates are weighted using sampling weights provided by the American Community Survey. Standard errors in parentheses, adjusted for sample design stratification used to identify respondents and clustering at the sampling unit. “Treated” individuals are California or New Jersey residents, aged 40-64 years, who have a resident parent and the parent has difficulty with dressing, bathing, or getting around the house (pre-2008). Comparison individuals are residents of other states, who, similarly, have a resident parent or parent-in-law and the parent, or in-law, has difficulty with dressing, bathing, or getting around the house (pre-2008). State-level covariates included in all regressions. State and year fixed effects included in all regressions. *p<0.1, **p<0.05, ***p<0.01.

Descriptive Statistics from Treatment and Comparison Populations in Data Sources

Appendix Table 4 (California) and Appendix Table 5 (New Jersey) provides the mean values of observed characteristics for state residents who have a parent in need of help with basic personal needs, state residents who have a parent-in-law in need of help with basic personal needs, and their national non-California, non-New Jersey counterparts. The results demonstrate that individuals who have a parent-in-law with needs differ across a number of characteristics from those who have a parent in need of help with basic personal care needs. For instance, having a parent-in-law in need of aid requires marriage, adds another individual to the household, and increases the number potential earners and household income.

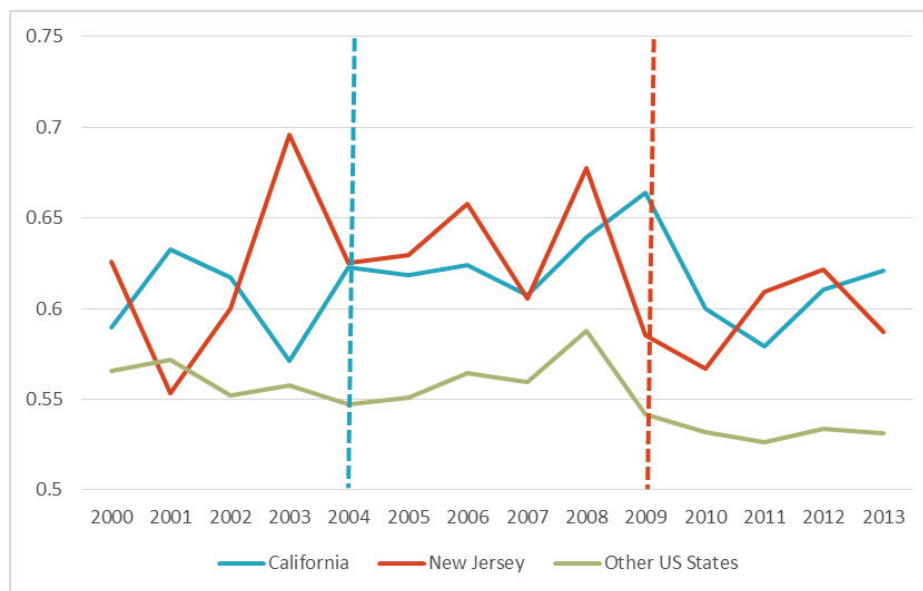
Figure 1 and Figure 2 display the proportion of employed individuals on leave and the proportion of all individuals employed for residents of California, New Jersey, and U.S. comparisons who have a resident parent in need of aid with basic personal needs in each year of the ACS survey. Vertical dashed lines show the start of the CA-FLI and NJ-FLI in 2004 and 2009. The trends in outcomes do not appear to differ for either California or New Jersey residents with a parent in need of help from similar residents from other U.S. states either before or after the implementation of their FLI laws.

Figure 1. Proportion of Employed California, New Jersey, and U.S. Comparison Residents, with an In-Household Parent in Need of Help with Basic Personal Needs, on Leave from Work in the Previous Week



Notes: Sample includes employed individuals, 40 to 64 years, residing in the same household with a parent who has difficulties with basic personal care needs in the 2000 to 2013 waves of the American Community Survey. All estimates are weighted using sampling weights provided by the American Community Survey.

Figure 2. Proportion Employed in California, New Jersey, and U.S. Comparison Residents, with an In-Household Parent in Need of Help with Basic Personal Needs



Notes: Sample includes all individuals, 40 to 64 years, residing in the same household with a parent who has difficulties with basic personal care needs in the 2000 to 2013 waves of the American Community Survey. All estimates are weighted using sampling weights provided by the American Community Survey.

Labor Market Results from ACS

Table 4 displays the coefficients of interest from the difference-in-differences and DDD specifications, estimated as a linear probability model, for whether an individual was on leave from work in the week prior to the ACS survey, controlling for individual and state-level covariates as well as state and year fixed effects.¹⁵ The first two columns of estimates provide difference-in-difference estimated effects of the CA-FLI and NJ-FLI estimated over two populations: 1) all employed adult children, 40-64 years old, who live with a parent in need of help with basic activities—dressing, bathing, getting around the house (asked prior to 2008); and 2) female adult children within this population. Women disproportionately use paid family leave across all three states for both bonding (67.1 percent in California and 87.1 percent in New Jersey) and care of an ill family member (66 percent in California and 74.5 percent in New Jersey) (California Employment Development Department, n.d.; New Jersey Department of Labor and Workforce Development, n.d). As such, this subpopulation may further target the population most likely effected by FLI.

The results of the difference-in-differences model, columns (1) and (2), indicate that there were no statistically identifiable effects of the laws on leave taking. Moreover, point estimates for

¹⁵ Estimating a linear probability model on a limited dependent variable may violate the assumption of homoscedasticity. However, we estimate robust-clustered standard errors that should correct for heteroscedasticity. Furthermore, as we are investigating changes in the average proportion of states' populations, we are not concerned with individual predictions being bounded by zero or one, but rather how the mean proportion changes. To investigate whether the linear structure of the model generates unusual coefficient estimates we have also estimated the primary models using probit regressions and found similar results. Estimated marginal effects from the probit regression are available on request.

California and New Jersey are on opposite sides of zero, perhaps bounding a null effect, and are not statistically different from each other. Columns (3) and (4) add adult children with a resident parent-in-law in need of help with basic activities to the estimation sample, allowing for the DDD estimated effect of the FLI laws. The estimated effects of FLI laws are larger in magnitude but remain statistically indistinguishable from zero.

Table 5 and Table 6 present estimated effects, from difference-in-difference and DDD specifications, of the California and New Jersey laws on employment and labor force participation, respectively. The difference-in-difference specifications are imprecisely estimated and do not provide statistical evidence that employment and labor force participation of adult children with a resident parent who has difficulties with dressing or bathing changed in California or New Jersey after the implementation of FLI. For the female subsample, point estimates suggest that for females in our targeted sample employment and labor force participation dropped after the implementation of FLI.

The results in Table 4 through Table 6 do not indicate that the CA-FLI and NJ-FLI statistically impacted leave-taking, employment, or labor force participation.¹⁶ However, the confidence intervals generated from the models suggest that we may fail to identify a meaningful effect. To investigate further, we estimate a number of other specifications as robustness checks.

¹⁶ The authors also examined effects of the laws on usual weekly work hours for employed individuals without any statistically significant findings.

Table 4. Estimated Effects of CA and NJ FLI Laws on Indicator that Employed Respondent was Absent from Work in the Previous Week

Dependent Variable: On Leave from Work Last Week	(1) Adult Children	(2) Female Children	(3) Adult Children	(4) Female Children
	Diff-in-Diff	Diff-in-Diff	DDD	DDD
California*Post(2004)	-0.0030	-0.0112		
	(0.0078)	(0.0119)		
California*Post(2004)*ParentNeeds			-0.0103	-0.0287
			(0.0125)	(0.0192)
New Jersey*Post(2009)	0.0025	0.0063		
	(0.0120)	(0.0177)		
New Jersey*Post(2009)*ParentNeeds			0.0298	-0.0252
			(0.0247)	(0.0456)
Observations	76,955	42,388	104,247	52,050
R-squared	0.0051	0.0059	0.0049	0.0054
Pre-Treatment Mean for CA "Treated"	0.0445	0.0587	0.0445	0.0587
Pre-Treatment Mean for NJ "Treated"	0.0472	0.0514	0.0472	0.0514

Notes: Data are from the 2000 to 2013 waves of the American Community Survey and the 5% sample of the 2000 Census. All estimates are weighted using sampling weights provided by the American Community Survey. Standard errors in parentheses, adjusted for sample design stratification used to identify respondents and clustering at the sampling unit. "Treated" individuals are California or New Jersey residents, aged 40-64 years, who have a resident parent and the parent has difficulty with dressing, bathing, or getting around the house (pre-2008). Comparison individuals are residents of other states, who, similarly, have a resident parent and the parent has difficulty with dressing, bathing, or getting around the house (pre-2008). In the DDD specifications, additional comparisons include individuals with a resident parent-in-law who has difficulty with dressing, bathing, or getting around the house (pre-2008). Individual- and state-level covariates included in all regressions. State and year fixed effects included in all regressions. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 5. Estimated Effects of CA and NJ FLI Laws on Indicator Respondent is Employed at Survey, 2000 to 2013

Dependent Variable: Employed	(1)	(2)	(3)	(4)
	Adult Children	Female Children	Adult Children	Female Children
	Diff-in-Diff	Diff-in-Diff	DDD	DDD
California*Post(2004)	0.0094	-0.0262		
	(0.0166)	(0.0224)		
California*Post(2004)*ParentNeeds			-0.0003	-0.0206
			(0.0282)	(0.0418)
New Jersey*Post(2009)	-0.0201	-0.0492		
	(0.0228)	(0.0302)		
New Jersey*Post(2009)*ParentNeeds			-0.0082	0.0101
			(0.0396)	(0.0639)
Observations	136,663	74,001	175,945	89,947
R-squared	0.0948	0.0915	0.1056	0.0906
Pre-Treatment Mean for CA "Treated"	0.6032	0.6164	0.6032	0.6164
Pre-Treatment Mean for NJ "Treated"	0.6237	0.6342	0.6237	0.6342

Notes: Data are from the 2000 to 2013 waves of the American Community Survey and the 5% sample of the 2000 Census. All estimates are weighted using sampling weights provided by the American Community Survey. Standard errors in parentheses, adjusted for sample design stratification used to identify respondents and clustering at the sampling unit. "Treated" individuals are California or New Jersey residents, aged 40-64 years, who have a resident parent and the parent has difficulty with dressing, bathing, or getting around the house (pre-2008). Comparison individuals are residents of other states, who, similarly, have a resident parent and the parent has difficulty with dressing, bathing, or getting around the house (pre-2008). In the DDD specifications, additional comparisons include individuals with a resident parent-in-law who has difficulty with dressing, bathing, or getting around the house (pre-2008). Individual- and state-level covariates included in all regressions. State and year fixed effects included in all regressions. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6. Estimated Effects of CA and NJ FLI Laws on Indicator Respondent is Labor Force Participant at Survey

Dependent Variable: Labor Force Participant	(1)	(2)	(4)	(5)
	Adult Children	Female Children	Adult Children	Female Children
	Diff-in-Diff	Diff-in-Diff	DDD	DDD
California*Post(2004)	0.0039	-0.0241		
	(0.0162)	(0.0218)		
California*Post(2004)*ParentNeeds			-0.0100	-0.0334
			(0.0274)	(0.0410)
New Jersey*Post(2009)	-0.0198	-0.0425		
	(0.0227)	(0.0300)		
New Jersey*Post(2009)*ParentNeeds			-0.0204	0.0008
			(0.0378)	(0.0630)
Observations	136,663	74,001	175,945	89,947
R-squared	0.0975	0.1002	0.1084	0.0992
Pre-Treatment Mean for CA "Treated"	0.6573	0.6526	0.6573	0.6526
Pre-Treatment Mean for NJ "Treated"	0.6808	0.6738	0.6808	0.6738

*Notes: Data are from the 2000 to 2013 waves of the American Community Survey and the 5% sample of the 2000 Census. All estimates are weighted using sampling weights provided by the American Community Survey. Standard errors in parentheses, adjusted for sample design stratification used to identify respondents and clustering at the sampling unit. "Treated" individuals are California or New Jersey residents, aged 40-64 years, who have a resident parent and the parent has difficulty with dressing, bathing, or getting around the house (pre-2008). Comparison individuals are residents of other states, who, similarly, have a resident parent and the parent has difficulty with dressing, bathing, or getting around the house (pre-2008). In the DDD specifications, additional comparisons include individuals with a resident parent-in-law who has difficulty with dressing, bathing, or getting around the house (pre-2008). Individual- and state-level covariates included in all regressions. State and year fixed effects included in all regressions. *p<0.1, **p<0.05, ***p<0.01.*

Alternate Specifications

All Household Parents and Adult Children

As a first robustness check, we estimate the difference-in-differences and DDD models using all adult children living with a parent, regardless of whether a parent is reported to have difficulties with dressing, bathing, or getting around the house (pre-2008). Table 7 reports the estimated effects of the FLI laws on whether an employed adult child was on leave in the previous week for this expanded sample. The difference-in-difference estimates of FLI effects are less than 0.4 percentage points for all individuals, a small magnitude for the change in leaves. The estimated effects demonstrate similar magnitude when the sample is restricted to females, and remain statistically indistinguishable from zero.

Adding adult children residing with a parent-in-law as a second comparison group, results from the DDD specifications suggest that the introduction of the CA-FLI was associated with reduced leave taking by the employed. A reduction in leave-taking behavior may indicate that likely leave takers are leaving jobs rather than taking leave from a job. To investigate this possibility, Table 8 and Table 9 display the estimated effects of FLI laws in California and New Jersey on employment and labor force participation for the expanded sample of all adults, 40 to 64 years, residing with a parent. While the results are more precisely estimated than the same specifications estimated on the more targeted sample, again, there is no statistically significant evidence that the CA-FLI or NJ-FLI are associated with changes in employment or labor force participation.

Married Eligible and Ineligible Adult Children

To further investigate potential differential effects of the CA-FLI and NJ-FLI by sex of the caregiver, we focus on our second comparison group, those living with a parent-in-law in need of care. As previously noted, those residing with a parent differ from individuals residing with a parent-in-law in need of care, with marital status one dimension on which they differ. In the ACS data, only 25 percent of individuals 40-64 years of age who are living with a parent are married. This percentage rises to 31 percent if the parent has difficulties with dressing, bathing, or getting around the house (pre-2008). By construct, 100 percent of individuals living with a parent-in-law are married and differ, meaningfully, over other observed demographic and household characteristics, as seen in Appendix Table 4 and Appendix Table 5.

Table 7. Estimated Effects of CA and NJ FLI Laws on Indicator that Employed Respondent was Absent from Work in the Previous Week, Expanded Resident-Parent Population

Dependent Variable: On Leave from Work Last Week	(1) Adult Children	(2) Female Children	(3) Adult Children	(4) Female Children
	Diff-in-Diff	Diff-in-Diff	DDD	DDD
California*Post(2004)	-0.0004	-0.0035		
	(0.0033)	(0.0049)		
California*Post(2004)*Parent			-0.0110**	-0.0179*
			(0.0051)	(0.0098)
New Jersey*Post(2009)	0.0036	0.0006		
	(0.0040)	(0.0055)		
New Jersey*Post(2009)*ParentNeeds			0.0115	-0.0104
			(0.0089)	(0.0142)
Observations	438,803	220,761	556,838	260,222
R-squared	0.0025	0.0027	0.0024	0.0025
Pre-Treatment Mean for CA "Treated"	0.0350	0.0407	0.0350	0.0407
Pre-Treatment Mean for NJ "Treated"	0.0346	0.0355	0.0346	0.0355

Notes: Data are from the 2000 to 2013 waves of the American Community Survey and the 5% sample of the 2000 Census. All estimates are weighted using sampling weights provided by the American Community Survey. Standard errors in parentheses, adjusted for sample design stratification used to identify respondents and clustering at the sampling unit. "Treated" individuals are California or New Jersey residents, aged 40-64 years, who have a resident parent. Comparison individuals are residents of other states, who, similarly, have a resident parent. In the DDD specifications, additional comparisons include individuals with a resident parent-in-law. Individual- and state-level covariates included in all regressions. State and year fixed effects included in all regressions. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 8. Estimated Effects of CA and NJ FLI Laws on Indicator Respondent is Employed at Survey, Expanded Resident-Parent Population

Dependent Variable: Employed	(1) Adult Children	(2) Female Children	(4) Adult Children	(5) Female Children
	Diff-in-Diff	Diff-in-Diff	DDD	DDD
California*Post(2004)	0.0087	-0.0003		
	(0.0070)	(0.0099)		
California*Post(2004)*Parent			0.0148	0.0143
			(0.0121)	(0.0205)
New Jersey*Post(2009)	0.0055	-0.0061		
	(0.0093)	(0.0129)		
New Jersey*Post(2009)*ParentNeeds			-0.0030	0.0176
			(0.0165)	(0.0298)
Observations	713,439	347,357	870,541	407,347
R-squared	0.0919	0.0869	0.0998	0.0855
Pre-Treatment Mean for CA "Treated"	0.6431	0.6481	0.6431	0.6481
Pre-Treatment Mean for NJ "Treated"	0.6855	0.6989	0.6855	0.6989

*Notes: Data are from the 2000 to 2013 waves of the American Community Survey and the 5% sample of the 2000 Census. All estimates are weighted using sampling weights provided by the American Community Survey. Standard errors in parentheses, adjusted for sample design stratification used to identify respondents and clustering at the sampling unit. "Treated" individuals are California or New Jersey residents, aged 40-64 years, who have a resident parent. Comparison individuals are residents of other states, who, similarly, have a resident parent. In the DDD specifications, additional comparisons include individuals with a resident parent-in-law. Individual- and state-level covariates included in all regressions. State and year fixed effects included in all regressions. *p<0.1, **p<0.05, ***p<0.01.*

Table 9. Estimated Effects of CA and NJ FLI Laws on Indicator Respondent is Labor Force Participant at Survey, Expanded Resident-Parent Population

Dependent Variable: Labor Force Participant	(1) Adult Children	(2) Female Children	(4) Adult Children	(5) Female Children
	Diff-in-Diff	Diff-in-Diff	DDD	DDD
California*Post(2004)	0.0010	-0.0057		
	(0.0066)	(0.0095)		
California*Post(2004)*Parent			-0.0031	0.0048
			(0.0114)	(0.0198)
New Jersey*Post(2009)	0.0129	0.0089		
	(0.0087)	(0.0121)		
New Jersey*Post(2009)*ParentNeeds			-0.0039	0.0034
			(0.0149)	(0.0282)
Observations	713,439	347,357	870,541	407,347
R-squared	0.0879	0.0936	0.0949	0.0916
Pre-Treatment Mean for CA “Treated”	0.7100	0.6992	0.7100	0.6992
Pre-Treatment Mean for NJ “Treated”	0.7485	0.7421	0.7485	0.7421

*Notes: Data are from the 2000 to 2013 waves of the American Community Survey and the 5% sample of the 2000 Census. All estimates are weighted using sampling weights provided by the American Community Survey. Standard errors in parentheses, adjusted for sample design stratification used to identify respondents and clustering at the sampling unit. “Treated” individuals are California or New Jersey residents, aged 40-64 years, who have a resident parent. Comparison individuals are residents of other states, who, similarly, have a resident parent. In the DDD specifications, additional comparisons include individuals with a resident parent-in-law. Individual- and state-level covariates included in all regressions. State and year fixed effects included in all regressions. *p<0.1, **p<0.05, ***p<0.01.*

Table 10. Observed Characteristics of Married Couples with One Spouse's Parent Residing in the Household

	California		New Jersey	
	Parent	Parent-in-law	Parent	Parent-in-law
Female	0.580	0.411***	0.602	0.386***
Age	51.7	51.5	52.8	53.0
Less than HS Degree	0.149	0.164	0.044	0.060
HS Degree	0.296	0.318**	0.402	0.385
Some College	0.268	0.245**	0.181	0.176
Bachelor's Degree	0.287	0.272	0.373	0.379
White	0.417	0.421	0.727	0.735
Black	0.039	0.037	0.070	0.068
Other race	0.281	0.284	0.110	0.100
Hispanic	0.263	0.257	0.093	0.097
Foreign born	0.515	0.532**	0.290	0.290
Child less than 6	0.050	0.049	0.031	0.029**
Child less than 18	0.395	0.393	0.307	0.305
Homeowner	0.842	0.841	0.941	0.942
Spouse in Labor Force	0.742	0.739	0.795	0.740**
Other HH Income (\$)	77,346	74,215***	93,905	90,391
Observations	N = 5,142	5,142	1,338	1,338

Notes: Data are from the 2000 5% Census and 2000 through 2013 American Community Surveys. Sample includes all opposite-sex married individuals who have one partner's parent residing in household and the parent has difficulties with basic personal care needs. The sample further excludes couples when one spouse has a sampling weight equal to zero, provided by the American Community Survey. Asterisks indicate statistical differences for the spouse residing with a parent versus the spouse residing with a parent-in-law. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

The CA-FLI and NJ-FLI have effects on household decisions that we have not yet explored but can investigate to gain a better understanding of leave and labor market decisions within the household. For instance, if males tend to be higher earners within the household then unpaid leaves are more costly and, as a result, males are less likely to be primary caregivers.¹⁷ If so, then we may see differences in outcomes by sex, whether an individual is eligible for leave. As such, we restrict the data to include only male and female spouses of the same household who are living with either a parent or parent-in-law who has difficulties with basic activities. Table 10 displays means of demographic and several household characteristics of these two populations, residing in the same households, across all years, 2000 to 2013, for California and New Jersey. Those living with a parent, as opposed to those living with a parent-in-law, are more likely to be females, roughly 60 percent compared to roughly 40 percent. The difference in sex may account for lower spousal labor

¹⁷ We note that females may be higher earners within the household. However, as employment and wages are endogenous to caregiving, we cannot separate the sample on current earnings and instead condition on the sex of the adult children.

force participation for those living with a parent-in-law. They are statistically different in a number of other demographic characteristics, though differences are small in magnitude and are not consistently different in both California and New Jersey. For instance, those residing with a parent in California are less likely than those living with a parent-in-law to have only a HS degree, but more likely to have attended some college without receiving a Bachelor's degree.

To examine the FLI effects within the sample of married individuals, we estimate difference-in-difference specifications where the treated individuals are those living with a parent who has difficulty dressing or bathing, restricting the sample to California or New Jersey residents. The comparison population consists of their spouses, who are living with this parent-in-law. As such, the estimates investigate whether the FLI affects leave taking, employment, or labor force participation for the eligible spouse. The results, presented in Table 11, demonstrate that the implementation of the FLI laws do not have a significant impact on leave taking for those living with a parent and eligible for leave, versus their spouses who are living with a parent-in-law and not eligible for leave. Nor does the implementation of FLI provide a statistically distinguishable effect on employment or labor force participation.

Table 11. Difference-in-difference Estimated Effects of the CA-FLI and NJ-FLI on Married Adult Children's Labor Market Activities

Dependent Variable	Estimation Sample: California All Married	Estimation Sample: California Females	Estimation Sample: New Jersey All Married	Estimation Sample: New Jersey Females
On Leave in Previous Week	-0.0065	-0.0052	0.0037	-0.0821
	(0.0153)	(0.0241)	(0.0280)	(0.0509)
N=	7,233	3,321	1,915	863
Employed	0.0119	0.0114	-0.0147	0.0293
	(0.0339)	(0.0472)	(0.0495)	(0.0735)
N=	10,284	5,142	2,676	1,338
Labor Force Participant	-0.0095	-0.0037	-0.0310	0.0050
	(0.0328)	(0.0464)	(0.0480)	(0.0726)
N=	10,284	5,142	2,676	1,338

Notes: Data are from the 2000 to 2013 waves of the American Community Survey and the 5% sample of the 2000 Census. All estimates are weighted using sampling weights provided by the American Community Survey. Standard errors in parentheses, adjusted for sample design stratification used to identify respondents and clustering at the sampling unit. "Treated" individuals are California or New Jersey residents, aged 40-64 years, who have a resident parent and the parent has difficulty with dressing, bathing, or getting around the house (pre-2008). Comparison individuals are California or New Jersey spouses of these residents, who, as a result, have a resident parent-in-law who has difficulty with dressing, bathing, or getting around the house (pre-2008). Individual- and state-level covariates included in all regressions. State and year fixed effects included in all regressions. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Discussion

Previous literature demonstrates that caregiving is a common reason for work leaves and that there is an unmet need for these types of leave (Klerman, Daley, and Pozniak, 2014). A number of empirical studies show that the initiation of caregiving and increased intensity of caregiving are related to reductions in hours of work and labor force participation.¹⁸ These findings suggest that FLI for eldercare providers may impact both rates of leave and, potentially, labor force and employment outcomes for these caregivers. Our study estimates the effects of California and New Jersey FLI laws on the likelihood of leave as well as employment and labor force participation for one group of individuals likely to provide high levels of personal care to parents—adults ages 40 to 64 residing with a parent reported to have self-care difficulties. The results do not consistently indicate that the introduction of FLI is associated with changes in leave taking, employment, or labor force participation for this group. While we targeted a group that consisted of more intensive caregivers in the HRS data, this population may not be appropriate for studying leave-taking in the ACS, or appropriate for leaves, if live-in caregivers or intensive caregivers are less likely to balance work and caregiving in a way that necessitates leave taking.

Our inability to detect effects of the laws is not surprising, given the low utilization of caregiver leaves. Information from the California Employment Development Department (n.d.) and the New Jersey Department of Labor and Workforce Development (n.d.) demonstrates that take-up rates of FLI are low for caregiving generally, relative to bonding leaves, and roughly one-third of caregiving leaves are to care for a parent. Low take-up of caregiving leaves may be the result of low levels of awareness of the program (Milkman and Appelbaum, 2013). Milkman and Appelbaum report that most workers who are aware of the law learn about California’s FLI law through their employer. While it is common and socially acceptable to discuss an upcoming birth of a child, if employees are less likely to discuss with employers about needs related to caring for an elderly parent then caregivers may be even less likely to learn about the program.

Even when leaves are desired, workers may not take leave due to a fear of negative employment consequences of taking paid leave (Milkman and Appelbaum, 2013). Because leaves under the CA-FLI and NJ-FLI are not job-protected, individuals who are not covered by the FMLA may experience negative consequences from taking such leave. Furthermore, if employees believe that caregiving leaves are less acceptable to employers than bonding leaves or are more disruptive because of intermittency, frequency, or the duration of time over which leaves are necessary then fears of employment penalties may be heightened, relative to bonding leaves.

Alternatively, those providing care to parents may not require leaves or may require them in a different form than provided under the CA-FLI and the NJ-FLI. Because caregivers have been found to reduce work and employment after the initiation of and with the increasing intensity of caregiving (Johnson and Lo Sasso, 2000), paid leave may not be an appropriate solution for these workers because of the intermittency, or increasing intensity, or the duration of time over which leaves are necessary. As such, the structure of the current policies may not benefit employed caregivers appropriately.

¹⁸ See for example: Ettner, 1995; Ettner, 1996; Pavalko and Artis, 1997; Heitmueller, 2007; Bolin et al., 2008; Crespo and Mira, 2010; Johnson and Lo Sasso, 2000; Van Houtven, Coe and Skira, 2013; Skira, 2014

While the CA-FLI and NJ-FLI are family focused, allowing paid leaves to care for family members with serious health conditions as well as bonding with a new child, caregiving leaves under these laws are rarely utilized relative to bonding leaves. Lack of awareness of FLI legislation and eligibility among caregivers may be an initial hurdle to increasing leave taking by employed caregivers, leaves which may mitigate negative labor market consequences of providing care. In addition, future research regarding the extent and nature of leave-taking needs for caregivers, and the heterogeneity of these needs, as well as restrictions to paid-leave take-up may highlight if and how paid family leave legislation can more appropriately meet any unmet leave requirements for millions of Americans.

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Appendix Table 1. Descriptive statistics of ACS analytic population, 40 to 64 years and 50 to 64 years, and the Health and Retirement Study analytic population, 50 to 64 years

	(1) ACS		(2) ACS		(3) HRS	
	Ages 40-64 N = 16,598,546		Ages 50-64 N = 9,423,755		Ages 50-64 N = 60,667	
	Mean	Std Err	Mean	Std Err	Mean	Std Err
Female	0.512	(0.0001)	0.516	(0.0002)	0.521	(0.0025)
Married	0.660	(0.0001)	0.664	(0.0003)	0.689	(0.0023)
Age 40 to 44	0.228	(0.0001)				
Age 45 to 49	0.226	(0.0001)				
Age 50 to 54	0.213	(0.0001)	0.388	(0.0003)	0.244	(0.0022)
Age 55 to 59	0.183	(0.0001)	0.335	(0.0003)	0.418	(0.0025)
Age 60 to 64	0.151	(0.0001)	0.277	(0.0002)	0.338	(0.0227)
White	0.717	(0.0001)	0.744	(0.0003)	0.777	(0.0019)
Black	0.112	(0.0001)	0.106	(0.0002)	0.104	(0.0012)
Hispanic	0.108	(0.0001)	0.091	(0.0002)	0.084	(0.0013)
Other Race	0.063	(0.0001)	0.059	(0.0001)	0.035	(0.0009)
Less than HS	0.111	(0.0001)	0.113	(0.0002)	0.129	(0.0015)
HS Grad	0.375	(0.0001)	0.377	(0.0003)	0.324	(0.0023)
Some College	0.229	(0.0001)	0.224	(0.0002)	0.266	(0.0022)
College Grad	0.285	(0.0001)	0.285	(0.0003)	0.280	(0.0023)
Number of Resident Children	0.805	(0.0003)	0.476	(0.0005)	0.730	(0.0058)
Child less than 6 Years	0.049	(0.0001)	0.007	(0.0000)	0.034	(0.0009)
Child less than 18 Years	0.294	(0.0001)	0.118	(0.0002)	0.150	(0.0018)
Employed	0.708	(0.0001)	0.652	(0.0003)	0.660	(0.0023)
Employed (Spouse)	0.456	(0.0001)	0.423	(0.0003)	0.462	(0.0025)
In Labor Force	0.749	(0.0001)	0.690	(0.0003)	0.694	(0.0022)
In Labor Force (Spouse)	0.476	(0.0001)	0.442	(0.0003)	0.483	(0.0025)
Self Employed	0.091	(0.0001)	0.092	(0.0002)	0.127	(0.0017)
Household Income	82777	(20)	82460	(27)	86672	(1370)
Wages	34482	(12)	32123	(16)	30739	(314)
Non-labor Income	48295	(15)	50615	(34.6)	55934	(1316)
Homeowner	0.766	(0.0001)	0.796	(0.0003)	0.735	(0.0022)
Mother is Resident	0.044	(0.0001)	0.034	(0.0001)	0.023	(0.0007)
Resident Mother Married	0.013	(0.0000)	0.006	(0.0000)	0.003	(0.0003)
Father is Resident	0.018	(0.0000)	0.011	(0.0001)	0.006	(0.0004)
Resident Father Married	0.013	(0.0000)	0.006	(0.0000)	0.002	(0.0003)

	(1) ACS		(2) ACS		(3) HRS	
	Ages 40-64 N = 16,598,546		Ages 50-64 N = 9,423,755		Ages 50-64 N = 60,667	
	Mean	Std Err	Mean	Std Err	Mean	Std Err
Mother-in-law is Resident	0.009	(0.0000)	0.008	(0.0000)	0.009	(0.0005)
Resident Mother-in-law Married	0.002	(0.0000)	0.002	(0.0000)	0.001	(0.0001)
Father-in-law is Resident	0.003	(0.0000)	0.002	(0.0000)	0.002	(0.0003)
Resident Father-in-law Married	0.002	(0.0000)	0.002	(0.0000)	0.001	(0.0001)

Sources: Data are from the 2000 to 2013 waves of the American Community Survey and the 5% sample of the 2000 Census or the 1998 to 2012 waves of the Health and Retirement Study. Observations are limited to individuals aged 40 to 64 years or 50 to 64 years, as noted by column headings. Person weights were used for all means.

Appendix Table 2. Marginal effects from logistic regression of whether a parent or parent-in-law needs help with basic personal care

Dependent Variable =	(1) Parent needs help with basic personal care
Mean	0.1067 (0.0015)
Average marginal effects associated with respondent characteristics	
Mother resides in HH	0.1935*** (0.0153)
Father resides in HH	0.0984*** (0.0273)
Female	0.0142*** (0.0031)
Married	0.0171*** (0.0039)
Age 50 to 54	Base
Age 55 to 59	0.0013 (0.0041)
Age 60 to 64	-0.0140*** (0.0041)
White	Base
Black	0.0018 (0.0044)
Hispanic	0.0449*** (0.0074)
Other non-Hispanic race	0.0004 (0.0087)
Less than HS	Base
HS graduate	0.0032 (0.0047)
Some college	0.0051 (0.0050)
College graduate	0.0172*** (0.0052)
No HH child less than 18 years	Base
Youngest HH child, 7 to 17 years	-0.0010** (0.0046)
Youngest HH child, 0 to 6 years	-0.0205*** (0.0075)
Employed spouse	0.0002 (0.0036)
Homeowner	0.0007 (0.0037)
Foreign born	-0.0007 (0.0056)
HH income not from respondent's earnings (\$1,000's)	-0.0001 (0.0001)

Appendix Table 3. Coefficient estimates from regression on the number of hours a respondent spent providing help with personal care needs

Dependent Variable =	(1) Number of Hours Respondent Provided Personal Care to Parents
Mean	97.1 (4.97)
Coefficient Estimates from Regression	
Parent resides in HH	295.1*** (45.54)
Parent needs help with personal care	205.37*** (0.0273)
Employed	-37.1*** (11.28)
Female	74.0*** (8.65)
Married	-0.6 (12.97)
Age 50 to 54	Base
Age 55 to 59	17.1* (9.06)
Age 60 to 64	22.9* (13.38)
White	Base
Black	12.0 (15.3)
Hispanic	-2.1 (19.51)
Other non-Hispanic race	18.7 (28.79)
Less than HS	-12.8 (18.17)
HS graduate	Base
Some college	10.0 (12.73)
College graduate	-0.8 (12.30)
No HH child less than 18 years	Base
Youngest HH child, 7 to 17 years	-2.0 (11.61)
Youngest HH child, 0 to 6 years	-17.5 (17.52)
Employed spouse	-20.1* (10.32)
Homeowner	16.2 (10.85)

Dependent Variable =	(1) Number of Hours Respondent Provided Personal Care to Parents
Foreign born	-34.12* (17.70)
HH income not from respondent's earnings (\$1,000's)	-0.0 (0.03)

Appendix Table 4. Mean characteristics of American Community Survey respondents who have a parent requiring help with basic personal care needs by state, California and Comparisons

	CA Treatment: CA Resident Parent with Need N = 18,762		CA Comparison 1: US Resident, Parent with Need N = 113,578		CA Comparison 2a: CA Resident, Parent-in-law with Need N = 5,907		CA Comparison 2b: US Resident, Parent-in-law with Need N = 32,207	
	Mean	Std Err	Mean	Std Err	Mean	Std Err	Mean	Std Err
Female	0.53	(0.004)	0.53	(0.001)	0.41	(0.006)	0.38	(0.003)
Married, spouse present	0.35	(0.003)	0.30	(0.001)	1.00	(0.000)	1.00	(0.000)
Age 40 to 44	0.22	(0.003)	0.21	(0.001)	0.20	(0.005)	0.16	(0.002)
Age 45 to 49	0.23	(0.003)	0.23	(0.001)	0.23	(0.005)	0.21	(0.002)
Age 50 to 54	0.24	(0.003)	0.23	(0.001)	0.22	(0.005)	0.23	(0.002)
Age 55 to 59	0.19	(0.003)	0.20	(0.001)	0.21	(0.005)	0.23	(0.002)
Age 60 to 64	0.12	(0.002)	0.13	(0.001)	0.14	(0.005)	0.18	(0.002)
White	0.43	(0.004)	0.66	(0.001)	0.41	(0.006)	0.74	(0.002)
Black	0.08	(0.002)	0.19	(0.001)	0.04	(0.002)	0.09	(0.002)
Hispanic	0.27	(0.003)	0.10	(0.001)	0.26	(0.006)	0.10	(0.002)
Other Race	0.22	(0.003)	0.05	(0.001)	0.29	(0.006)	0.07	(0.001)
Less than HS	0.16	(0.003)	0.15	(0.001)	0.17	(0.005)	0.11	(0.002)
HS Grad	0.35	(0.003)	0.43	(0.001)	0.32	(0.006)	0.40	(0.003)
Some College	0.26	(0.003)	0.22	(0.001)	0.24	(0.006)	0.24	(0.002)
College Grad	0.23	(0.003)	0.20	(0.001)	0.27	(0.006)	0.25	(0.002)
Number of Resident Children	0.62	(0.008)	0.42	(0.003)	1.26	(0.016)	0.86	(0.006)
Child less than 6 Years	0.03	(0.001)	0.02	(0.000)	0.07	(0.003)	0.04	(0.001)
Child less than 18 Years	0.20	(0.003)	0.15	(0.001)	0.41	(0.006)	0.30	(0.003)
Employed	0.61	(0.004)	0.54	(0.001)	0.70	(0.006)	0.70	(0.003)

	CA Treatment: CA Resident Parent with Need N = 18,762		CA Comparison 1: US Resident, Parent with Need N = 113,578		CA Comparison 2a: CA Resident, Parent-in-law with Need N = 5,907		CA Comparison 2b: US Resident, Parent-in-law with Need N = 32,207	
	Mean	Std Err	Mean	Std Err	Mean	Std Err	Mean	Std Err
Employed (Spouse)	0.21	(0.003)	0.18	(0.001)	0.69	(0.006)	0.64	(0.003)
In Labor Force	0.67	(0.003)	0.61	(0.001)	0.74	(0.006)	0.74	(0.002)
In Labor Force (Spouse)	0.22	(0.003)	0.19	(0.001)	0.73	(0.006)	0.67	(0.003)
Self Employed	0.08	(0.002)	0.06	(0.001)	0.11	(0.004)	0.09	(0.002)
Household Income	78002	(494)	66009	(176)	106896	(1078)	99310	(417)
Wages	22634	(254)	19798	(95)	33196	(612)	32362	(246)
Non-labor Income	55368	(414)	46210	(143)	73700	(863)	66947	(336)
Homeowner	0.74	(0.003)	0.84	(0.001)	0.83	(0.005)	0.92	(0.002)
Mother is Resident	0.88	(0.002)	0.88	(0.001)	0.02	(0.002)	0.01	(0.001)
Resident Mother Married	0.25	(0.003)	0.23	(0.001)	0.01	(0.001)	0.00	(0.000)
Father is Resident	0.35	(0.003)	0.34	(0.001)	0.01	(0.001)	0.01	(0.000)
Resident Father Married	0.25	(0.003)	0.22	(0.001)	0.01	(0.001)	0.00	(0.000)
Mother-in-law is Resident	0.01	(0.001)	0.00	(0.000)	0.86	(0.005)	0.84	(0.002)
Resident Mother-in-law Married	0.01	(0.001)	0.00	(0.000)	0.17	(0.005)	0.12	(0.002)
Father-in-law is Resident	0.00	(0.000)	0.00	(0.000)	0.29	(0.006)	0.26	(0.002)
Resident Father-in-law Married	0.01	(0.001)	0.00	(0.000)	0.17	(0.005)	0.12	(0.002)
Mother Needs Aid	0.79	(0.003)	0.78	(0.001)	0.01	(0.001)	0.00	(0.000)
Father Needs Aid	0.25	(0.003)	0.25	(0.001)	0.00	(0.001)	0.00	(0.000)
Parent Needs Aid	1.00	(0.000)	1.00	(0.000)	0.01	(0.001)	0.01	(0.000)
Mother-in-law Needs Aid	0.01	(0.001)	0.00	(0.000)	0.80	(0.005)	0.80	(0.002)
Father-in-law Needs Aid	0.00	(0.001)	0.00	(0.000)	0.24	(0.006)	0.22	(0.002)
Parent-in-law Needs Aid	0.00	(0.000)	0.00	(0.000)	1.00	(0.000)	1.00	(0.000)

Sources: Data are from the 2000 to 2013 waves of the American Community Survey and the 5% sample of the 2000 Census. Observations are limited to individuals aged 40 to 64 years who have a resident parent or parent-in-law in need of aid with basic personal care needs. Standard errors in parentheses. All means are weighted by individual person weights.

Appendix Table 5. Mean characteristics of American Community Survey respondents who have a parent requiring help with basic personal care needs by state, New Jersey and Comparisons

	NJ Treatment: NJ Resident Parent with Need N = 4,353		NJ Comparison 1: US Resident, Parent with Need N = 113,578		NJ Comparison 2a: NJ Resident, Parent-in-law with Need N = 1,483		NJ Comparison 2b: US Resident, Parent-in-law with Need N = 32,207	
	Mean	Std Err	Mean	Std Err	Mean	Std Err	Mean	Std Err
Female	0.55	(0.008)	0.53	(0.001)	0.39	(0.013)	0.38	(0.003)
Married, spouse present	0.36	(0.007)	0.30	(0.001)	1.00	(0.000)	1.00	(0.000)
Age 40 to 44	0.19	(0.006)	0.21	(0.001)	0.16	(0.009)	0.16	(0.002)
Age 45 to 49	0.21	(0.006)	0.23	(0.001)	0.20	(0.010)	0.21	(0.002)
Age 50 to 54	0.25	(0.007)	0.23	(0.001)	0.22	(0.011)	0.23	(0.002)
Age 55 to 59	0.21	(0.006)	0.20	(0.001)	0.23	(0.011)	0.23	(0.002)
Age 60 to 64	0.14	(0.005)	0.13	(0.001)	0.20	(0.010)	0.18	(0.002)
White	0.69	(0.007)	0.66	(0.001)	0.73	(0.012)	0.74	(0.002)
Black	0.14	(0.005)	0.19	(0.001)	0.07	(0.007)	0.09	(0.002)
Hispanic	0.10	(0.005)	0.10	(0.001)	0.10	(0.008)	0.10	(0.002)
Other Race	0.07	(0.004)	0.05	(0.001)	0.10	(0.008)	0.07	(0.001)
Less than HS	0.09	(0.004)	0.15	(0.001)	0.06	(0.006)	0.11	(0.002)
HS Grad	0.45	(0.008)	0.43	(0.001)	0.39	(0.013)	0.40	(0.003)
Some College	0.18	(0.006)	0.22	(0.001)	0.18	(0.010)	0.24	(0.002)
College Grad	0.28	(0.007)	0.20	(0.001)	0.37	(0.013)	0.25	(0.002)
Number of Resident Children	0.56	(0.014)	0.42	(0.003)	1.05	(0.028)	0.86	(0.006)
Child less than 6 Years	0.03	(0.002)	0.02	(0.000)	0.05	(0.006)	0.04	(0.001)
Child less than 18 Years	0.17	(0.006)	0.15	(0.001)	0.33	(0.012)	0.30	(0.003)
Employed	0.61	(0.007)	0.54	(0.001)	0.75	(0.011)	0.70	(0.003)
Employed (Spouse)	0.25	(0.007)	0.18	(0.001)	0.69	(0.012)	0.64	(0.003)
In Labor Force	0.67	(0.007)	0.61	(0.001)	0.79	(0.011)	0.74	(0.002)
In Labor Force (Spouse)	0.26	(0.007)	0.19	(0.001)	0.73	(0.011)	0.67	(0.003)
Self Employed	0.06	(0.004)	0.06	(0.001)	0.12	(0.008)	0.09	(0.002)
Household Income	95452	(1336)	66009	(176)	133866	(2457)	99310	(417)
Wages	31134	(680)	19798	(95)	44278	(1355)	32362	(246)
Non-labor Income	64318	(1079)	46210	(143)	89588	(2110)	66947	(336)

	NJ Treatment: NJ Resident Parent with Need N = 4,353		NJ Comparison 1: US Resident, Parent with Need N = 113,578		NJ Comparison 2a: NJ Resident, Parent-in-law with Need N = 1,483		NJ Comparison 2b: US Resident, Parent-in-law with Need N = 32,207	
	Mean	Std Err	Mean	Std Err	Mean	Std Err	Mean	Std Err
Homeowner	0.84	(0.006)	0.84	(0.001)	0.94	(0.006)	0.92	(0.002)
Mother is Resident	0.88	(0.005)	0.88	(0.001)	0.02	(0.003)	0.01	(0.001)
Resident Mother Married	0.23	(0.006)	0.23	(0.001)	0.00	(0.002)	0.00	(0.000)
Father is Resident	0.33	(0.007)	0.34	(0.001)	0.01	(0.002)	0.01	(0.000)
Resident Father Married	0.22	(0.006)	0.22	(0.001)	0.01	(0.002)	0.00	(0.000)
Mother-in-law is Resident	0.01	(0.001)	0.00	(0.000)	0.86	(0.009)	0.84	(0.002)
Resident Mother-in-law Married	0.01	(0.002)	0.00	(0.000)	0.14	(0.009)	0.12	(0.002)
Father-in-law is Resident	0.00	(0.001)	0.00	(0.000)	0.27	(0.012)	0.26	(0.002)
Resident Father-in-law Married	0.00	(0.002)	0.00	(0.000)	0.14	(0.009)	0.12	(0.002)
Mother Needs Aid	0.79	(0.006)	0.78	(0.001)	0.01	(0.002)	0.00	(0.000)
Father Needs Aid	0.23	(0.006)	0.25	(0.001)	0.00	(0.001)	0.00	(0.000)
Parent Needs Aid	1.00	(0.000)	1.00	(0.000)	0.01	(0.003)	0.01	(0.000)
Mother-in-law Needs Aid	0.01	(0.002)	0.00	(0.000)	0.80	(0.010)	0.80	(0.002)
Father-in-law Needs Aid	0.00	(0.001)	0.00	(0.000)	0.21	(0.011)	0.22	(0.002)
Parent-in-law Needs Aid	0.00	(0.001)	0.00	(0.000)	1.00	(0.000)	1.00	(0.000)

Sources: Data are from the 2000 to 2013 waves of the American Community Survey and the 5% sample of the 2000 Census. Observations are limited to individuals aged 40 to 64 years who have a resident parent or parent-in-law in need of aid with basic personal care needs. Standard errors in parentheses. All means are weighted by individual person weights.



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