Parents, Infants, and Voter Turnout

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Abstract

Despite evidence that infants affect families' economic and social behaviors, little is known about how young children influence their parents' political engagement. I show that U.S. women with an infant during an election year are 3.5 percentage points less likely to vote than women without children; men with an infant are 2.3 percentage points less likely to vote. Suggesting that this effect may be causal, I find no significant decreases in turnout the year before parents have an infant. Using a triple-difference approach, I then show that vote-by-mail systems mitigate the negative association between infants and mothers' turnout.

Key Words: voter turnout, gender gap, life transitions

JEL Codes: D10, D72, J13

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1 Introduction

Voting helps form the basis for strong and accountable democracies. Turnout from individuals with diverse policy preferences can ensure that politicians are responsive to the needs of a representative set of their constituents (Lijphart, 1997), and high turnout has been linked to policy outcomes that favor working-class voters such as increases in pensions (Fowler, 2013). Despite the importance to policy outcomes, U.S. turnout levels have averaged only 40-60 percent in national elections over the past half century. While research in political science and economics has documented a host of factors that affect turnout levels, including individual education and age, election competitiveness, weather, and the overall economic situation [e.g., Charles and Stephens (2013); Leighley and Nagler (2013); Autor, Dorn, Hanson, and Majlesi (2016)], there has been limited exploration into the impact of having young children on U.S. voter turnout.[1] This is especially striking considering that the birth of a child is a highly disruptive event shown to affect work habits, ease of travel, and health, and may therefore increase the physical/logistical barriers to going to the polls [see, e.g., O'hara and Swain (1996); Albrecht, Bronson, Thoursie, and Vroman (2018)]. Furthermore, since families with young children may have different policy preferences than others, their exclusion from the political process may lead to lower support from the government and thus long-term consequences on children's well-being (Hoynes, Schanzenbach, and Almond, 2016). This paper documents the relationship between having a young child and turnout in the United States. It also explores whether state systems that reduce physical/logistical costs of voting (e.g., vote-by-mail, early voting) affect this relationship.

The key difficulty in estimating the relationship between young children and voter turnout is that having a child is not an exogenous event. It is associated with a range of characteristics including age, financial stability, and unmeasurable characteristics such as community orientation that may themselves drive voting behavior. To address this concern, I first include a large number of individual and state-level controls to account for

[1] Two exceptions are the exploration of the impact of young children on turnout in Italy (Bellettini, Ceroni, Cantoni, and Monfardini, 2018) and Denmark and Finland (Bhatti, Hansen, Naurin, Stolle, and Wass, 2019), although these reflect a different social and political context than that of the U.S.

measurable characteristics that may affect voting behavior. Second, I confirm the absence of a turnout effect for parents who will have an infant in the next year, exploiting variation in the exact year of birth. This mitigates concerns about differences in unmeasurable characteristics between parents and non-parents.

Using data from the Current Population Survey Voting and Registration Supplement (CPS-VRS), this paper documents that having an infant (a child under age one) is associated with a decline in voter turnout of approximately 3.5 percentage points (6.8 percent) for women, while there is no significant decline the year before the infant's arrival. For men, having an infant is associated with a decrease in turnout of 2.3 percentage points (5 percent). The largest declines are for parents without a bachelor's degree, those who are unmarried, and those under age 30. I then use a triple-difference strategy to examine whether non-traditional voting systems that lower the physical/logistical costs of voting affect the decline in turnout associated with the presence of infants. I in fact find substantial effects of vote-by-mail systems for women: these systems eliminate the decline in voter turnout associated with the presence of an infant.

This paper adds to a nascent literature on the causal effects of children on voter turnout. Studying municipal elections in Denmark in 2009 and Finland in 2012, Bhatti et al. (2019) exploit variation in the exact timing of births to explore the impact of newborn children on parents' turnout. In this context, parents experience a decline in turnout for 60-210 days following the birth of a child in Finland and Denmark, respectively, with mothers experiencing a longer penalty than fathers. Similarly, using administrative records from Bologna, Italy and a panel design tracking individuals over time, Bellettini et al. (2018) find that having a child under one decreases turnout by about three percentage points for women (and find smaller, negative effects for a child between ages one and three) with no significant effects for men.[2] However, the impacts of children may be different in the

[2]A separate small literature examines the correlation between having children of any age and voter turnout. In the United States, Wolfinger and Wolfinger (2008) and Arnold (2013) document a negative association between turnout and any children and turnout and children under six, respectively. Welch (1977) highlights the association between women's family responsibilities and lower turnout in the historical U.S. context and Jennings (1983) explores the relationship between gender roles and turnout across countries. Focusing on Italy, Quaranta (2016) finds a negative association between turnout and children under five for women (and a positive association for men). Using a dataset covering five countries (Canada, France, Germany, Spain, and Switzerland), Santana and Aguilar (2019b) and Santana and Aguilar (2019a)

U.S. than in Denmark/Finland or Italy, as parental leave is shorter, gender roles may be different, and voter turnout rates are lower on average. New parents' political engagement may also be of particular importance in the United States where government medical and financial support is relatively low and many children lack access to basic resources including food.[3] Furthermore, the heterogeneity of voting systems across states in the U.S. enables tests for the relative importance of physical costs of going to the polls vis-a-vis other reasons for lower turnout of parents with young children.

This paper also contributes to the broader literature documenting the relationship between individual and family characteristics and turnout, which includes a recent focus on low turnout among young voters (Holbein and Hillygus, 2020), turnout patterns by gender (Cascio and Shenhav, 2020), and the effects of life events such as marriage and widowhood (Stoker and Jennings, 1995; Hobbs, Christakis, and Fowler, 2014; Quaranta, 2016). Related work explores the long-term consequences of early parenthood and early marriage for political participation (Pacheco and Plutzer, 2007).

Finally, this paper contributes to a growing literature on state voting systems and turnout, which finds evidence that vote-by-mail systems increase turnout especially for less frequent voters, women, and those of prime working/childbearing age (Gerber, Huber, and Hill, 2013; Hodler, Luechinger, and Stutzer, 2015). Other systems that lower voting costs such as election-day registration, closer distance to polling places, or preregistration have also been shown to increase turnout [e.g., (Burden, Canon, Mayer, and Moynihan, 2014; Holbein and Hillygus, 2016; Cantoni, 2020)].[4] This paper provides new evidence on how voting systems impact turnout with a particular focus on groups that may face increased constraints to voting.

The paper is organized as follows. I first provide a brief theoretical overview of the relationship between having young children and turnout and then discuss the data and

highlight that children are not associated with higher costs of voting overall but are associated with higher costs for women relative to men.

[3]In a report from Save the Children (2015), the U.S. ranked 33rd among countries on a mother's index incorporating data on risk of maternal death, under-five mortality of children, years of schooling, per capita income, and political participation of women in national governments. This was low relative to other developed countries including Finland (2nd), Denmark (4th), and Italy (12th).

[4]In contrast, early voting has not been shown to unambiguously increase turnout (Gronke, Galanes-Rosenbaum, and Miller, 2007; Burden et al., 2014; Kaplan and Yuan, 2018).

main analysis sample. I next examine the association between young children and turnout and explore heterogeneity. Finally, I explore whether nontraditional voting systems affect the relationships between infants and turnout and conclude.

2 Theoretical Overview

The arrival of an infant is a highly disruptive event, and has been shown to affect parents' work behaviors (Kleven, Landais, Posch, Steinhauer, and Zweimuller, 2019), attitudes [e.g., Elder and Greene (2007); Kuziemko, Pan, Shen, and Washington (2018)], and health [e.g., Cheng, Fowles, and Walker (2006); Saxbe, Rossin-Slater, and Goldenberg (2018)]. New (birth) mothers must physically recover from labor and delivery; many parents also experience other health issues including postpartum depression that, combined with childcare responsibilities, can reduce time and energy for political activities.[5] Families may also suffer declines in disposable income in the absence of fully paid parental leave (and after the initial months, lost income from leaving a job or increased spending on childcare). According to the resource model of voting (Verba, Schlozman, and Brady, 1995; Schlozman, Brady, and Verba, 2018), increased constraints on finances, time, and energy can limit the ability to overcome voting barriers such as logistical/physical costs (registering, getting to the polls, waiting in line, dealing with inclement weather, etc.) and cognitive costs (researching and deciding for whom to vote). Infants may also make voting relatively more expensive, as new parents with substantial care responsibilities may face a higher opportunity cost of going to the polls and/or obtaining the information necessary to make informed political choices. Resource constraints and high voting costs may affect voting rates more strongly for mothers lacking financial resources and/or alternative childcare such as younger, unmarried, and less-educated mothers. At the same time, vote-by-mail or other nontraditional policies may lower the direct costs and opportunity costs of voting, potentially reducing the infant turnout penalty.

The arrival of infants may also change parents' preferences in ways that increase

[5]Ko, Rockhill, Tong, Morrow, and Farr (2017) examine rates of postpartum depression across 13 states, finding rates ranging from 8 percent to 20 percent in 2012. See Pacheco and Fletcher (2015) and Ojeda and Pacheco (2019) for the link between health and political participation.

turnout. The presence of children is associated with greater interest and involvement in politics related to school systems [see, e.g., Jennings (1979)], greater concern on a variety of policy issues including toxic waste (Hamilton, 1985), higher willingness to pay for environmental conservation (Dupont, 2004), and (for mothers) greater support for social welfare (Elder and Greene, 2006). Parents may increase their involvement in politics to serve as good role models for their children (Lane, 1959), and children and adolescents' interest in politics can "trickle up" and influence their parents' political engagement (Simon and Merrill, 1998; McDevitt and Chaffee, 2002; Linimon and Joslyn, 2002). Furthermore, new parents' exposure to new social networks and/or increased government support may affect their interest in politics.[6]

Overall, there is no clear theoretical prediction of the impact of children on turnout. However, the negative impact driven by time, energy, and financial constraints may be largest in the earliest years of a child's life while the positive impact of preferences may be particularly important as children reach school age. Furthermore, comparisons across state voting systems can provide insight into the relative importance of cognitive costs and physical/logistical costs. While the cognitive costs of voting are likely similar across states, the physical/logistical costs can vary based on the availability of nontraditional voting systems.

3 Data

The data used in this analysis comes from the Current Population Survey (CPS) voter and registration supplement (VRS), issued to respondents of the basic monthly CPS in November of midterm and presidential election years. The data was obtained from IPUMS (Flood, King, Ruggles, and Warren, 2018). In the VRS, individuals are asked if they are eligible to vote, and whether they were registered and voted in the most recent election. I define the main variable "voted" as one if the individual voted in the most recent election

[6]For example, Baicker and Finkelstein (2019) find that receipt of Medicaid from a government expansion increased voter turnout in Oregon.

and zero if she was eligible but did not vote.[7] Individuals are excluded if they were not eligible to vote. The paper focuses on the years 1992-2018.

The CPS-VRS is the largest source for information on voter turnout tied to individual demographic information across all 50 states. It has been widely used in studies on turnout in economics and political science [e.g., Washington (2006); Holbein and Hillygus (2016); Amuedo-Dorantes and Lopez (2017); Corman, Dave, and Reichman (2017); Cascio and Shenhav (2020)]. One potential concern is that the VRS may overstate turnout rates due to nonresponse bias or "social desirability bias" (in which people may overstate their accordance with a desirable social norm) (Hur and Achen, 2013). However, the estimates in this paper will not be biased unless any over-reporting in the VRS varies systematically with the presence of an infant child. This can be tested with an ordinary least squares regression in which the dependent variable is the difference between the VRS and official turnout rate and the main explanatory variable is the fraction of voting-eligible women or men ages 18-39 with a child under one. The results of this regression shown in Table A1 in the Appendix indicate no significant relationship between over-reporting of turnout and the presence of infants at the state level. If anything, over-reporting is higher in states where a greater fraction of men and women have infants in the household. Thus any bias should drive the coefficient on an infant child up (toward zero), making the results obtained in this paper an underestimate of the link between infants and turnout. As an additional check, in the Appendix I also show that the main results are substantively unchanged with the adjustments recommended by Hur and Achen (2013) to correct the VRS sample for over-response by re-weighting individual responses at the state-year level.

Information from the VRS can be tied to details from the basic monthly CPS to track individuals' age, race, number and age of children in the household, and other characteristics. The sample is restricted to those ages 18-39, since most have children at or before age 39 and are not eligible to vote before 18.[8] Furthermore, restricting the

[7]The results are robust to coding "voted" as one if the individual voted in the most recent election and zero if she was eligible but did not vote, didn't know, or refused to answer the question as in Burden et al. (2014), reported in Table A4 in the Appendix.

[8]In the CPS sample, less than two percent of women and less than four percent of men over 39 have an infant (child under one) in the household.

upper age limit to 39 ensures that most children of a given parent are under age 18 and are likely still in the household. The CPS only tracks children in the same household as the parent, and thus having children in the household is tied more closely to actual fertility of women than men.[9]

The unique structure of the CPS enables the tracking of individuals' current and future (within-household) fertility. Individuals in the CPS are interviewed for four months, removed from the survey for eight months, and then interviewed again for four months. For all individuals in the CPS, there is information on age of children in the household (therefore past fertility). Additionally, for the half of respondents who are in their first four months of the CPS in an election year, they can be linked to their own interview (and information on household composition) a year later when they are in their last four months of the survey. Thus, election year outcomes can be tied to future fertility as measured by the presence of an infant in the household the following year. This provides a unique opportunity to explore the turnout of some (will-be) parents the year before they have a child.

Table 1 provides summary statistics on the final sample of voting-eligible individuals ages 18-39. As shown, about half of the women in the sample report voting in the most recent election and the figure is slightly lower for men.[10] A large fraction of both men and women have completed high school, over half have some form of college education, and about one-fourth have a bachelor's degree. About seven percent of women and five percent of men have a child under seven in the household.

4 Baseline Results

I begin examining the relationship between children and turnout with a linear probability model. I create indicators for having a child in the household who is under 1,

[9] In 2004, about 62 percent of children lived with two biological parents or two adoptive parents, and almost 30 percent lived with their biological or adoptive mother but not biological or adoptive father (Kreider, 2004).

[10] Note that this is slightly higher than the official turnout statistics, as discussed at the beginning of this section. The results are robust to re-weighting individuals to match aggregate official state-by-year turnout rates using the correction proposed by Hur and Achen (2013), as shown in Table A3 in the Appendix.

age 1, age 2, etc., up to age 17. These are dummy variables for the presence of a child rather than the total number of children of each age because the relationship between an additional child and voting probability may not be linear in the number of children (i.e., having twins under one may have roughly the same effect as having one child under one). Furthermore, while the timing of children under one may be quasi-random, the number of children is likely correlated with a variety of individual characteristics as multiple births are much more common among those who use fertility treatments such as in vitro fertilization (who do not share the average characteristics of the population) (Chauhan, Scardo, Hayes, Abuhamad, and Berghella, 2010).[11]

The following linear probability model is run:

$$y_{i,s,t} = \alpha + \sum_{j=0}^{17} \beta^j CHILD^j_{i,s,t} + \sum_{k=1}^{K} \phi^k x^k_{i,s,t} + \eta_{s,t} + \epsilon_{i,s,t} \quad (1)$$

where $y_{i,s,t}$ is equal to 1 if individual i in state s at time t voted, and 0 otherwise. $CHILD^j$ is a dummy variable that equals 1 if there is a child of age j in the household, and $x^k_{i,s,t}$ represent k individual characteristics that can affect voting behavior including age dummies; marital status; whether voting behavior is reported by self or proxy; whether one is a naturalized citizen; race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic/Latino, Asian with the omitted category of "other"); duration at current residence (indicators for less than 1 year, 1-2 years, 3-4 years, with the omitted category being 5 years or longer);[12] and an indicator for whether the individual has at least a high school education, some college, and a bachelor's degree.[13] State-by-year fixed effects, $\eta_{s,t}$, control for a variety of state-year specific factors that affect turnout such as concurrent elections for senate or governor or the competitiveness of the presidential race in a given state. Finally, $\epsilon_{i,s,t}$ is an individual error term.[14]

Table 2, columns (1) and (3), display the coefficient estimates on $CHILD^j$ (the

[11]Footnote 16 discusses the relationship between the number of infants and voter turnout.

[12]In cases where there is no information on duration at residence, a dummy for "missing" is given a value of one.

[13]These are standard controls in models of voter turnout, see, e.g., Burden et al. (2014).

[14]Using a linear probability model provides the advantage of ease in interpretation. Marginal effects from a probit model are similar to the estimates obtained from OLS. These are available upon request.

presence of a child of age j) for women and men, respectively. The coefficients on child's age 0-6 are shown in the table. While dummy variables for having a child of each age through 17 are included in the specifications, the full set of coefficients is not shown due to space constraints. As shown, voting rates are substantially lower among those with young children, especially infants. Relative to those without children in the household, women with infants are 3.5 percentage points (6.5 percent) less likely to vote and women with children ages 1-4 are about 1.5 percentage points (2.7 percent) less likely to vote. The decline is smaller in magnitude for men: those with children under one are 2.3 percentage points (5 percent) less likely to vote while the coefficient is smaller for a child ages 1-4 and then turns weakly positive when the child reaches age six. This may represent increased interest in public schools when a child reaches school age (Jennings, 1979).

While the estimates in columns (1) and (3) point to a negative association between turnout and having a young child, there are potential concerns with a causal interpretation. First, conditional on own age, individuals who have young children may differ from those who do not along characteristics such as religious affiliation that in themselves affect turnout. Second, other transitions that occur around the time of a birth (e.g., cohabitation with a partner, a home purchase) may affect voting rates. To test for these confounders, I examine voting behavior the year before an individual has a child using the panel nature of the CPS. Since the CPS surveys people for four months, removes them from the sample for eight months, and then surveys them again for four months, individuals can be identified as having a child who is "-1 years old" if the parent is first surveyed in an election year and then has a new child in the household when surveyed 9-15 months later.[15,16] Individuals with an infant and those one year out from having a child are likely

[15]I exclude those who answer the voting question in November and then are interviewed and have a new child the following December, January, or February. This group does not provide an appropriate couterfactual for parents of infants given the physical difficulties associated with voting in the final trimester. This group experiences a decrease in turnout of 3.9 percentage points (females) and 2.9 percentage points (males) relative to those without children. Those who are not interviewed in December, January, and February but have a child the next year are included in the "child age -1" group, since it cannot be observed whether these individuals are in their third trimester in November. The results are similar if the sample is restricted to those interviewed through February after the election year.

[16]There will be missing information on "child age -1" for two groups: 1) those who are in the second year of the CPS in the election year and 2) those who are in the first year of the CPS in the election year but not followed into the next year. I include dummy variables for both of these groups. Table A2 in the Appendix shows the results are similar if I exclude both of these groups from the regressions.

similar in unobserved characteristics. Furthermore, many transitions such as marriage or home purchases are likely already to have occurred 9-15 months before the birth of a child. As shown in columns (2) and (4), there is no association between having a child in the next year and voter turnout, providing evidence that the "infant/young child penalty" observed is causal and not driven by differences in unobserved characteristics or other life transitions occurring around the same time. Figure 1 displays the coefficients on all child ages, providing a visual representation of the impact of young children on voting. The figure highlights the substantial decrease in turnout during the first year of the child's life, especially for mothers.[17]

4.1 Heterogeneity

Which parents experience the greatest "infant penalty" in voter turnout? As noted in Section 2 above, those with less financial security or childcare assistance may be less able to overcome the costs of voting. Since many demographic characteristics (especially age, education, and marital status) may affect and proxy for resources, I run the regression given in equation (1) interacting demographic characteristics with having a child below age one. I keep indicators for having a child of age one, two, etc., and individual controls such as education and race as listed above, but do not interact other children's ages with demographic characteristics. Therefore, the coefficients on the interactions of child below age one with demographic characteristics can be interpreted as the difference in turnout for parents with infants relative to those without children in the household, controlling for the average effects of demographic characteristics across all individuals.

The coefficients on the interactions are shown in Table 3 for mothers and Table 4 for fathers. Focusing first on mothers of infants (henceforth called new mothers), there are substantial differences by age: new mothers under age 30 turn out at rates that are 4.6 percentage points lower than other women with similar characteristics (a 10.5 percent

[17]Results with adjustments to individual weights as recommended in Hur and Achen (2013) are in Appendix Table A3. Results with an alternative construction giving a value of zero to those who did not answer the voting question (rather than excluding them) are available in Table A4. In both, coefficient estimates for a child under one remain negative and significant and the coefficient on "child age -1" remains insignificant for both genders.

decrease on a mean of 43.8 percent), while new mothers aged 30-39 turn out at rates that are 2.0 percentage points lower (a 3.4 percent decrease on a mean of 58.1 percent). As shown in the base of the table, the effects are statistically different with an equality p-value of 0.002. There are also differences by education and marital status. New mothers with a bachelor's degree or more turn out at rates that are 3.6 percentage points (5.2 percent) lower, whereas turnout is 2.5 percentage points (7.3 percent) lower for new mothers with high school or less and 4.8 percentage points (9.1 percent) for new mothers with some college. Finally, the results indicate that lower turnout among new mothers occurs more strongly among those who are unmarried (5 percentage points, or 10.9 percent) versus married (2.8 percentage points, or 5.0 percent). Combined, the heterogeneity results suggest that the lower turnout rates among new members is especially prominent for those with fewer resources.[18]

In addition to individual characteristics, characteristics of the election itself may influence new mothers' turnout. Notably, turnout rates tend to be higher nationally in presidential than midterm years. However, as shown in the final column, there are no significant differences by election type. Mothers with infants in presidential years have turnout that is 3.9 percentage points lower (6.3 percent on a mean of 61.9 percent), while mothers with infants in midterm years have turnout that is 3.1 percentage points lower (7.9 percent on a mean of 38.9 percent).

Table 4 shows heterogeneity for fathers. Like mothers, younger, unmarried, and less educated new fathers turn out at low rates relative to those without children (although the differences across education groups are only marginally significant with a p-value of 0.130). Fathers also show heterogeneity by race, with new Black fathers and those of other races experiencing much lower turnout than others.

[18]Tests across infant birth order (first-born versus second-born, controlling for mother's age) and sex reveal no significant differences. I also consider whether the impacts differ by the number of children under age one by interacting the indicator for a child under the age of one with the number of children in this age range (one child or two children or more). Conditional on having at least one child under age one, there is no significant association between the number of children under age one and the likelihood of voting. However, as noted above, these results should be treated with caution since the presence of multiple children is not necessarily exogenous and may be due to the use of in vitro fertilization (among other factors).

4.2 Registration

The act of registering to vote imposes time and/or effort costs that have been shown to be a barrier to turnout, especially for young voters (Holbein and Hillygus, 2016). Examining the link between young children and registration provides insight into whether the "infant voting penalty" is primarily driven by the increased costs of registration or the increased costs of voting conditional on registration. Table 5 repeats Table 2 with registration as the dependent variable, which is given a value of one if the individual reports that she voted or that she did not vote but was registered to vote and the dependent variable is given a value of zero if she reports not being registered to vote. Individuals are omitted from the sample if they did not know if they were registered or refused to answer the question about registration.[19]

Table 5 shows that the link between young children and registration rates is small in magnitude. For women, having a child under age five lowers registration by about one percentage point (1.5 percent on a mean of 71 percent), but there is no especially strong penalty for infants. For men, the coefficients on young children are generally negative but only that on a child of age four is statistically significant. These results indicate that the "infant penalty" is not primarily acting through lower registration rates, but lower voting rates conditional on registration. In the next section, I turn to state voting systems to examine the role of barriers such as getting to the polls on turnout rates for parents of infants.

5 State Voting Systems

Can certain state policies mitigate the negative relationship between infants and parents' turnout? In all states, individuals are able to obtain an absentee ballot for a set of established excuses such as being on military duty or disabled, but care for an infant is not typically included as a valid excuse.[20] Since the late 1980s, many states have enacted

[19]In more recent years, it is more difficult to assess registration separately from voting since increases in Election Day registration make the combination of these activities more likely.

[20]See https://www.vote.org/absentee-voting-rules/.

additional policies designed to allow voting at alternative times or locations. These include the following: vote-by-mail, wherein all individuals registered to vote are mailed a ballot and return the ballot by mail or in person; early voting, wherein individuals are able to go to a polling place for a set number of days prior to election day; permanent absentee, wherein individuals can request an "absentee" (mail) ballot for all elections with one request; and no-excuse absentee, where individuals can request an absentee ballot even without an approved excuse. There has also been an increase in non-traditional forms of registration including election day registration, which allows individuals to register and then vote on the same day and automatic voter registration, wherein all individuals are automatically registered to vote after any interaction with government agencies such as the state Department of Motor Vehicles (DMV). Figure A1 shows the increase in nontraditional voting and registration over time.

Overall, these nontraditional policies enable parents to vote more easily by lowering the physical costs of going to the polls (in the case of vote-by-mail, permanent absentee, or no-excuse absentee), enabling them to vote at more convenient times (early voting), or allowing them to register more easily (election day registration or automatic registration). However, vote-by-mail provides the greatest potential benefit because it reduces physical costs without requiring additional logistical work to request an absentee ballot. Furthermore, the limited impact of infants on registration as highlighted above suggests that reforms enabling easier registration may have only a marginal effect.

Since vote-by-mail systems theoretically offer the greatest benefits to parents of infants, I primarily focus on these systems. Three states enacted vote-by-mail systems between 1992 and 2018: Oregon (in 2000), Washington (in 2012), and Colorado (in 2013).[21] However, Colorado experienced a widespread increase in the fraction of people utilizing permanent absentee rules to mail in their ballots six years before the state fully implemented vote-by-mail, a movement that was in part driven by the 2008 Obama campaign's efforts to increase

[21]Data on state voting systems was provided through personal correspondence with the Pew Research Center based on a published report (DeSilver and Geiger, 2016). I make one change to Pew's classifications. Although the state of Washington did not adopt vote-by-mail statewide until 2012, all but one county used vote-by-mail in 2010. Therefore, I classify Washington as a vote-by-mail state from 2010 forward. The results are similar if Washington is not classified as a vote-by-mail state until 2012.

turnout in the state (Johnson, 2008). In the three elections prior to the implementation of statewide vote-by-mail, over half of Colorado's voters were mailing in their ballots, leading to difficulty in pinpointing the timing of this "treatment."[22] Therefore, I omit Colorado in the main results and provide evidence in the appendix that the results are not sensitive to its inclusion.[23]

I use a difference-in-difference-in-differences (triple difference) design that compares voting rates across individuals within states over time. Specifically, I compare the difference in turnout between parents with infants and others within each state before and after the state adopts a vote-by-mail system, while controlling for national differences in voting between those with infants and others over time. The following linear probability model is used:

$$y_{i,s,t} = \alpha + \beta_{MAIL} MAIL_{s,t} * CHILD^0_{i,s,t} + \sum_{j=1}^{17} \beta^j CHILD^j_{i,s,t} + \sum_{k=1}^{K} \phi^k x^k_{i,s,t} + \eta_{s,t} + \gamma_{s,CHILD^0} + \delta_{t,CHILD^0} + \epsilon_{i,s,t} \quad (2)$$

where $MAIL_{s,t}$ reflects whether state s at time t has vote-by-mail and $CHILD^0_{i,s,t}$ is an indicator for whether the individual has an infant in the home. State-by-year fixed effects (η) control for differences in turnout related to factors such as the competitiveness of the election in a given state and year. The interaction of state fixed effects (γ) and year fixed effects (δ) with having a child under age one account for differences in who becomes a parent across states and across time. All other variables are as defined above. I also include additional controls for vote-by-mail systems interacted with individual (own) age dummies to isolate the impact of vote-by-mail on parents with infants from any impacts of vote-by-mail on the age profile of voting. For example, if those who are 25 increase turnout as a result of vote-by-mail systems and also are very likely to have an infant, failing to control for age interacted with vote-by-mail would bias the estimate upward.

Table 6 displays the results. The first column indicates that vote-by-mail systems increase voting among women with infants by 5.0 percentage points relative to other

[22] According to the VRS, 53, 60, and 61 percent of Colorado voters sent in their ballots by mail in 2008, 2010, and 2012, respectively.

[23] See Table A5 in the Appendix.

women in the state and relative to women with infants in states without vote-by mail systems. Interestingly, this is somewhat larger in magnitude than the association between having an infant and voter turnout from Table 2, indicating that vote-by-mail systems eliminate the infant penalty on women's turnout. Column (3) provides suggestive evidence that vote-by-mail may also increase turnout among men with infants.

Since states could have adopted other policies prior to vote-by-mail or in conjunction with vote-by-mail, in column (2) (respectively, column (4) for males) I control for the interaction of these other voting systems with a child under age one.[24] As in columns (1) and (3), I also include controls for the interaction of each voting system with age to account for their effects on the age profile of voting. If anything, the inclusion of these controls strengthens the results for females; the results remain on the margin of statistical significance for males. No other voting systems affect turnout rates for parents of infants.[25]

Although the controls in columns (2) and (4) account for reforms that states may pass in the years prior to vote-by-mail systems, there may be other movements within the states driving both implementation of vote-by-mail policies and higher turnout among women with infants. There is even a possibility for reverse causality: high turnout rates among women with infants could lead to implementation of vote-by-mail systems. To test for this possibility, I perform an event study to explore pre-trends. I use equation (2), interacting $\gamma_{s,CHILD^0}$ with dummies indicating the passage of time before/after the reform. As above, I also interact age dummies with the amount of time before/after the reform to account for changes in the age profile of voting. I also include the full set of controls for the presence of other state voting systems (as in columns (2) and (4) of Table 6) and age dummies interacted with these. Because turnout rates are substantially different between midterm and presidential elections, I group the elections together into four-year periods.

The event study coefficients and 95 percent confidence intervals are shown in Figure 2, with the period 2-4 years before the implementation of vote-by-mail set to zero. The

[24]Data on election day registration and automatic voter registration comes from the National Conference of State Legislators. See https://www.ncsl.org/research/elections-and-campaigns/same-day-registration.aspx. and https://www.ncsl.org/research/elections-and-campaigns/automatic-voter-registration.aspx.

[25]The results for mothers are robust to the inclusion of Colorado, as shown in Appendix Table A5. The results for fathers are not robust to the inclusion of Colorado.

panels do not suggest evidence of pre-trends for new parents of either gender before the passage of vote-by-mail reforms. After the reform, panel (a) shows immediate increases in new mothers' turnout while panel (b) indicates that increases in new fathers' turnout occur 4-6 years after the reform, possibly indicating a later utilization of this system.

These results indicate that the act of physically going to the polls may pose a barrier to political participation for those with infants, especially women. However, the ability to vote at an alternate location does not increase mothers' turnout if it requires additional logistical costs such as requesting an absentee ballot. This suggests that states concerned about the barriers faced by new mothers may be able to mitigate them with statewide vote-by-mail systems.

6 Conclusion

Voting is a fundamental act of democracy. As a result, it is important for governments to know how life events such as the birth of a child affect parents' political engagement and which policies can mitigate any negative effects. This paper provides a first exploration of the impact of infant children on voting in the United States. Relative to those without children, women with an infant in an election year are 3.5 percentage points (6.8 percent) less likely to vote and men are 2.3 percentage points (5 percent) less likely to vote. There is no significant association between turnout and having a child next year, suggesting that the negative link between infants and turnout is causal. This effect is particularly strong among young, unmarried, and less-educated parents. Furthermore, non-traditional voting systems such as vote-by-mail mitigate these negative effects for mothers.

This paper contributes to a nascent literature on the impact of children on voter turnout, providing analysis for U.S. context and an exploration of the impact of nontraditional voting on the "infant penalty." Future projects could further explore how other state policies surrounding voting (including poll opening hours, etc.) interact with parental responsibilities to affect voter turnout.

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Tables and Figures

Table 1: Summary Statistics

	Females		Males	
	mean	sd	mean	sd
Own Age	28.62	6.35	28.51	6.38
Child Under Age 1	0.07	0.25	0.05	0.22
Child Age 1	0.07	0.26	0.05	0.23
Child Age 2	0.07	0.26	0.05	0.23
Child Age 3	0.07	0.26	0.05	0.22
Child Age 4	0.07	0.26	0.05	0.22
Child Age 5	0.07	0.25	0.05	0.21
Child Age 6	0.07	0.25	0.05	0.21
Number of own children in household	1.00	1.22	0.66	1.09
Non-Hispanic White	0.67	0.47	0.69	0.46
Non-Hispanic Black	0.15	0.35	0.13	0.33
Asian	0.01	0.09	0.01	0.09
Latino	0.12	0.33	0.13	0.33
HS Graduate	0.91	0.29	0.89	0.32
Any College	0.62	0.48	0.55	0.50
College Graduate	0.27	0.44	0.23	0.42
Post College	0.07	0.25	0.06	0.23
Naturalized	0.05	0.21	0.04	0.21
Voted in Most Recent Election	0.51	0.50	0.46	0.50
Observations	251705		233224	

Note: This table shows summary statistics for eligible voters aged 18-39 in the CPS-VRS from 1992-2018. Observations are weighted using the CPS voter supplement weights.

Table 2: Voting and Children's Ages

	Females		Males	
	(1)	(2)	(3)	(4)
Child Next Year (Age -1)		0.004		0.006
		(0.008)		(0.009)
Child Under Age 1	-0.035***	-0.035***	-0.023***	-0.023***
	(0.004)	(0.004)	(0.004)	(0.004)
Child Age 1	-0.016***	-0.016***	-0.009**	-0.009**
	(0.003)	(0.003)	(0.004)	(0.004)
Child Age 2	-0.018***	-0.018***	-0.007	-0.007
	(0.004)	(0.004)	(0.005)	(0.005)
Child Age 3	-0.012***	-0.012***	-0.007	-0.007
	(0.005)	(0.005)	(0.005)	(0.005)
Child Age 4	-0.015***	-0.015***	-0.016***	-0.016***
	(0.004)	(0.004)	(0.004)	(0.004)
Child Age 5	0.001	0.001	-0.002	-0.002
	(0.003)	(0.003)	(0.005)	(0.005)
Child Age 6	0.004	0.004	0.010*	0.010*
	(0.004)	(0.004)	(0.005)	(0.005)
Observations	223118	223118	203463	203463
R^2	0.212	0.212	0.198	0.198

Note: This table shows parameter estimates and standard errors (in parentheses) from estimating equation (1). The dependent variable equals 1 if the individual voted and 0 if she was eligible but did not vote. All regressions include state-by-year fixed effects and controls for race (White, Black, Hispanic, Asian), educational attainment (high school graduate, some college, college graduate, post college), whether the individual is a naturalized citizen, whether the individual is married, whether voting behavior is reported by self or proxy, duration at current residence (indicators for less than 1 year, 1-2 years, and 3-4 years), and own age dummies. All regressions also include indicators for children ages 6-17. Columns (2) and (4) include controls for whether the individual is in the CPS sample the year following a given election and whether the individual is in the CPS for two consecutive years. Observations are weighted using the CPS voter supplement weights. Standard errors clustered at the state level. * p<0.1 ** p<0.05 *** p<0.01

Table 3: Voting and Infant Children, Heterogeneity by Mother's Characteristics

	(1)	(2)	(3)	(4)	(5)
18-29 × Child Under Age 1	-0.046***				
	(0.006)				
30-39 × Child Under Age 1	-0.020***				
	(0.006)				
White × Child Under Age 1		-0.035***			
		(0.005)			
Black × Child Under Age 1		-0.039***			
		(0.010)			
Latino × Child Under Age 1		-0.025**			
		(0.011)			
Other × Child Under Age 1		-0.050**			
		(0.021)			
LEHS × Child Under Age 1			-0.025***		
			(0.006)		
Some College × Child Under Age 1			-0.048***		
			(0.007)		
BA or More × Child Under Age 1			-0.036***		
			(0.007)		
Married × Child Under Age 1				-0.028***	
				(0.005)	
Unmarried × Child Under Age 1				-0.050***	
				(0.007)	
Presidential × Child Under Age 1					-0.039***
					(0.006)
Midterm × Child Under Age 1					-0.031***
					(0.006)
Observations	223118	223118	223118	223118	223118
R^2	0.212	0.212	0.212	0.212	0.212
Equality P Value	0.002	0.501	0.069	0.018	0.354

Note: This table shows parameter estimates and standard errors (in parentheses) from estimating equation (1) with interactions of a child under 1 with various mother's characteristics. The dependent variable equals 1 if the individual voted and 0 if she was eligible but did not vote. All regressions include state-by-year fixed effects and controls for race (White, Black, Hispanic, Asian), educational attainment (high school graduate, some college, college graduate, post college), whether the individual is a naturalized citizen, whether the individual is married, whether voting behavior is reported by self or proxy, duration at current residence (indicators for less than 1 year, 1-2 years, and 3-4 years), and own age dummies. All regressions also include indicators for children ages 1-17. Observations are weighted using the CPS voter supplement weights. Standard errors clustered at the state level. * p<0.1 ** p<0.05 *** p<0.01

Table 4: Voting and Infant Children, Heterogeneity by Father's Characteristics

	(1)	(2)	(3)	(4)	(5)
18-29 × Child Under Age 1	-0.033***				
	(0.007)				
30-39 × Child Under Age 1	-0.016**				
	(0.006)				
White × Child Under Age 1		-0.019***			
		(0.005)			
Black × Child Under Age 1		-0.052***			
		(0.014)			
Latino × Child Under Age 1		-0.011			
		(0.009)			
Other × Child Under Age 1		-0.071***			
		(0.020)			
LEHS × Child Under Age 1			-0.016**		
			(0.006)		
Some College × Child Under Age 1			-0.039***		
			(0.009)		
BA or More × Child Under Age 1			-0.019**		
			(0.007)		
Married × Child Under Age 1				-0.018***	
				(0.005)	
Unmarried × Child Under Age 1				-0.049***	
				(0.014)	
Presidential × Child Under Age 1					-0.024***
					(0.005)
Midterm × Child Under Age 1					-0.022***
					(0.008)
Observations	203463	203463	203463	203463	203463
R^2	0.198	0.198	0.198	0.198	0.198
Equality P Value	0.132	0.014	0.133	0.058	0.798

Note: This table shows parameter estimates and standard errors (in parentheses) from estimating equation (1) with interactions of a child under 1 with various father's characteristics. The dependent variable equals 1 if the individual voted and 0 if he was eligible but did not vote. All regressions include state-by-year fixed effects and controls for race (White, Black, Hispanic, Asian), educational attainment (high school graduate, some college, college graduate, post college), whether the individual is a naturalized citizen, whether the individual is married, whether voting behavior is reported by self or proxy, duration at current residence (indicators for less than 1 year, 1-2 years, and 3-4 years), and own age dummies. All regressions also include indicators for children ages 1-17. Observations are weighted using the CPS voter supplement weights. Standard errors clustered at the state level. * p<0.1 ** p<0.05 *** p<0.01

Table 5: Voter Registration and Children's Ages

	Females		Males	
	(1)	(2)	(3)	(4)
Child Next Year (Age -1)		0.008		0.012
		(0.007)		(0.008)
Child Under Age 1	-0.011***	-0.011**	-0.006	-0.005
	(0.004)	(0.004)	(0.005)	(0.005)
Child Age 1	-0.009**	-0.009**	-0.002	-0.003
	(0.004)	(0.004)	(0.005)	(0.005)
Child Age 2	-0.010**	-0.010**	-0.003	-0.003
	(0.004)	(0.004)	(0.006)	(0.006)
Child Age 3	-0.009**	-0.010**	-0.003	-0.003
	(0.004)	(0.004)	(0.005)	(0.005)
Child Age 4	-0.014***	-0.014***	-0.011**	-0.011**
	(0.004)	(0.004)	(0.005)	(0.005)
Child Age 5	0.001	0.000	-0.004	-0.004
	(0.003)	(0.003)	(0.004)	(0.004)
Child Age 6	0.010***	0.010***	0.003	0.002
	(0.004)	(0.004)	(0.006)	(0.006)
Observations	219107	219107	198311	198311
R^2	0.158	0.158	0.160	0.160

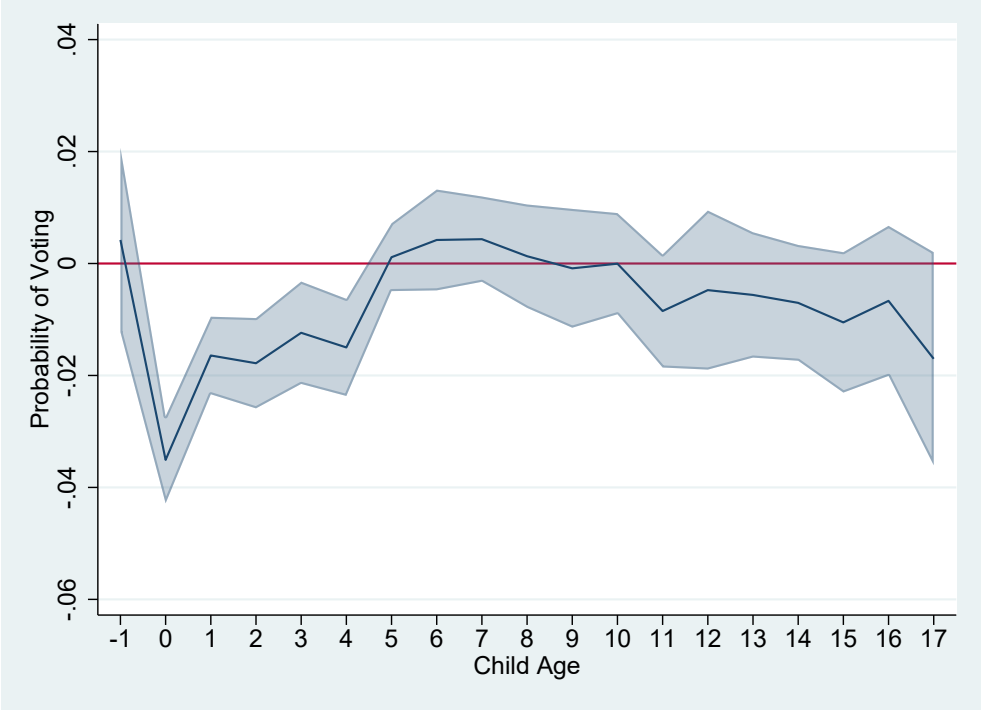
Note: This table shows parameter estimates and standard errors (in parentheses) from estimating equation (1). The dependent variable equals 1 if the individual was registered to vote and 0 if she was eligible to vote but not registered. All regressions include state-by-year fixed effects, controls for race (White, Black, Hispanic, Asian), educational attainment (high school graduate, some college, college graduate, post college), whether the individual is a naturalized citizen, whether the individual is married, whether voting behavior is reported by self or proxy, duration at current residence (indicators for less than 1 year, 1-2 years, and 3-4 years), and own age dummies. All regressions also include indicators for children ages 6-17. Columns (2) and (4) include controls for whether the individual is in the CPS sample the year following a given election and whether the individual is in the CPS for two consecutive years. Observations are weighted using the CPS voter supplement weights. Standard errors clustered at the state level. * p<0.1 ** p<0.05 *** p<0.01

Table 6: Voting Systems and Infant Children

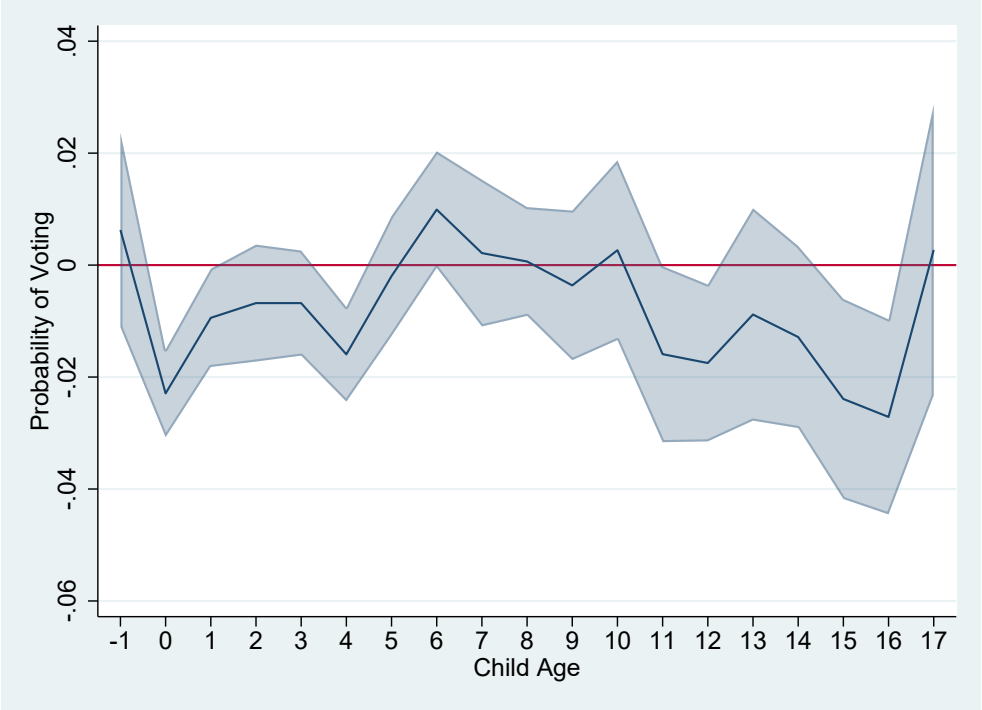
	Females		Males	
	(1)	(2)	(3)	(4)
Vote by Mail x Child Under Age 1	0.050***	0.058***	0.031*	0.047*
	(0.005)	(0.016)	(0.017)	(0.026)
Permanent Absentee x Child Under Age 1		0.005		0.002
		(0.014)		(0.015)
No Excuse Absentee x Child Under Age 1		-0.008		0.010
		(0.012)		(0.021)
Early Voting x Child Under Age 1		0.021		-0.007
		(0.014)		(0.023)
Election Day Registration x Child Under Age 1		0.036		0.011
		(0.025)		(0.028)
Automatic Registration x Child Under Age 1		0.032		-0.034
		(0.029)		(0.051)
Observations	219210	219210	199727	199727
R^2	0.212	0.196	0.198	0.183

Note: This table shows parameter estimates and standard errors (in parentheses) from estimating equation (2). The dependent variable equals 1 if the individual voted and 0 if she was eligible but did not vote. All regressions include state-by-year fixed effects, state by child under 1 fixed effects, year by child under 1 fixed effects, and controls for race (White, Black, Hispanic, Asian), educational attainment (high school graduate, some college, college graduate, post college), whether the individual is a naturalized citizen, whether the individual is married, whether voting behavior is reported by self or proxy, duration at current residence (indicators for less than 1 year, 1-2 years, and 3-4 years), and indicators for children ages 1-17. They also include fixed effects for each age interacted with the voting system(s) studied in each column. Colorado is excluded in all years. Observations are weighted using the CPS voter supplement weights. Standard errors clustered at the state level. * p<0.1 ** p<0.05 *** p<0.01

Figure 1: Voting and Children's Ages



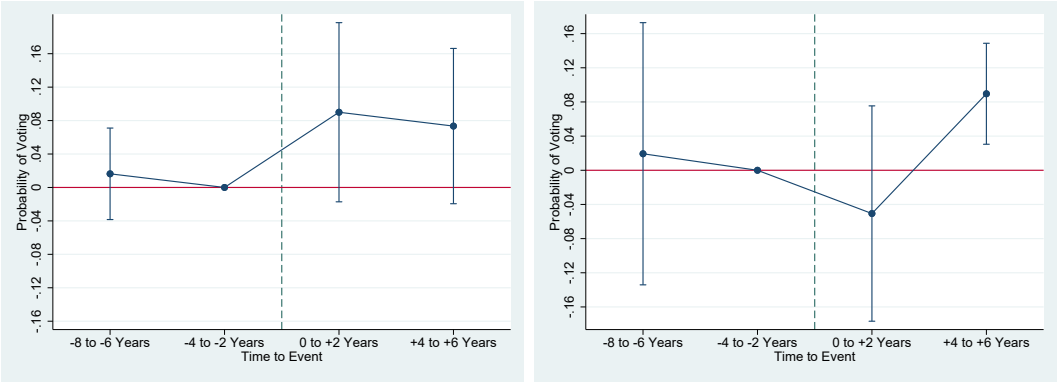
(a) Females



(b) Males

Note: This figure shows the coefficient estimates on having a child of each age based on estimates of equation (1) as shown in Table 2, columns (2) and (4). All regressions include state-by-year fixed effects, controls for race (White, Black, Hispanic, Asian), educational attainment (high school graduate, some college, college graduate, post college), whether the individual is a naturalized citizen,whether the individual is married, whether voting behavior is reported by self or proxy, duration at current residence (indicators for less than 1 year, 1-2 years, and 3-4 years), own age dummies, and controls for whether the individual is in the CPS sample the year following a given election and whether the individual is in the CPS for two consecutive years. The bands represent the 95 percent confidence intervals. Observations are weighted using the CPS voter supplement weights. Standard errors are clustered at the state level.

Figure 2: Vote-by-Mail and Infant Children Event Study



(a) Females (b) Males

Note: This figure shows the coefficient estimates from a regression in which the dependent variable is 1 if the individual voted and 0 if she was eligible but did not vote. The main explanatory variable is the interaction of having a child under 1 with the time to the voting reform. The dashed line represents the timing of vote-by-mail implementation. All regressions include state-by-year fixed effects, controls for race (White, Black, Hispanic, Asian), educational attainment (high school graduate, some college, college graduate, post college), whether the individual is a naturalized citizen,whether the individual is married, whether voting behavior is reported by self or proxy, duration at current residence (indicators for less than 1 year, 1-2 years, and 3-4 years), own age dummies, and controls for whether the individual is in the CPS sample the year following a given election and whether the individual is in the CPS for two consecutive years. Regressions also control for the time before/after the implementation of vote-by-mail interacted with age dummies, the other voting systems present in the state (permanent absentee, early voting, no-excuse absentee, election-day registration, and automatic registration), and the interaction of these voting systems with age. The bands represent the 95 percent confidence intervals. Colorado is excluded in all regressions. Observations are weighted using the CPS voter supplement weights. Standard errors are clustered at the state level.

Appendix

Table A1: CPS Versus Official Turnout and Children Under 1

	(1)	(2)	(3)	(4)
CPS Women Ages 18-39 with Child Under 1	0.044	0.030		
	(0.068)	(0.066)		
CPS Men Ages 18-39 with Child Under 1			0.040	0.045
			(0.068)	(0.064)
State FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Demograhpic Controls	No	Yes	No	Yes
Observations	663	663	663	663
R^2	0.648	0.759	0.648	0.759

Note: This table shows parameter estimates and standard errors (in parentheses) from a regression in which the dependent variable is the CPS turnout rate minus the official turnout rate. Observations are at the state-year level. Demographic controls include the fraction women of each age, fraction female, fraction Non-Hispanic White, fraction Non-Hispanic Black, fraction Latino, fraction Asian, fraction with high school degrees, fraction with any college, fraction with college degrees, fraction with post college, fraction naturalized citizens, fraction self-reporting voting behavior, and fraction with missing information on whether voting was self-reported. Observations are weighted by state population in each year. Standard errors are clustered at the state level. * p<0.1 ** p<0.05 *** p<0.01

Table A2: Voting and Children's Ages, in CPS Next Year

	Females		Males	
	(1)	(2)	(3)	(4)
Child Next Year (Age -1)		0.002		0.006
		(0.008)		(0.009)
Child Under Age 1	-0.031***	-0.031***	-0.021***	-0.021***
	(0.008)	(0.008)	(0.006)	(0.007)
Child Age 1	-0.010	-0.010	-0.007	-0.007
	(0.007)	(0.007)	(0.008)	(0.008)
Child Age 2	-0.018***	-0.019***	-0.008	-0.008
	(0.006)	(0.006)	(0.006)	(0.006)
Child Age 3	-0.018**	-0.018**	0.001	0.001
	(0.007)	(0.007)	(0.010)	(0.010)
Child Age 4	-0.012*	-0.012*	-0.011	-0.011
	(0.006)	(0.006)	(0.009)	(0.009)
Child Age 5	0.008	0.008	0.008	0.008
	(0.007)	(0.007)	(0.011)	(0.011)
Child Age 6	0.007	0.007	0.015	0.015*
	(0.006)	(0.006)	(0.009)	(0.009)
Observations	70815	70815	64014	64014
R^2	0.210	0.210	0.202	0.202

Note: This table shows parameter estimates and standard errors (in parentheses) from estimating equation (1) only including those in the CPS in a given election year and also in the subsequent year. The dependent variable equals 1 if the individual voted and 0 if she was eligible but did not vote. All regressions include state-by-year fixed effects, controls for race (White, Black, Hispanic, Asian), educational attainment (high school graduate, some college, college graduate, post college), whether the individual is a naturalized citizen, whether the individual is married, whether voting behavior is reported by self or proxy, duration at current residence (indicators for less than 1 year, 1-2 years, and 3-4 years) and own age dummies. All regressions also include indicators for children ages 6-17. Columns (2) and (4) include controls for whether the individual is in the CPS sample the year following a given election and whether the individual is in the CPS for two consecutive years. Standard errors clustered at the state level. * p<0.1 ** p<0.05 *** p<0.01

Table A3: Voting and Children's Ages with Hur and Achen Adjustments

	Females		Males	
	(1)	(2)	(3)	(4)
Child Next Year (Age -1)		0.004		0.009
		(0.008)		(0.009)
Child Under Age 1	-0.032***	-0.032***	-0.021***	-0.021***
	(0.004)	(0.004)	(0.004)	(0.004)
Child Age 1	-0.014***	-0.014***	-0.006	-0.006
	(0.003)	(0.003)	(0.004)	(0.004)
Child Age 2	-0.014***	-0.014***	-0.003	-0.004
	(0.004)	(0.004)	(0.005)	(0.005)
Child Age 3	-0.009**	-0.010**	-0.004	-0.004
	(0.005)	(0.005)	(0.004)	(0.004)
Child Age 4	-0.012***	-0.012***	-0.012***	-0.012***
	(0.004)	(0.004)	(0.004)	(0.004)
Child Age 5	0.004	0.003	0.001	0.001
	(0.003)	(0.003)	(0.005)	(0.005)
Child Age 6	0.005	0.005	0.012**	0.012**
	(0.004)	(0.004)	(0.005)	(0.005)
Observations	223118	223118	203463	203463
R^2	0.203	0.203	0.183	0.183

Note: This table shows parameter estimates and standard errors (in parentheses) from estimating equation (1) with adjustments to the CPS voter supplement weights as provided by Hur and Achen (2013). The dependent variable equals 1 if the individual voted and 0 if she was eligible but did not vote. All regressions include state-by-year fixed effects, controls for race (White, Black, Hispanic, Asian), educational attainment (high school graduate, some college, college graduate, post college), whether the individual is a naturalized citizen, whether the individual is married, whether voting behavior is reported by self or proxy, duration at current residence (indicators for less than 1 year, 1-2 years, and 3-4 years) and own age dummies. All regressions also include indicators for children ages 6-17. Columns (2) and (4) include controls for whether the individual is in the CPS sample the year following a given election and whether the individual is in the CPS for two consecutive years. Standard errors clustered at the state level. * p<0.1 ** p<0.05 *** p<0.01

Table A4: Voting and Children's Ages, Alternative Coding of Voter Turnout

	Females		Males	
	(1)	(2)	(3)	(4)
Child Next Year (Age -1)		0.003		0.008
		(0.007)		(0.007)
Child Under Age 1	-0.030***	-0.030***	-0.014***	-0.014***
	(0.004)	(0.004)	(0.004)	(0.004)
Child Age 1	-0.013***	-0.013***	-0.002	-0.002
	(0.003)	(0.003)	(0.004)	(0.004)
Child Age 2	-0.015***	-0.015***	-0.001	-0.001
	(0.004)	(0.004)	(0.005)	(0.005)
Child Age 3	-0.010**	-0.011**	-0.003	-0.004
	(0.004)	(0.004)	(0.004)	(0.004)
Child Age 4	-0.012***	-0.013***	-0.010**	-0.010***
	(0.004)	(0.004)	(0.004)	(0.004)
Child Age 5	0.002	0.002	0.002	0.002
	(0.003)	(0.003)	(0.005)	(0.005)
Child Age 6	0.005	0.004	0.014***	0.014***
	(0.004)	(0.004)	(0.005)	(0.005)
Observations	251705	251705	233224	233224
R^2	0.253	0.253	0.232	0.233

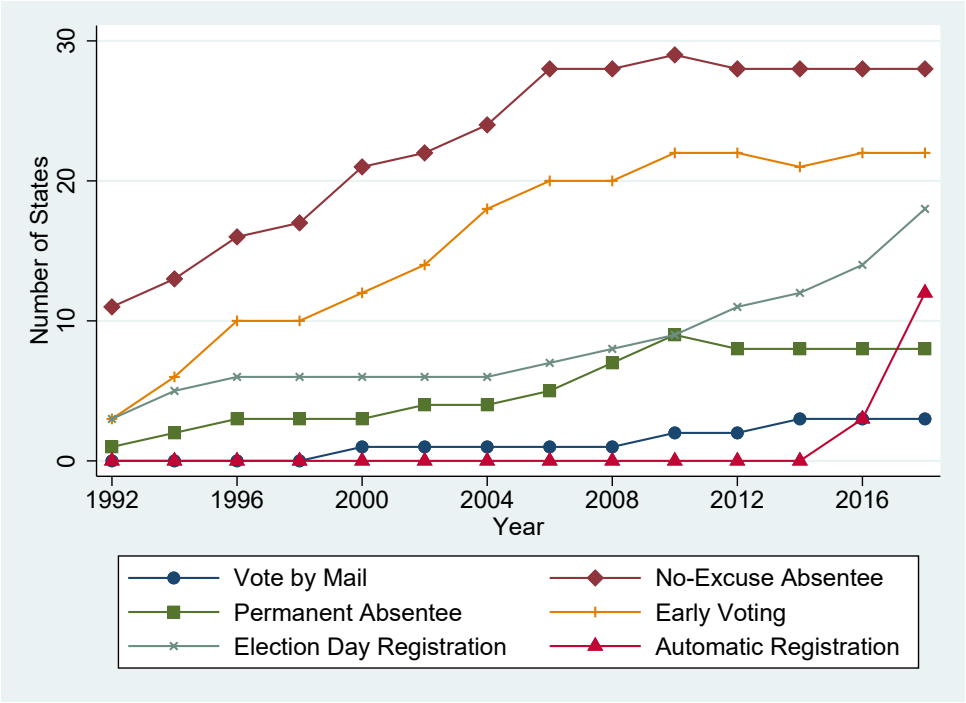
Note: This table shows parameter estimates and standard errors (in parentheses) from estimating equation (1). The dependent variable equals 1 if the individual voted. The dependent variable equals 0 if the individual did not vote, refused to answer, or did not respond to the voting question. All regressions include state-by-year fixed effects, controls for race (White, Black, Hispanic, Asian), educational attainment (high school graduate, some college, college graduate, post college), whether the individual is a naturalized citizen, whether the individual is married, whether voting behavior is reported by self or proxy, duration at current residence (indicators for less than 1 year, 1-2 years, and 3-4 years), and own age dummies. All regressions also include indicators for children ages 6-17. Columns (2) and (4) include controls for whether the individual is in the CPS sample the year following a given election and whether the individual is in the CPS for two consecutive years. Observations are weighted using the CPS voter supplement weights. Standard errors clustered at the state level. * p<0.1 ** p<0.05 *** p<0.01

Table A5: Voting Systems and Infant Children, Including Colorado

	Females		Males	
	(1)	(2)	(3)	(4)
Vote by Mail x Child Under Age 1	0.034**	0.046**	-0.019	-0.002
	(0.016)	(0.020)	(0.049)	(0.048)
Permanent Absentee x Child Under Age 1		0.000		-0.004
		(0.014)		(0.015)
No Excuse Absentee x Child Under Age 1		-0.004		0.012
		(0.012)		(0.021)
Early Voting x Child Under Age 1		0.016		-0.006
		(0.014)		(0.021)
Election Day Registration x Child Under Age 1		0.041		0.018
		(0.026)		(0.028)
Automatic Registration x Child Under Age 1		0.016		-0.045
		(0.032)		(0.051)
Observations	223118	223118	203463	203463
R^2	0.212	0.196	0.198	0.184

Note: This table shows parameter estimates and standard errors (in parentheses) from estimating equation (2). The dependent variable equals 1 if the individual voted and 0 if she was eligible but did not vote. All regressions include state-by-year fixed effects, state by child under 1 fixed effects, year by child under 1 fixed effects, and controls for race (White, Black, Hispanic, Asian), educational attainment (high school graduate, some college, college graduate, post college), whether the individual is a naturalized citizen, whether the individual is married, whether voting behavior is reported by self or proxy, duration at current residence (indicators for less than 1 year, 1-2 years, and 3-4 years), and indicators for children ages 1-17. They also include fixed effects for each age interacted with the voting system(s) studied in each column. Observations are weighted using the CPS voter supplement weights. Standard errors clustered at the state level. * p<0.1 ** p<0.05 *** p<0.01

Figure A1: Nontraditional Voting Systems by Year



Sources: Personal correspondence with the Pew Research Center, based on DeSilver and Geiger (2016), and the National Conference of State Legislatures' reports on Early Registration and Automatic Registration.