NBER WORKING PAPER SERIES

DOES REMOTE WORK INCREASE FERTILITY?

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Working Paper 35881
http://www.nber.org/papers/w35881

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
October 2026

For helpful discussions and feedback, I thank Raj Chetty, Scott Carrell, Gordon Dahl, Michael Dinerstein, Mark Duggan, Jamie Fogel, Andrew Garin, Laura Giuliano, Felipe Goncalves, Dan Herbst, Edvin Hertegard, Melissa Kearney, Lars Lefgren, and Till von Wachter. This work has been supported by the Smith Richardson Foundation. All errors my own. The views expressed herein are those of the author and do not necessarily reflect the views of the National Bureau of Economic Research.

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NBER Working Paper No. 35881
October 2026
JEL No. J12, J13, J16, J22, J81

ABSTRACT

Does working from home increase fertility? I study the 2020 expansion of remote work by comparing changes in births across U.S. college graduates whose majors differed in pre-pandemic teleworkability. Measuring exposure by college major avoids relying on occupations workers may have chosen in response to the expansion. Among married women, a one-standard-deviation increase in teleworkability reduced annual birth rates by 2 percent and increased full-time employment by 1.3 percent. I find no statistically significant effects on fertility among men or unmarried women, or on marriage or divorce. Accounting exercises suggest that increased employment can explain about half of the decline in births. The results suggest that returning to pre-pandemic telework levels would raise the total fertility rate by 0.09 births per woman.

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1 Introduction

The U.S. total fertility rate fell to a record low of 1.6 births per woman in 2024 (Osterman et al., 2026). Commentators and economists have proposed remote work as a way to raise fertility (Carney, 2025; Rogelberg, 2026). By eliminating commuting, increasing flexibility, and allowing families to live near relatives or in cheaper housing, remote work could reduce the cost of having children.

The evidence for the claim is largely correlational. In surveys of adults aged 20 to 45 in 38 countries, estimated lifetime fertility is 0.32 children higher when both partners work from home at least one day a week than when neither does (Davis et al., 2026). Workers choose their jobs, however, and workers who want children may seek out jobs that can be done from home. The effect on fertility is theoretically ambiguous. Remote work may reduce the time cost of raising children, but it may also make employment more feasible for mothers, increasing the opportunity cost of childbearing (Becker, 1960; Goldin, 2014). Working and caring for children in the same home may also create competing demands for time and space, potentially reorienting home life around work rather than the reverse.

I estimate the effect of telework on births using the sudden expansion of telework in 2020 and differences in teleworkability across college majors. I assign each college graduate the average teleworkability (Dingel and Neiman, 2020) of the jobs held before the pandemic by graduates of the same major. Most workers chose a major years before 2020. This measure avoids assigning exposure based on occupational choices made after the expansion. I compare births across majors before and after 2020 in the American Community Survey (ACS), which provides 1.9 million observations on college-educated women of childbearing age between 2015 and 2024.

Graduates of teleworkable majors shifted to working from home in 2020. A one standard deviation increase in the teleworkability of a woman's major raised the probability that she worked from home by 3.9 percentage points after 2020, a 67 percent increase over the pre-pandemic mean. Before 2020, trends in working from home differed little by major teleworkability.

The expansion of telework did not raise births. A one standard deviation increase in teleworkability reduced the annual birth rate by 0.13 percentage points after 2020, or 1.9 percent of the pre-pandemic mean. The 95 percent confidence interval excludes any increase in births. The pre-pandemic estimates show no statistically significant differential trend in births by major teleworkability. Births reported in 2020, which largely reflect conceptions before the pandemic, did not change (0.02 points). The decline is concentrated among married women. Births to married women fell 0.22 percentage points, and births to unmarried women did not change. Teleworkability predicted a larger increase in working from home for men than for women, but no statistically significant change in men's fertility. This pattern suggests that the fertility response depends on how remote work changes women's employment and caregiving decisions, rather than simply allowing either parent to work at home. Consistent with this interpretation, time-use data show that telework increased the time men spent at home but did not significantly increase their time spent on childcare.

Rates of marriage and divorce did not change for either sex, so the decline in births among married women

does not likely reflect a change in which women are married.[1]

Full-time employment among married women rose 0.8 percentage points (1.3 percent) per standard deviation of teleworkability. Average hours among employed married women did not change significantly, suggesting that the adjustment occurred primarily through the extensive margin of labor supply. Employment rates did not change for either men or unmarried women. A change in the demand for graduates of teleworkable majors would likely have raised employment in all four groups (by sex and marital status), so the increase among married women alone suggests that telework relaxed a constraint that had kept some married women from working full time. Wage income among married women with earnings rose 2.6 percent per standard deviation of teleworkability.

I examine whether the fertility decline reflects delayed births (tempo effects) or smaller completed families (quantum effects) using differences in the effects by age and birth order. Later births account for 62 percent of the decline (s.e. 13 percentage points); a reduction in higher-parity births is more consistent with quantum effects, but not dispositive. The age profile provides stronger evidence about whether these births will eventually be recovered: births among married women aged 35 to 39 fell 3.1 percent (s.e. 1.0). These women have less scope to catch up with later births, suggesting that part of the reduction may persist. Longer follow-up is needed to know the full effect on completed fertility.

I consider three key explanations for the decline in births. First, telework may reduce fertility by increasing full-time employment. An accounting exercise using pre-pandemic birth rates suggests that increased full-time employment can account for about half of the decline.[2] However, work is unlikely to explain all of the decline: among married women with no child at home, full-time work did not rise (0.2 points, s.e. 0.2), and yet first births still fell significantly (-0.08 percentage points, s.e. 0.04). Second is that telework may change women's preferences for children. In the General Social Survey, the number of children that women consider ideal did not change with the teleworkability of their major after the expansion. Third, working from home may increase the cost of having children if childcare interrupts work or children and home offices compete for space. Consistent with this possibility, the estimated decline in births occurs only among women living in homes with three or fewer bedrooms.

These estimates contribute to research on remote work and the family. Davis et al. (2026) document a positive association between working from home and fertility in survey data from many countries, and Stone and Ozimek (2023) report that remote workers more often intend to have children. Lu et al. (2026) compare women in teleworkable and other occupations in the Current Population Survey through 2022 and report more first births among women in their thirties, and Bratsberg and Walther (2025) find that births rose in Norway after the pandemic among women in inflexible jobs. This paper measures exposure using college major and pre-pandemic occupational shares, includes women outside employment, and follows births through 2024. The employment

[1] I examine one of the mechanisms by which remote work might increase fertility: the ability to move for support or affordability. I do not find that workers in more teleworkable majors were more likely to move during the telework expansion. The homeownership estimate is small and negative (-0.20 percentage points, s.e. 0.12).

[2] A separate back-of-the-envelope calculation using the estimates in Autor et al. (2019) yields about 42 percent. This comparison requires extrapolating from trade-induced employment losses to increased full-time work among married college graduates; the calculation appears in Section 5.

results agree with Harrington and Kahn (2025), who find that the growth of remote work across college majors raised the employment of mothers. The results also add to evidence on fertility during and after the pandemic (Bailey et al., 2023; Kearney and Levine, 2023) and on the value of flexible work to women (Goldin, 2014; Mas and Pallais, 2017).

2 The 2020 Expansion of Remote Work

Few Americans worked from home before 2020. In the ACS, 6 percent of employed college-educated women aged 18 to 44 worked primarily from home in 2015 through 2019. The pandemic moved a large share of office work into the home within weeks, and much of the shift has persisted (Barrero et al., 2023). In my sample the share of employed women working primarily from home rose from 7 percent in 2019 to 29 percent in 2021 and remained at 20 percent in 2024.

Occupations differ in the share of their tasks that can be performed at home. Dingel and Neiman (2020) classify an occupation as teleworkable when its tasks do not require a worker to be on site, using O*NET surveys conducted before the pandemic. Tasks that rule out telework include operating equipment, handling objects, working outdoors, and dealing with the public in person. By their measure 37 percent of U.S. jobs can be performed entirely at home. The index classifies accountants and software developers as able to work from home and nurses as unable to.

Teleworkability varies widely across college majors because majors lead to different occupations. Nursing, the second-largest major among women, has an index of 0.21, the lowest of any large major. Biology has an index of 0.44, psychology 0.59, accounting 0.70, and computer science 0.79. The standard deviation across college-educated women is 0.15.

3 Data and Empirical Strategy

3.1 Data

I use the 1-year ACS files from 2015 through 2024 (Ruggles et al., 2025). The sample includes women aged 18 to 44 and men aged 18 to 50 who hold a bachelor's degree and do not live in group quarters. The pooled sample contains approximately 1.9 million observations on women and 1.9 million on men. I classify respondents by current marital status; the unmarried group includes respondents who have never married and those who are divorced, separated, or widowed. This group is labeled "Single" in the figures. The ACS reports each graduate's field of degree in 173 detailed categories.

I measure births in two ways. The ACS asks each woman aged 15 to 50 whether she gave birth in the past 12 months. Before the pandemic, 6.9 percent of college-educated women in the sample reported a birth each year, including 11.3 percent of married women and 1.7 percent of unmarried women. The second measure

is an indicator for living with an own child under age 1, which I can construct for men as well as women. I measure telework with the ACS question on means of transportation to work, which records whether an employed respondent worked primarily from home in the reference week. The measure excludes hybrid workers who spent most of the reference week at the workplace and therefore captures only part of remote-work adoption. Full-time employment is an indicator for being employed and usually working 35 or more hours per week.

3.2 Measuring Exposure to Remote Work

For each major m, I compute the mean Dingel–Neiman index of the occupations held in 2015 through 2019 by employed graduates of that major aged 25 to 60, using ACS person weights:

$$T_m = \sum_o s_{mo}^{2015\text{–}19} D_o, \tag{1}$$

where s_{mo} is the share of graduates of major m employed in occupation o and D_o is the teleworkability of the occupation. I standardize T_m to have mean zero and standard deviation one in each estimation sample.

Measuring exposure by major has two advantages over measuring exposure by a worker's current occupation. First, exposure depends on college major and pre-pandemic occupational shares, so it does not change when a worker switches occupations after 2020. Most graduates chose their majors before the expansion. Second, T_m is defined for women who are not employed, and women often leave work around a birth. The correlation between T_m and the teleworkability of a woman's own occupation is 0.45. I report estimates based on own occupation for all adults, including adults without a degree, in the appendix.

3.3 Empirical Specification and Identification

I estimate event studies of the form

$$Y_i = \sum_{k \neq 2019} \beta_k \, T_{m(i)} \cdot \mathbf{1}[t(i) = k] + \alpha_{m(i)} + \gamma_{s(i)t(i)} + \delta_{a(i)t(i)} + X_i'\theta + \varepsilon_i, \tag{2}$$

where Y_i is an outcome for person i observed in year $t(i)$ with major $m(i)$, state $s(i)$, and age $a(i)$. The regression includes major fixed effects, state-by-year fixed effects, and age-by-year fixed effects, along with fixed effects for detailed education and for race and ethnicity. The coefficient β_k is the difference in the outcome in year k, relative to 2019, associated with a one standard deviation increase in the teleworkability of a person's major. Regressions use person weights, and standard errors are clustered by major.

To summarize the estimates, I replace the year interactions with a single post-period interaction. The post period is 2020 through 2024 for working from home and employment. Because births occur with a lag after conception and the ACS records births during the preceding 12 months, I treat 2020 as a transition year. The post period for births is 2021–2024, with a separate interaction for 2020.

The identifying assumption is that births in more and less teleworkable majors would have followed parallel paths after 2019 had telework not expanded. I test whether births followed parallel paths before the pandemic using the coefficients for 2015 through 2018. The main threat is a pandemic shock that differed across majors for reasons other than telework. State-by-year fixed effects absorb shocks common to respondents in the same state and year, including statewide changes in disease conditions and policy. They do not absorb shocks that affect majors differently within a state. I return to shocks specific to health and education majors in Section 4.5.

4 Results

4.1 Working from Home

Figure 1 plots estimates of β_k from equation (2) for working from home. The small pre-pandemic coefficients indicate little divergence in working-from-home trends by major teleworkability.[3] In 2021 a one standard deviation increase in teleworkability raised the probability of working from home by 5.3 percentage points for women and 6.8 points for men. The effect declined as offices reopened but remained positive in 2024: 2.6 percentage points for women and 3.5 points for men. Table 1 reports the pooled estimates: 3.9 points for women and 5.0 points for men, with similar estimates for married and unmarried workers.

4.2 Births

Figure 2 plots the corresponding estimates for births to women and, in the right panel, for men living with an own infant. The pre-pandemic estimates show no statistically significant differential trend in births by major teleworkability. The coefficient for 2020, when reported births largely reflect conceptions before the pandemic, is 0.02 percentage points. Births then fell in teleworkable majors: by 0.15 points in 2021, 0.17 points in 2022, and 0.27 points in 2023. The estimate for 2024 is -0.12 points and is not statistically different from zero or from the 2023 estimate.

Table 1 reports that a one standard deviation increase in teleworkability reduced births by 0.13 percentage points (s.e. 0.05) in 2021 through 2024, a decline of 1.9 percent. The upper bound of the 95 percent confidence interval is a decline of 0.04 points. The estimate for married women is -0.22 points (s.e. 0.08), and the estimate for unmarried women is 0.04 points (s.e. 0.03). The share of women living with an own infant, a measure that does not rely on the fertility question, fell by 0.14 points (s.e. 0.04). The share of men living with an own infant did not change (-0.07 points, s.e. 0.05; right panel of Figure 2).

The estimates capture the effect of greater access to telework. Because the ACS measure omits some hybrid work and teleworkability may affect births through several channels, I do not scale the birth effect by the increase in measured remote work.

[3] The pre-period coefficients for men are jointly different from zero ($p = 0.01$) because they are precisely estimated. The largest is -0.21 points, compared with 6.8 points in 2021.

4.3 Births by Age

A decline in annual births can reflect postponement rather than a permanent reduction in completed fertility. Figure 3 reports the effect on births by age for married and unmarried women, expressed as a percent of each group's birth rate before the pandemic. The point estimate for married women is negative in every age group. Births fell 2.6 percent among married women aged 25 to 29 and 3.1 percent among married women aged 35 to 39 (s.e. 1.0), and the decline at ages 35 to 39 grew from 1.9 percent in 2021 and 2022 to 4.1 percent in 2023 and 2024. Because women in their late thirties have limited time to have a postponed child, the decline at these ages suggests that part of the decline in births is permanent. The number of own children under age 5 living with married women fell by 0.9 per 100 women (Appendix Figure A.2). Completed fertility for these cohorts will not be observed for several years.

4.4 Full-Time Employment

Figure 4 plots event-study estimates for full-time employment. Full-time employment of married women rose steadily after 2019, reaching 1.0 percentage point per standard deviation of teleworkability in 2023. The pooled estimate is 0.8 points (s.e. 0.3). Full-time employment did not change for unmarried women or for men.

I examine the relation between the increase in work and the decline in births in Section 5.

4.5 Robustness

Estimates based on a worker's own occupation, which include adults without a college degree, also show no increase in births among married women (Appendix Table A.1). Births to married women fell 0.13 points (s.e. 0.07). Births to unmarried women rose 0.18 percentage points in this specification, but women in more teleworkable occupations had different pre-2020 trends ($p = 0.01$). The increase is concentrated among women under age 25. One possible explanation for the difference from the degree-based estimates is that women planning children select into more teleworkable occupations, masking a negative effect of telework on births. In a regression for married couples that includes the teleworkability of both spouses' occupations, births do not rise with either measure (Appendix Figure A.10).

The pandemic placed unusual demands on nurses, whose major has the lowest teleworkability, and on teachers, whose occupations the index classifies as teleworkable although most schools returned to in-person instruction. Appendix Table A.7 reports estimates that exclude health majors, education majors, and both. When education majors are excluded, the birth estimates for married women are essentially identical (-0.215 vs. -0.217). Working from home rises 6.0 percentage points per standard deviation, births fall 0.17 points (s.e. 0.05), and full-time employment of married women rises 1.4 points (s.e. 0.1). Health majors account for much of the variation in teleworkability. When health majors are excluded, the effect on working from home falls to 1.6 points (s.e. 1.2). When both groups are excluded, working from home rises 4.6 points, births fall 0.12 points among all women (s.e.

0.05), and full-time employment of married women rises 0.8 points (s.e. 0.1). The estimate for births to married women is -0.11 points (s.e. 0.11), half the size of the main estimate and not statistically different from zero or from the main estimate. The 95 percent confidence interval for this estimate excludes increases in births larger than 1 percent. The estimate for births to married women is negative in every specification.

The decline in births among married women could also reflect changes in the composition of marriage. However, teleworkability did not significantly affect the probability that a woman married in the past year (0.04 percentage points, s.e. 0.04) or divorced in the past year (0.01 points, s.e. 0.02). Among married women, neither years since marriage (-0.01 years, s.e. 0.01) nor the share married within the past two years (0.09 percentage points, s.e. 0.06) changed significantly (Appendix Table A.4). These results suggest that changes in who is married are unlikely to explain the decline in births.

5 Potential Mechanisms

Remote work may increase fertility by making housing and family support more accessible and allowing parents to spend more time at home. It may also reduce fertility by encouraging employment or increasing the difficulty of combining work and children at home. I examine evidence on these channels and on changes in fertility preferences.

Remote work could raise fertility by allowing families to move to cheaper housing or closer to relatives who provide childcare. However, I find no effect of telework expansion on residential mobility among married women: the probability of moving in the past year changed by -0.01 percentage points (s.e. 0.10), and the probability of moving between states changed by 0.01 points (s.e. 0.05). The homeownership estimate is small and negative (-0.20 percentage points, s.e. 0.12; Appendix Table A.4). These results provide no evidence of increased mobility, although they do not reveal whether families moved to different destinations.

Remote work could also raise fertility by allowing fathers to spend more time at home and share childcare. Married men in more teleworkable majors worked from home 5.1 percentage points more often per standard deviation of teleworkability, but the share living with an infant did not change significantly (-0.01 points, s.e. 0.08). In a regression that includes both spouses' occupational teleworkability, births fell 0.16 points (s.e. 0.07) per standard deviation of the wife's teleworkability and did not change significantly with the husband's (-0.01 points, s.e. 0.05; Appendix Figure A.10). This pattern suggests that the fertility response depends on how remote work changes women's employment and caregiving decisions, rather than simply allowing either parent to work at home.

I use time-use data to examine whether remote work leads men to take on more housework and childcare, potentially reducing women's cost of having children. In the American Time Use Survey, a one-standard-deviation increase in occupational teleworkability increased married men's time at home by 40.6 minutes per day and married women's by 24.0 minutes (Appendix Table **??**). Paid work at home rose by 29.3 and 25.3 minutes, respec-

tively. Neither housework, primary childcare, nor time with own children changed significantly for either group. Time with spouses increased, and men spent slightly more time cooking. These results provide no clear evidence that fathers' increased presence at home translated into more time caring for children.

By making full-time employment more feasible, remote work may increase the earnings women forgo when they have children. Full-time employment among married women rose 0.8 percentage points per standard deviation of teleworkability, while usual hours among employed married women did not change significantly (-0.01 hours, s.e. 0.05). Wage income among married women with earnings rose 2.6 percent (s.e. 0.5). Higher earnings have opposing implications for fertility: greater household income may support more children, while a higher value of time away from work raises the opportunity cost of childbearing. The combination of higher earnings and lower fertility is consistent with the latter channel, although the estimates do not separate it from income effects or other consequences of telework.[4]

Higher employment may reduce births, but fewer births may also increase employment. Two comparisons suggest that fewer births alone do not explain the employment increase (Appendix Table A.3). First, I estimate the pre-pandemic relationship between young children and full-time employment. Applying this relationship to the estimated decline in young children accounts for only 12 percent of the employment increase. Second, employment increases were not largest where births fell most: full-time employment rose most at ages 30 to 34, where the birth estimate was small and imprecise.

Accounting exercises suggest that increased full-time employment could explain part of the decline in births (Appendix Table A.6). Before the pandemic, women not working full time had 13.2 births per 100 women annually. If women entering full-time work would otherwise have had this birth rate and have no births after entering, the 0.9-percentage-point employment increase in 2021–2024 would imply a 0.12-point decline in births. This accounts for 54 percent of the estimated decline (s.e. 23 percentage points). Applying the ratio of fertility and employment effects estimated by Autor et al. (2019) instead implies that increased employment could account for 42 percent of the decline.[5]

Employment is unlikely to explain the entire decline. First births fell 0.08 percentage points (s.e. 0.04), while full-time employment changed little among married women with no child at home (0.2 points, s.e. 0.2).

Telework could also reduce fertility if it reduces women's preferred family size. In the General Social Survey, women's stated ideal family size did not change significantly with major teleworkability after 2020 (0.02 children, s.e. 0.06, on a pre-pandemic mean of 2.34; Appendix Figure A.8).

Working from home may also reduce fertility by creating competing demands for parents' attention and household space. If children and home offices compete for space, births may fall more among women in homes

[4] A wife's share of the couple's wage income rose 0.64 percentage points (s.e. 0.18), and the probability that she earned more than her husband rose 0.79 points (s.e. 0.28; Appendix Table A.4). A higher earnings share could change women's influence over fertility decisions even without changing their preferences. The ACS does not measure spouses' fertility preferences, so I cannot test this bargaining explanation.

[5] Autor et al. (2019, Table 3 and Appendix Table A3) estimate that a female-specific trade shock reduced female employment by 1.97 percentage points and increased births by 0.201 per 100 women. Applying this ratio to the 0.895-point increase in full-time employment estimated here gives a birth decline of $(0.201/1.97) \times 0.895 = 0.091$ percentage points, or 42 percent of the estimated 0.217-point decline. This calculation extrapolates from trade-induced employment losses to increased full-time work among married college graduates; the trade shock may also affect fertility through channels other than employment.

with fewer bedrooms. Among married college-graduate women, births fell by 0.34 percentage points in homes with two or fewer bedrooms (s.e. 0.17) and by 0.41 points in three-bedroom homes (s.e. 0.10), while the estimate for homes with four or more bedrooms was 0.01 points (s.e. 0.10; Appendix Table A.8, Panel A). The three estimates differ significantly ($p = 0.0005$), and none of the groups shows evidence of differential pre-trends. This pattern is consistent with telework raising the cost of having another child when children and home offices compete for space.[6] However, the spare-bedroom comparison provides less support for this explanation: births declined among women classified as having a spare bedroom, rather than those with none (Panel C). Women without a spare bedroom generally already have two or more children, so this comparison also reflects differences in family size.

6 Conclusion

The expansion of telework in 2020 did not raise births among college graduates. Births fell about 2 percent among married women for each standard deviation of teleworkability, and the confidence interval excludes any increase. Married women in teleworkable majors worked full time more often, and mothers of young children account for most of the increase in full-time employment.

The estimates imply a potentially meaningful contribution to the decline in aggregate fertility. An extrapolation to the increase in telework between 2015–2019 and 2024 implies a reduction in the total fertility rate of about 0.05 births per woman if only college graduates respond. If all women respond as college graduates do, the implied reduction is about 0.09 births per woman (Appendix Table A.9). These calculations assume that the estimated relationship between telework and births applies to the aggregate expansion.

Proposals to raise births by expanding telework often draw on a positive cross-sectional relationship between remote work and fertility. Using plausibly exogenous variation in exposure to the telework expansion, however, I find that telework reduced births. The findings therefore suggest that expanding access to remote work is unlikely to raise fertility and may reduce it by changing women's employment and the costs of having children.

The analysis has two limitations. First, the estimates describe college graduates in the four years after 2020. Longer follow-up is needed to determine how much of the decline in annual births persists in completed fertility. Second, telework expanded during a pandemic. Telework adopted in ordinary times could have different effects, although the decline in births grew through 2023, after most pandemic restrictions had ended.

[6] The shares in the three bedroom categories did not change detectably with teleworkability, although the number of rooms rose slightly (0.016 rooms per standard deviation, s.e. 0.007). Home size is measured at the time of the survey and may itself respond to telework; stable category shares do not establish that individual women remained in the same category.

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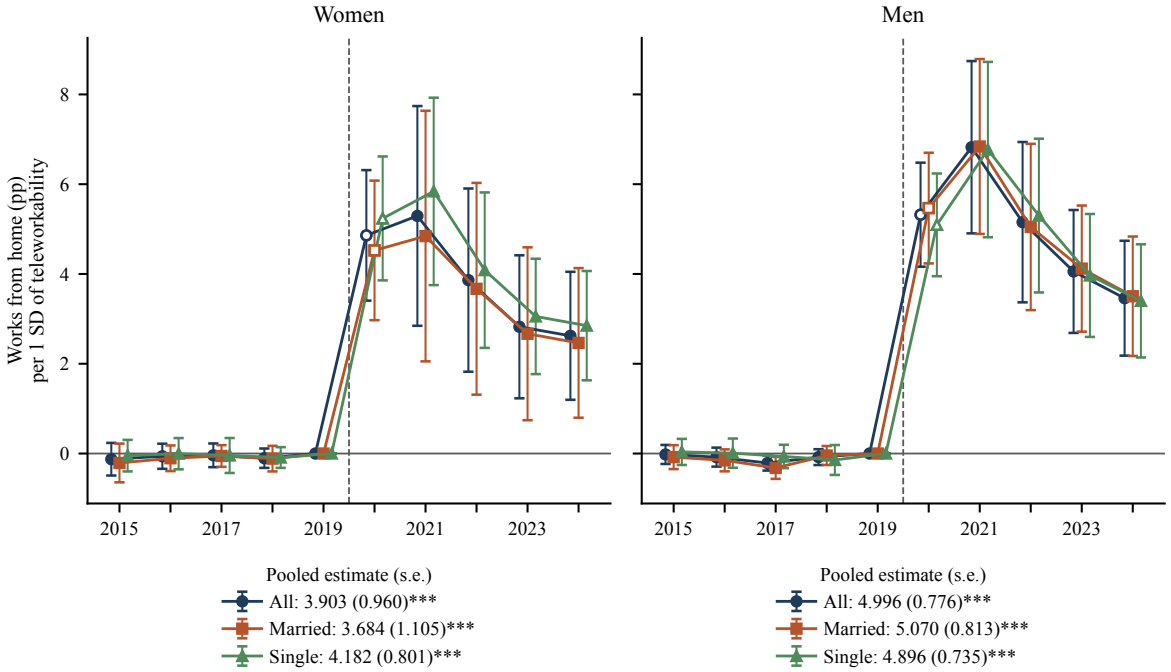
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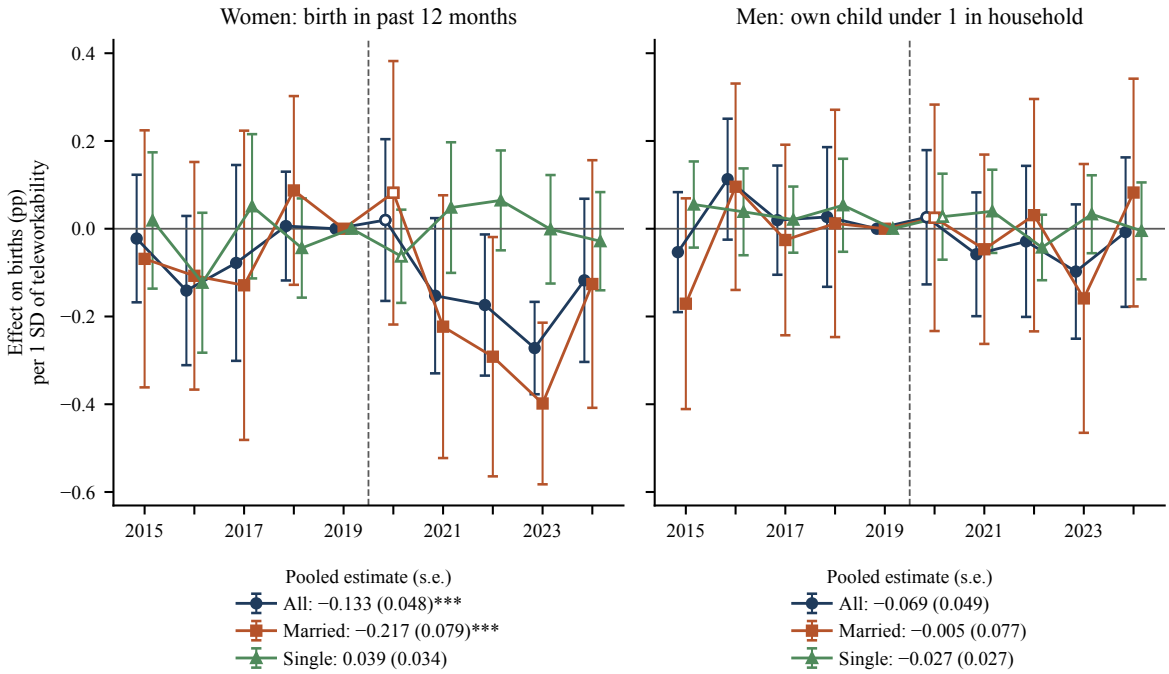
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Figure 1: Teleworkability of College Major and Working from Home



Notes: The figure plots estimates of β_k from equation (2). The outcome is an indicator for working primarily from home among people at work, in percentage points (pp). The sample consists of college graduates in the 2015–2024 ACS: women aged 18–44 and men aged 18–50. Teleworkability is the employment-weighted mean Dingel–Neiman index for occupations held by graduates of the same major in 2015–2019, standardized to mean zero and standard deviation one within each estimation sample. Estimates are percentage-point changes associated with a one-standard-deviation increase in teleworkability. Regressions include major, state-by-year, age-by-year, education, and race and ethnicity fixed effects and use person weights. Bars show 95 percent confidence intervals based on standard errors clustered by major. The omitted year is 2019. Hollow markers denote the 2020 ACS, which uses experimental weights. The legend reports the pooled difference-in-differences estimate for each series, with its standard error, from a regression of the outcome on teleworkability interacted with an indicator for 2020–2024. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Figure 2: Teleworkability and Births



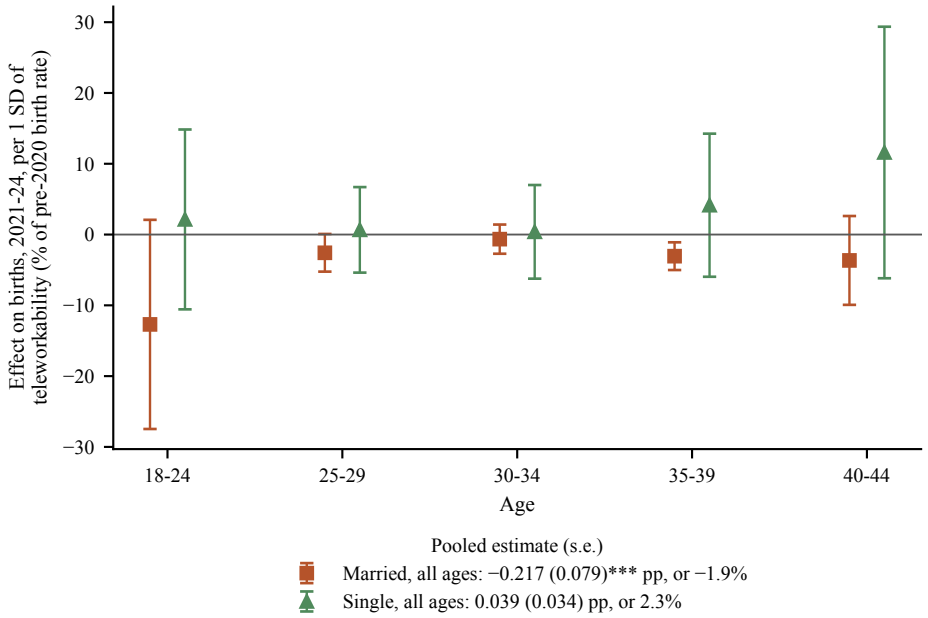
Notes: The figure plots estimates of β_k from equation (2). The outcome for women is an indicator for a birth in the past 12 months. The ACS asks only women about births, so the outcome for men is an indicator for living with an own child under age 1. Outcomes are in percentage points. The sample is college graduates, women aged 18–44 and men aged 18–50. Births reported in 2020 largely reflect conceptions before the pandemic. The legend reports the pooled difference-in-differences estimate for each series, with its standard error; the post period is 2021–2024, and 2020 enters as a separate interaction. See the notes to Figure 1 for the specification.

Table 1: Effects of Teleworkability after 2020

	Women			Men		
	All	Married	Unmarried	All	Married	Unmarried
Works from home	3.903***	3.684***	4.182***	4.996***	5.070***	4.896***
	(0.960)	(1.105)	(0.801)	(0.776)	(0.813)	(0.735)
Pre-2020 mean	5.82	7.57	3.96	5.97	6.64	5.00
Effect / mean	+67.0%	+48.7%	+105.5%	+83.6%	+76.4%	+97.9%
Pre-trend p	0.74	0.89	0.88	0.01	0.02	0.52
Observations	1,535,737	848,387	687,348	1,697,927	1,058,577	639,347
Birth in past 12 months	-0.133***	-0.217***	0.039			
	(0.048)	(0.079)	(0.034)			
Pre-2020 mean	6.92	11.28	1.67			
Effect / mean	-1.9%	-1.9%	+2.3%			
Pre-trend p	0.30	0.46	0.09			
Observations	1,865,356	1,074,739	790,616			
Own child under 1 in household	-0.144***	-0.202***	-0.011	-0.069	-0.005	-0.027
	(0.035)	(0.063)	(0.037)	(0.049)	(0.077)	(0.027)
Pre-2020 mean	6.05	10.05	1.25	4.97	8.26	0.57
Effect / mean	-2.4%	-2.0%	-0.9%	-1.4%	-0.1%	-4.7%
Pre-trend p	0.64	0.77	0.03	0.33	0.32	0.79
Observations	1,865,356	1,074,739	790,616	1,859,285	1,116,836	742,448
Employed full time	0.491**	0.817**	0.041	-0.138	-0.070	-0.135
	(0.224)	(0.337)	(0.168)	(0.127)	(0.101)	(0.222)
Pre-2020 mean	69.02	64.85	74.03	85.24	91.69	76.64
Effect / mean	+0.7%	+1.3%	+0.1%	-0.2%	-0.1%	-0.2%
Pre-trend p	0.38	0.17	0.47	0.13	0.88	0.10
Observations	1,865,356	1,074,739	790,616	1,859,285	1,116,836	742,448

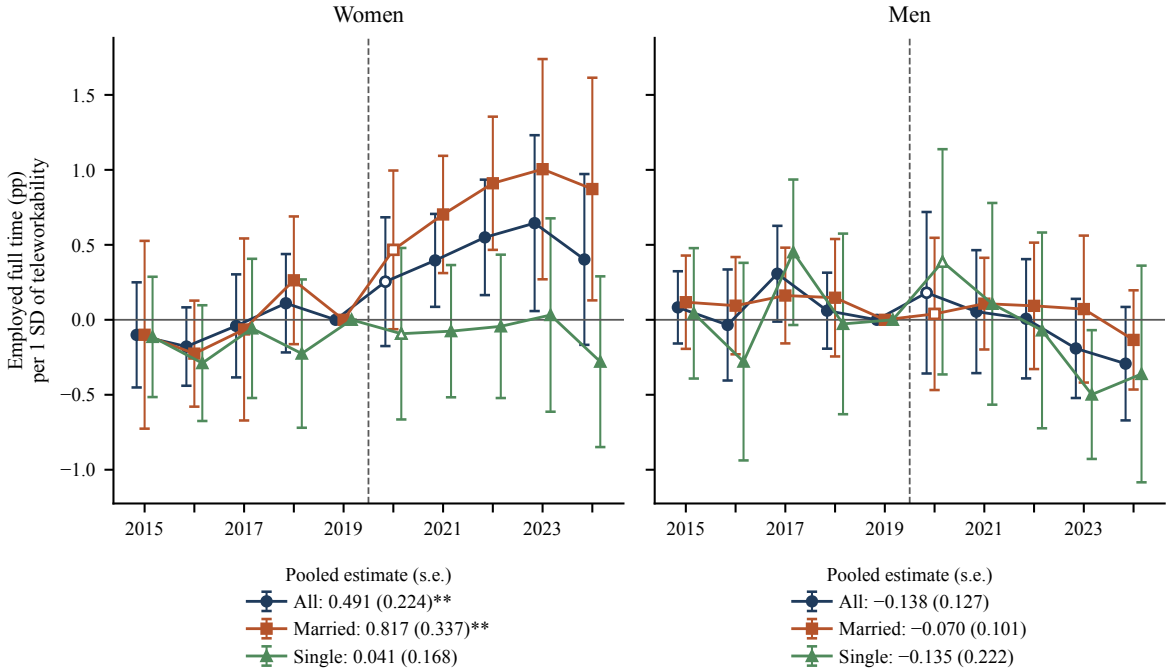
Notes: Each coefficient is from a separate regression of the outcome, in percentage points, on the standardized teleworkability of a person's college major interacted with a post-period indicator. The post period is 2020–2024 for working from home and full-time employment. The post period is 2021–2024 for births and infants, and those regressions include a separate interaction for 2020. The sample consists of college graduates in the 2015–2024 ACS: women aged 18–44 and men aged 18–50. Teleworkability is the employment-weighted mean Dingel–Neiman index for occupations held by graduates of the same major in 2015–2019, standardized to mean zero and standard deviation one within each estimation sample. Estimates are percentage-point changes associated with a one-standard-deviation increase in teleworkability. Working from home is measured among people at work. The ACS asks only women about births. Regressions include major, state-by-year, age-by-year, education, and race and ethnicity fixed effects and use person weights. Standard errors clustered by major (173 clusters) are in parentheses. Pre-trend p is from a joint test that the event-study coefficients for 2015–2018 equal zero. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Figure 3: Effects on Births by Age and Marital Status



Notes: Each point is from a separate regression of an indicator for a birth in the past 12 months on standardized teleworkability of a woman's major interacted with an indicator for 2021–2024. Estimates are divided by the group's mean birth rate in 2015–2019. The sample is college-educated women. The legend reports the pooled estimate for married and unmarried women of all ages, in percentage points and as a percent of the pre-2020 birth rate. Bars show 95 percent confidence intervals. See the notes to Table 1 for the specification.

Figure 4: Teleworkability of College Major and Full-Time Employment



Notes: The figure plots estimates of β_k from equation (2). The outcome is an indicator for being employed and usually working 35 or more hours per week, in percentage points. The legend reports the pooled difference-in-differences estimate for each series, with the post period 2020–2024. See the notes to Figure 1 for the sample and specification.

Appendix

Table A.1: Effects of Own-Occupation Teleworkability after 2020, All Adults

	Women			Men		
	All	Married	Unmarried	All	Married	Unmarried
Works from home	5.434***	5.247***	5.474***	6.784***	7.250***	6.131***
	(0.836)	(1.003)	(0.722)	(0.669)	(0.761)	(0.591)
Pre-2020 mean	4.38	6.30	3.04	3.91	4.76	3.12
Effect / mean	+124.1%	+83.3%	+180.2%	+173.7%	+152.4%	+196.5%
Pre-trend p	0.15	0.21	0.63	0.00	0.01	0.00
Observations	3,394,091	1,548,228	1,845,861	4,636,980	2,402,830	2,234,150
Birth in past 12 months	0.039	-0.134**	0.175***			
	(0.049)	(0.068)	(0.050)			
Pre-2020 mean	6.68	10.37	4.06			
Effect / mean	+0.6%	-1.3%	+4.3%			
Pre-trend p	0.44	0.30	0.01			
Observations	4,161,013	1,908,933	2,252,080			
Own child under 1 in household	0.015	-0.096	0.126***	-0.081***	-0.074	-0.014
	(0.041)	(0.062)	(0.037)	(0.027)	(0.046)	(0.024)
Pre-2020 mean	5.42	8.87	2.97	4.01	7.27	1.34
Effect / mean	+0.3%	-1.1%	+4.3%	-2.0%	-1.0%	-1.1%
Pre-trend p	0.77	0.16	0.01	0.85	0.29	0.02
Observations	4,161,013	1,908,933	2,252,080	5,264,846	2,569,463	2,695,383
Employed full time	1.007***	1.217***	0.781***	0.492***	0.510***	0.464***
	(0.203)	(0.233)	(0.226)	(0.131)	(0.111)	(0.155)
Pre-2020 mean	60.83	64.22	58.43	77.31	89.45	67.32
Effect / mean	+1.7%	+1.9%	+1.3%	+0.6%	+0.6%	+0.7%
Pre-trend p	0.75	0.56	0.71	0.00	0.00	0.04
Observations	4,161,013	1,908,933	2,252,080	5,264,846	2,569,463	2,695,383

Notes: The table repeats Table 1 using the Dingel–Neiman teleworkability of a person's own occupation. The sample includes adults with and without a college degree who report an occupation, women aged 18–44 and men aged 18–50. Regressions include occupation fixed effects in place of major fixed effects, and standard errors are clustered by occupation (613 clusters). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Births and Full-Time Work

Married women in teleworkable majors had fewer births after 2020 and worked full time more often. Fewer births could raise full-time work mechanically, because mothers of young children work less, and more full-time work could reduce births. I report three sets of estimates on the relation between the two effects. All three follow the specification in Table 1 for college-educated women aged 18 to 44, with a post period of 2021 through 2024 and a separate interaction for 2020, so that the birth and employment estimates cover the same years. The full-time estimates therefore differ slightly from those in Table 1, which use a post period of 2020 through 2024.

Joint outcomes. Table A.2 divides women into four mutually exclusive groups by whether they gave birth in the past 12 months and whether they work full time. The four effects sum to zero by construction. The effects on the two groups with a birth sum to the effect on births, and the effects on the two groups working full time sum to the effect on full-time employment.

Accounting. Panel A of Table A.3 reports the increase in full-time work implied by the decline in young children alone. Row (2) is the effect of teleworkability on the number of own children under age 5 in the household. Row (3) is the coefficient from a regression of full-time employment on the number of own children under age 5 in 2015 through 2019, with the same fixed effects and no teleworkability terms. The product in row (4) is the change in full-time employment that the decline in young children predicts if each child reduces full-time work by the pre-pandemic gap. The standard error in row (4) is from the delta method and treats rows (2) and (3) as independent. Row (3) compares women with and without young children who share a major, age, state, year, education, and race and ethnicity, and the causal effect of a young child on full-time work may be larger than this gap. If the effect were twice as large, fewer children would account for 24 percent of the increase in full-time work among married women.

Age. Panel B reports effects on births, full-time employment, and employment for married women in five age groups. If the employment response to a birth were similar across ages, a fertility-driven employment increase would be largest where births fell most.

Women with and without young children. Panel C reports effects separately for women with and without an own child under age 5 in the household. An employment increase among mothers of young children is consistent with improved access to work, although changes in the composition of this group could also contribute. The split conditions on an outcome, however, because teleworkability changed which women have young children, so the comparison is suggestive. Pre-trend tests reject for full-time employment among married women both with and without young children ($p = 0.01$ and $p = 0.02$, respectively), limiting a causal interpretation of the subgroup comparison. For married mothers of young children, the coefficients for 2015 and 2016 are below zero. The coefficients for 2017 through 2019 are close to zero, and the increase begins in 2020.

Table A.2: Effects of Teleworkability on Joint Birth and Employment Outcomes

	All women	Married	Unmarried
Panel A. Joint outcomes (shares, percentage points)			
Birth, full time	0.020	0.039	0.045*
	(0.025)	(0.050)	(0.025)
Pre-2020 mean	4.13	6.64	1.12
Birth, not full time	-0.153***	-0.256***	-0.007
	(0.039)	(0.067)	(0.022)
Pre-2020 mean	2.79	4.64	0.55
No birth, full time	0.516**	0.856**	-0.005
	(0.226)	(0.338)	(0.162)
Pre-2020 mean	64.88	58.21	72.91
No birth, not full time	-0.383*	-0.639**	-0.034
	(0.202)	(0.307)	(0.159)
Pre-2020 mean	28.20	30.51	25.42

Notes: Each outcome is an indicator for one of four mutually exclusive combinations of a birth in the past 12 months and full-time employment, in percentage points. Coefficients are for standardized teleworkability of a woman's major interacted with an indicator for 2021–2024. The sample is college-educated women aged 18–44. See the notes to Table 1 for the specification. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.3: Births and Full-Time Work: Accounting, Age, and Young Children

Panel A. Full-time work implied by the decline in young children		
	All women	Married women
(1) Birth in past 12 months (pp)	-0.133***	-0.217***
	(0.048)	(0.079)
(2) Own children under 5 (per 100 women)	-0.633***	-0.895***
	(0.136)	(0.203)
(3) Pre-2020 full-time gap per child under 5 (pp)	-13.383***	-11.700***
	(0.248)	(0.252)
(4) Implied effect on full-time employment, (2) × (3) / 100 (pp)	0.085	0.105
	(0.018)	(0.024)
(5) Estimated effect on full time (pp)	0.537**	0.895**
	(0.229)	(0.352)
(6) Share of (5) implied by fewer children, (4) / (5)	16%	12%

Panel B. Married women, by age			
Age	Birth in past 12 months	Employed full time	Employed
18–24	-1.244*	0.153	-0.426
	(0.739)	(0.604)	(0.633)
25–29	-0.419*	0.658	0.803*
	(0.220)	(0.609)	(0.427)
30–34	-0.120	1.338***	1.404***
	(0.194)	(0.361)	(0.316)
35–39	-0.311***	0.616*	0.731***
	(0.102)	(0.313)	(0.248)
40–44	-0.101	0.792**	0.732***
	(0.088)	(0.321)	(0.188)

Panel C. By whether an own child under 5 lives in the household			
	Employed full time	Employed	Weekly hours
Married, no child under 5	0.415	0.372**	0.106
	(0.271)	(0.165)	(0.096)
Pre-trend p	0.02	0.09	0.06
Married, child under 5	1.418***	1.556***	0.544***
	(0.474)	(0.419)	(0.160)
Pre-trend p	0.01	0.02	0.15
All, no child under 5	0.154	0.139	-0.031
	(0.163)	(0.111)	(0.053)
Pre-trend p	0.19	0.01	0.11
All, child under 5	1.403***	1.440***	0.508***
	(0.457)	(0.393)	(0.142)
Pre-trend p	0.02	0.08	0.22

Notes: The sample is college-educated women aged 18–44. Rows (4) and (6) of Panel A are calculated from other estimates; row (3) is a pre-period association. The remaining estimates are coefficients from separate regressions of the outcome on the standardized teleworkability of a woman's major interacted with an indicator for 2021–2024, with a separate interaction for 2020; see the notes to Table 1 for the fixed effects. Outcomes are in percentage points, children under 5 are per 100 women, and weekly hours count zero for women who did not work in the past 12 months. Panel A: row (3) is from a regression of full-time employment on the number of own children under 5 in the household in 2015–2019, with the same fixed effects and no teleworkability terms; row (4) is the product of rows (2) and (3) divided by 100, with a delta-method standard error that treats the two as independent; row (6) is row (4) divided by row (5). Panel C conditions on whether an own child under 5 lives in the household, an outcome of the treatment. Pre-trend p is from a joint test that the event-study coefficients for 2015–2018 equal zero. Standard errors clustered by major are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.4: Moves, Marriage, Work, and Earnings

	Married women	Married women, no child at home	Married men
Panel A. Moves and housing			
Moved in past 12 months (pp)	-0.012	0.108	-0.128*
	(0.101)	(0.177)	(0.069)
Pre-2020 mean	17.09	26.40	16.02
Pre-trend p	0.04	0.58	0.29
Moved between states (pp)	0.010	0.106	-0.077*
	(0.045)	(0.126)	(0.042)
Pre-2020 mean	3.64	5.86	3.62
Pre-trend p	0.10	0.36	0.73
Lives in owned home (pp)	-0.199*	-0.165	0.048
	(0.120)	(0.213)	(0.187)
Pre-2020 mean	74.57	59.98	75.94
Pre-trend p	0.11	0.61	0.25
Panel B. Marriage			
Married in past 12 months (pp), all women and men	0.039		-0.002
	(0.039)		(0.028)
Pre-2020 mean	4.05		3.51
Pre-trend p	0.15		0.01
Divorced in past 12 months (pp), all women and men	0.015		-0.011
	(0.017)		(0.021)
Pre-2020 mean	0.95		0.79
Pre-trend p	0.09		0.83
Years since marriage	-0.009	0.033	-0.011
	(0.008)	(0.035)	(0.012)
Pre-2020 mean	8.58	4.52	10.54
Pre-trend p	0.08	0.00	0.08
Married two years or less (pp)	0.090	-0.319	0.091
	(0.064)	(0.249)	(0.087)
Pre-2020 mean	17.44	43.92	14.43
Pre-trend p	0.39	0.00	0.01
Panel C. Work and earnings			
Employed full time (pp)	0.895**	0.205	-0.071
	(0.352)	(0.227)	(0.092)
Pre-2020 mean	64.85	77.36	91.69
Pre-trend p	0.17	0.24	0.88
Usual weekly hours, employed	-0.011	-0.116***	-0.028
	(0.051)	(0.039)	(0.061)
Pre-2020 mean	39.09	41.23	45.09
Pre-trend p	0.62	0.72	0.23
Log wage income, earners ($\times 100$)	2.562***	1.672***	0.776**
	(0.543)	(0.461)	(0.311)
Pre-2020 mean	10.70	10.70	11.31
Pre-trend p	0.77	0.80	0.14
Own share of couple's wage income (pp)	0.642***	0.451***	-0.217***
	(0.182)	(0.140)	(0.080)
Pre-2020 mean	38.50	44.56	68.08
Pre-trend p	0.13	0.09	0.41
Earns more than spouse (pp)	0.790***	0.716***	-0.320***
	(0.275)	(0.273)	(0.117)
Pre-2020 mean	31.75	37.71	74.05
Pre-trend p	0.56	0.76	0.67

Notes: Each coefficient is from a separate regression of the outcome on the standardized teleworkability of a person's major interacted with an indicator for 2021–2024, with a separate interaction for 2020; see the notes to Table 1 for the fixed effects. The sample is college-educated married women aged 18–44 and married men aged 18–50, except that marriage and divorce in the past 12 months are estimated for all women and all men. A woman has no child at home when no own child of any age lives in the household, which conditions on an outcome of the treatment. Wage income is for the past 12 months in 2019 dollars. Coefficients for log wage income are multiplied by 100; baseline means are reported in log units. The share of the couple's wage income is defined for couples living together with positive combined wage income. Pre-trend p is from a joint test that the event-study coefficients for 2015–2018 equal zero. Standard errors clustered by major are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.5: Teleworkability and Time Use of Married Men and Women (ATUS)

	Married men			Married women		
Minutes per day	Effect	Pre-2020 mean	Pre-trend p	Effect	Pre-2020 mean	Pre-trend p
Paid work at home	29.3***	30.3	0.59	25.3***	28.7	0.15
	(4.4)			(7.7)		
Paid work away from home	−38.4***	316.1	0.24	−22.5**	225.0	0.04
	(8.5)			(9.8)		
Total paid work	−9.1	346.3	0.27	2.9	253.7	0.04
	(7.2)			(7.2)		
Commuting	−5.0***	32.2	0.94	−1.8	20.4	0.08
	(1.1)			(1.4)		
Time at home	40.6***	366.0	0.17	24.0**	419.2	0.36
	(8.6)			(11.0)		
Housework	−0.1	15.2	0.14	1.4	48.8	0.55
	(1.3)			(2.3)		
Laundry	0.0	4.1	0.01	1.9	16.1	0.17
	(0.5)			(1.2)		
Cooking	1.8*	22.2	0.19	−2.0	51.7	0.02
	(1.0)			(2.2)		
Lawn, garden, and houseplants	0.2	12.3	0.27	0.3	3.5	0.25
	(1.4)			(0.6)		
All household activities	0.6	77.4	0.02	−2.9	125.0	0.05
	(3.2)			(3.4)		
Primary childcare	3.5	43.3	0.37	−4.0	79.2	0.39
	(2.2)			(3.4)		
Time with own children	5.5	194.6	0.55	−5.4	270.5	0.43
	(5.9)			(7.3)		
Time with spouse	14.7**	274.0	0.95	17.4**	260.8	0.13
	(6.2)			(6.8)		
Diaries		16,689			12,026	
Occupation clusters		501			398	

Notes: Data are the American Time Use Survey (ATUS), 2011–2025. Each respondent reports every activity over one day, so outcomes are minutes on the diary day. The sample is married respondents living with their spouse, women aged 18–44 and men aged 18–50, with a known occupation: the main job at the ATUS interview or, for the 6 percent not employed then, the job at the last Current Population Survey interview 2 to 5 months earlier. Teleworkability is the Dingel–Neiman index of the respondent's occupation, assigned to Census occupation codes as the mean over employed ACS respondents in each code in 2015–2019, and standardized. Each coefficient is from a separate regression of the outcome on teleworkability interacted with an indicator for 2021–2025, with a separate interaction for 2020; no diaries were collected from mid-March to mid-May 2020. Regressions include occupation, state, Census division-by-year, age, education, race and ethnicity, day-of-week, holiday, and month fixed effects and use ATUS final weights (the pandemic weight in 2020). The ATUS changed occupation codes in 2020, and codes that changed get separate fixed effects before and after, so the 73 percent of respondents in occupations with the same code in both periods identify the estimates. Housework is cleaning, laundry, and other upkeep inside the home; all household activities adds cooking, yard work, repairs, pets, and household management. Primary childcare is caring for and helping household children as the main activity. Time at home, with own children, and with spouse exclude sleep, grooming, and personal activities, for which the ATUS does not record where the respondent was or who was present. Time with own children counts household children under 18 and is zero for respondents without children. Pre-trend p is from a joint test that the event-study coefficients for 2011–2018 equal zero, with 2019 omitted. Standard errors clustered by occupation are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.6: Accounting for the Birth Decline Using Full-Time Employment

	Married women	All women
Panel A. Parity		
(1) First births (pp)	-0.082*	-0.039
	(0.044)	(0.026)
(2) Later births (pp)	-0.135**	-0.094***
	(0.055)	(0.035)
(3) Full time, women with no child at home (pp)	0.205	0.046
	(0.227)	(0.173)
(4) Later births as a share of the decline, (2) / [(1) + (2)]	0.62	0.71
	(0.13)	(0.15)
Panel B. Full-time work		
(5) Birth in past 12 months (pp)	-0.217***	-0.133***
	(0.079)	(0.048)
(6) Employed full time (pp)	0.895**	0.537**
	(0.352)	(0.229)
(7) Pre-2020 birth rate, women not working full time (percent)	13.21	8.99
(8) Share if each added full-time worker gives up a birth, (6) $\times$ (7) / $-$(5)	0.54	0.36
	(0.23)	(0.14)
(9) Pre-2020 birth gap, full time less not full time (pp)	-3.65	-3.87
(10) Share at the pre-2020 gap, (6) $\times$ (9) / (5)	0.15	0.16
	(0.06)	(0.06)

Notes: The sample is college-educated women aged 18–44. Rows (1), (2), (3), (5), and (6) are effects of a one standard deviation increase in the teleworkability of a woman's major in 2021–2024, following the specification in Table 1 with a separate interaction for 2020. I approximate birth order using the number of the respondent's own children living in the household. Births to women with at most one resident own child are classified as first births; births to women with two or more are classified as later births. This classification may misclassify women whose older children live elsewhere. Row (3) conditions on having no own child in the household. Row (4) limits the employment contribution only if increased full-time work affects later births alone. The estimates do not establish this restriction: row (3) is imprecise, and household composition may respond to telework. Row (7) is the share of women not working full time in 2015–2019 who gave birth in the past 12 months. Row (9) is the coefficient from a regression of births on full-time employment in 2015–2019 with the same fixed effects. The shares in rows (4), (8), and (10) are ratios of coefficients estimated jointly in a stacked regression in which every fixed effect is interacted with the outcome; standard errors are from the delta method, clustered by major, and treat rows (7) and (9) as known. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.7: Effects of Teleworkability Excluding Health and Education Majors, Women

	Works from home		Birth in past 12 months		Employed full time	
	All	Married	All	Married	All	Married
All majors	3.903***	3.684***	-0.133***	-0.217***	0.491**	0.817**
	(0.960)	(1.105)	(0.048)	(0.079)	(0.224)	(0.337)
Pre-trend p	0.74	0.89	0.30	0.46	0.38	0.17
Majors			173			
Excluding health majors	1.629	0.997	-0.073	-0.106	0.068	0.039
	(1.181)	(1.302)	(0.054)	(0.095)	(0.182)	(0.296)
Pre-trend p	0.85	0.74	0.27	0.07	0.03	0.01
Majors			162			
Excluding education majors	6.033***	6.192***	-0.165***	-0.215**	0.818***	1.409***
	(0.455)	(0.429)	(0.048)	(0.086)	(0.121)	(0.129)
Pre-trend p	0.11	0.06	0.22	0.07	0.06	0.01
Majors			158			
Excluding both	4.618***	4.501***	-0.121**	-0.105	0.499***	0.796***
	(0.422)	(0.412)	(0.054)	(0.109)	(0.129)	(0.131)
Pre-trend p	0.26	0.15	0.02	0.02	0.01	0.09
Majors			147			

Notes: Each coefficient is from a separate regression that follows the specification in Table 1. The sample is college-educated women aged 18–44. Health majors are IPUMS field-of-degree codes 6100–6199, and education majors are codes 2300–2399. Teleworkability is standardized within each estimation sample, so a standard deviation differs across rows. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.8: Fertility Effects by Number of Bedrooms

	Bedrooms in the home			2 or fewer	p, equal
	2 or fewer	3	4 or more	less 4 or more	effects
Panel A. Birth in past 12 months					
Effect of teleworkability	-0.344**	-0.413***	0.006	-0.351**	<0.001
	(0.168)	(0.100)	(0.100)	(0.163)	
Pre-2020 mean	10.95	12.03	10.72		
Effect / mean	-3.1%	-3.4%	+0.1%		
Pre-trend p	0.50	0.34	0.82		
Observations	213,792	428,746	432,187		
Panel B. Share of married women in each home size					
Effect of teleworkability	-0.029	-0.128	0.158		
	(0.128)	(0.159)	(0.151)		
Pre-2020 mean	22.21	38.84	38.95		
Panel C. Birth in past 12 months, by number of earlier children					
No earlier child	-0.235	-0.699***	-0.196	-0.039	0.124
	(0.224)	(0.198)	(0.297)	(0.354)	
Pre-2020 mean	11.45	16.89	19.18		
Observations	131,827	143,012	78,150		
One earlier child	-0.815**	-0.610***	-0.045	-0.769*	0.077
	(0.319)	(0.213)	(0.280)	(0.429)	
Pre-2020 mean	14.14	18.42	21.70		
Observations	46,539	105,633	82,838		
Two or more earlier children	-0.232	-0.117	0.008	-0.240	0.556
	(0.239)	(0.107)	(0.092)	(0.257)	
Pre-2020 mean	4.86	4.77	5.08		
Observations	35,403	180,086	271,180		

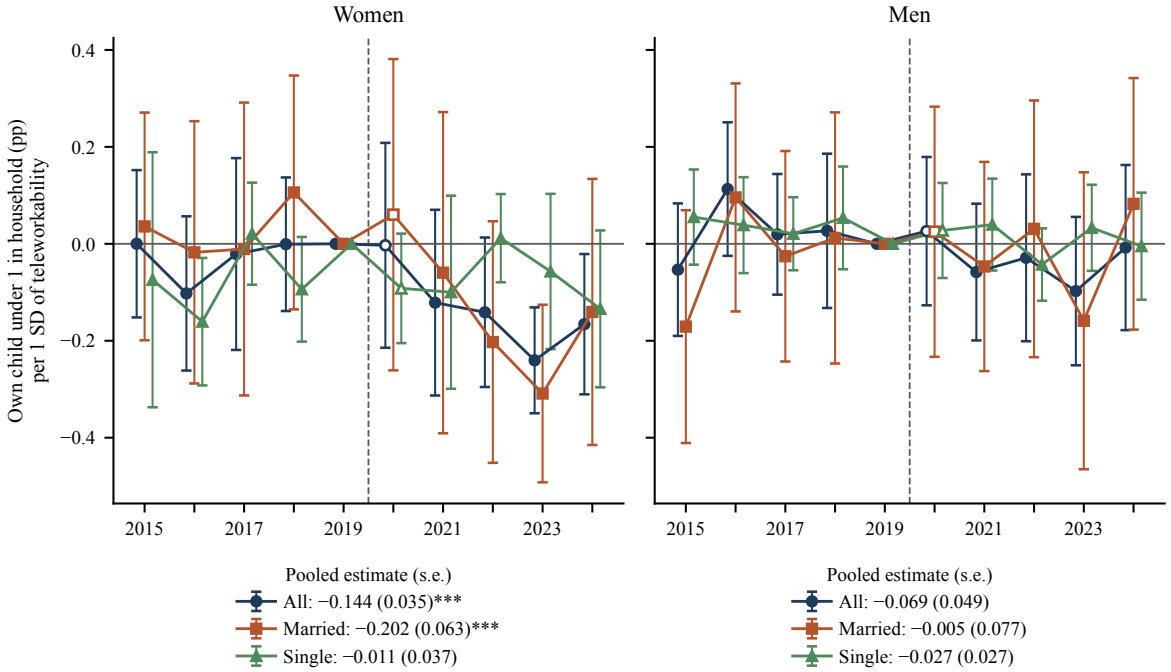
Notes: The sample is married college-educated women aged 18–44. Coefficients are for the standardized teleworkability of a woman's major interacted with an indicator for 2021–2024, in percentage points, with a separate interaction for 2020. In Panels A and C, each row is one regression in which the effect is estimated separately for the three home sizes and every fixed effect in Table 1 is interacted with home size. The fourth column is the difference between the first and third columns, and the fifth is the p-value of a test that the three effects are equal. In Panel B, each outcome is an indicator for living in a home of that size. Earlier children in Panel C are own children in the household born more than 12 months before the survey. Home size is measured in the survey year, so the comparison across home sizes conditions on an outcome that telework may have changed. Standard errors are clustered by major (173 clusters). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.9: Implied Change in the Total Fertility Rate if Telework Declined

	Only college graduates respond		All women respond	
Working from home falls to:	2015–19 level	Zero	2015–19 level	Zero
(1) Births per point of working from home (pp)	-0.034	-0.034	-0.034	-0.034
	(0.012)	(0.012)	(0.012)	(0.012)
(2) Working from home, 2024 (percent)	19.68	19.68	14.04	14.04
(3) Working from home, 2015–19 (percent)	5.82	5.82	4.38	4.38
(4) Fall in working from home (pp)	13.85	19.68	9.67	14.04
(5) Change in annual birth rate (pp), $-(1) \times (4)$	0.473	0.671	0.330	0.479
(6) Years of exposure between ages 18 and 44	10.34	10.34	27.00	27.00
(7) Change in total fertility rate, (5) $\times$ (6) / 100	0.049	0.069	0.089	0.129
	(0.017)	(0.024)	(0.030)	(0.044)
(8) Percent of the 2024 total fertility rate	2.9	4.1	5.3	7.6

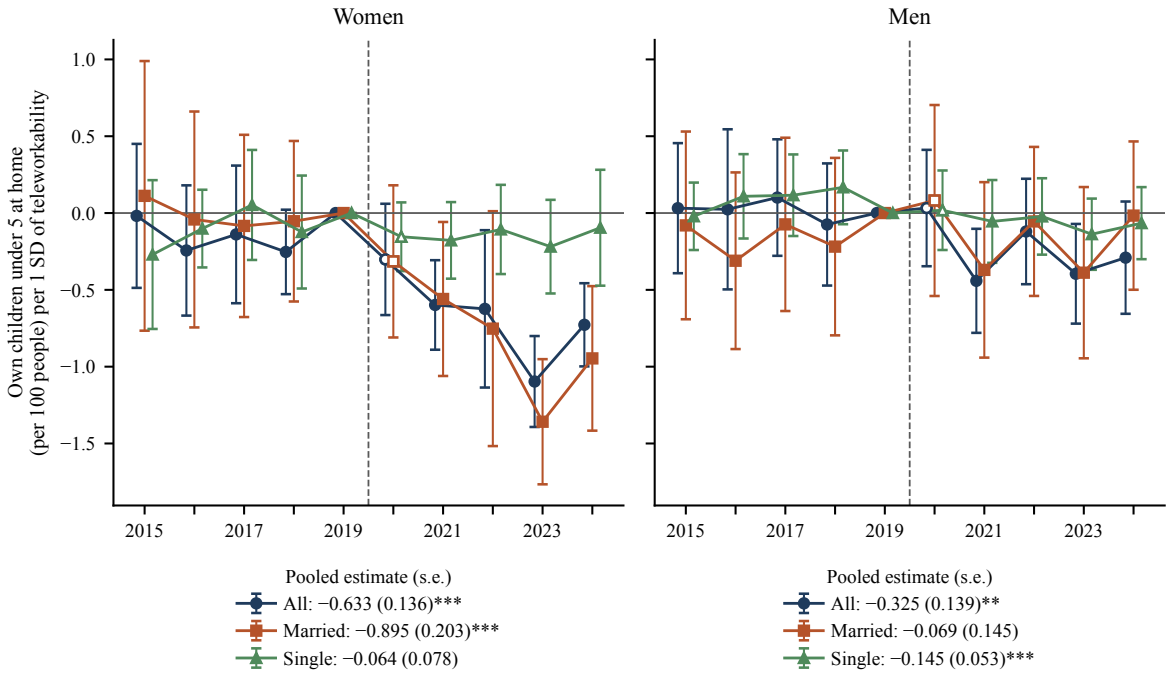
Notes: The table scales the estimates in Table 1 to the total fertility rate. Row (1) is the effect of teleworkability on births divided by its effect on working from home for all college-educated women, estimated in one stacked regression; the standard error is from the delta method. Rows (2) and (3) are the shares of employed women aged 18–44 who worked primarily from home in the ACS. Row (4) is row (2) less row (3) when working from home returns to its 2015–19 level, and row (2) when it falls to zero. Row (5) is the implied change in the annual birth rate, assumed equal at every age. The total fertility rate is the sum of birth rates by single year of age, so row (7) multiplies row (5) by the number of years in which a woman is exposed. When only college graduates respond, row (6) is the sum over ages 18–44 of the share of women who hold a bachelor's degree. When all women respond, row (6) is the 27 years from 18 to 44, and the ratio for college graduates is applied to women without a degree. Row (8) divides row (7) by the 2024 total fertility rate in the ACS, 1.69, the sum of birth rates by single year of age from 18 to 44. Standard errors in row (7) reflect row (1) only. The calculation treats row (1) as the effect of working from home on births, which requires that teleworkability changed births only through the ACS measure of working from home. The ACS measure omits hybrid work, so row (1) likely overstates the effect of working from home. Working from home was never zero in the sample period, and the columns for all women extrapolate from college graduates.

Figure A.1: Own Child under Age 1 in the Household



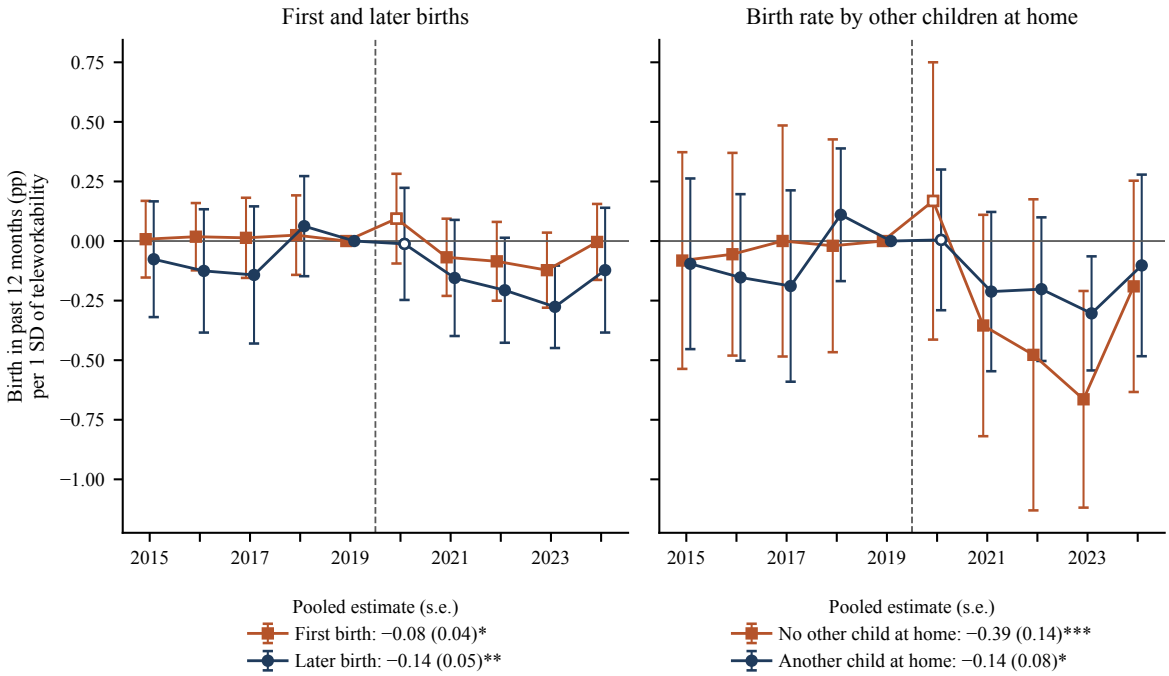
Notes: The outcome is an indicator for living with an own child under age 1, in percentage points. The legend reports pooled estimates with the post period 2021–2024 and a separate interaction for 2020. See the notes to Figure 1.

Figure A.2: Own Children under Age 5 in the Household



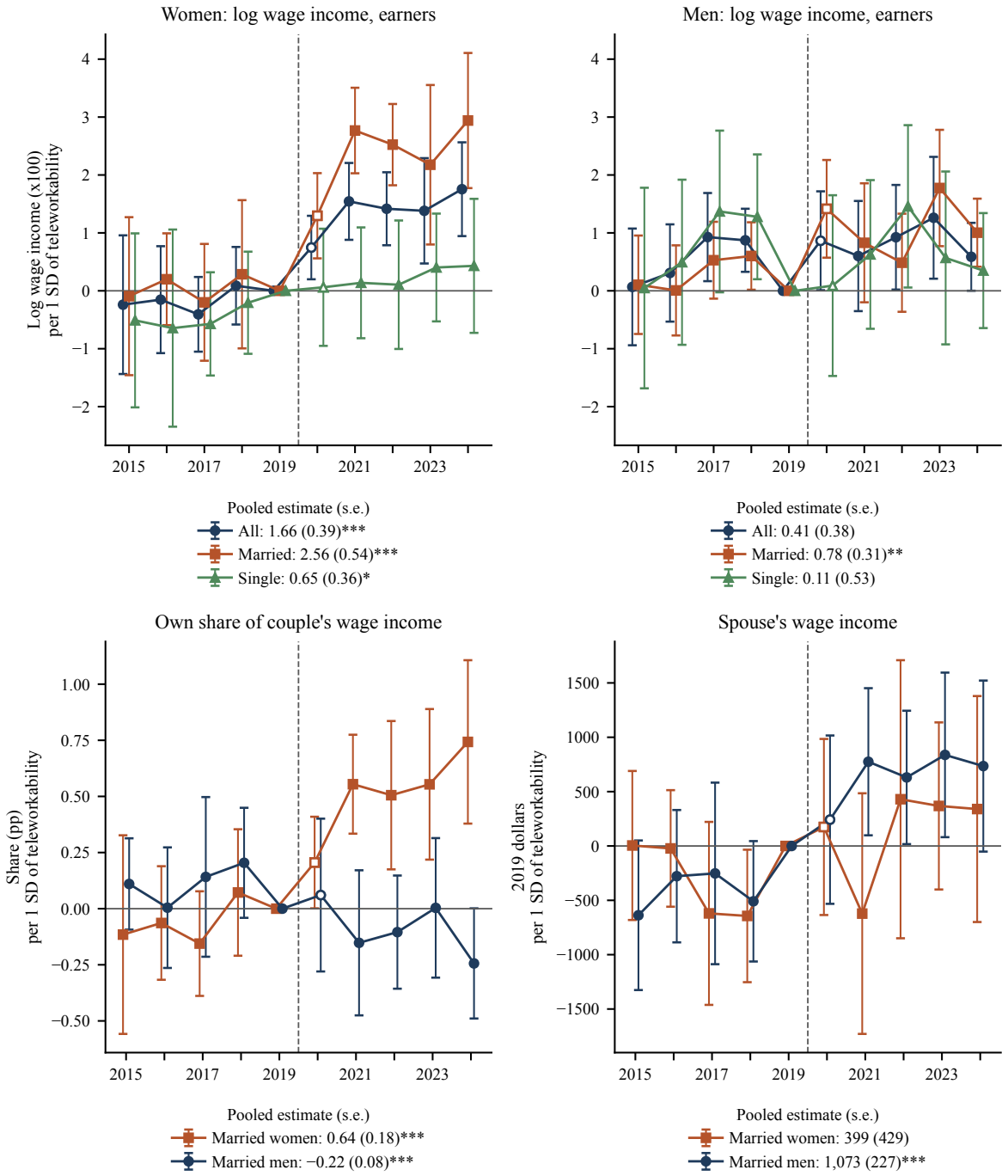
Notes: The outcome is the number of own children under age 5 in the household, per 100 people. The legend reports pooled estimates with the post period 2021–2024 and a separate interaction for 2020. See the notes to Figure 1.

Figure A.3: Births by Parity, Married Women



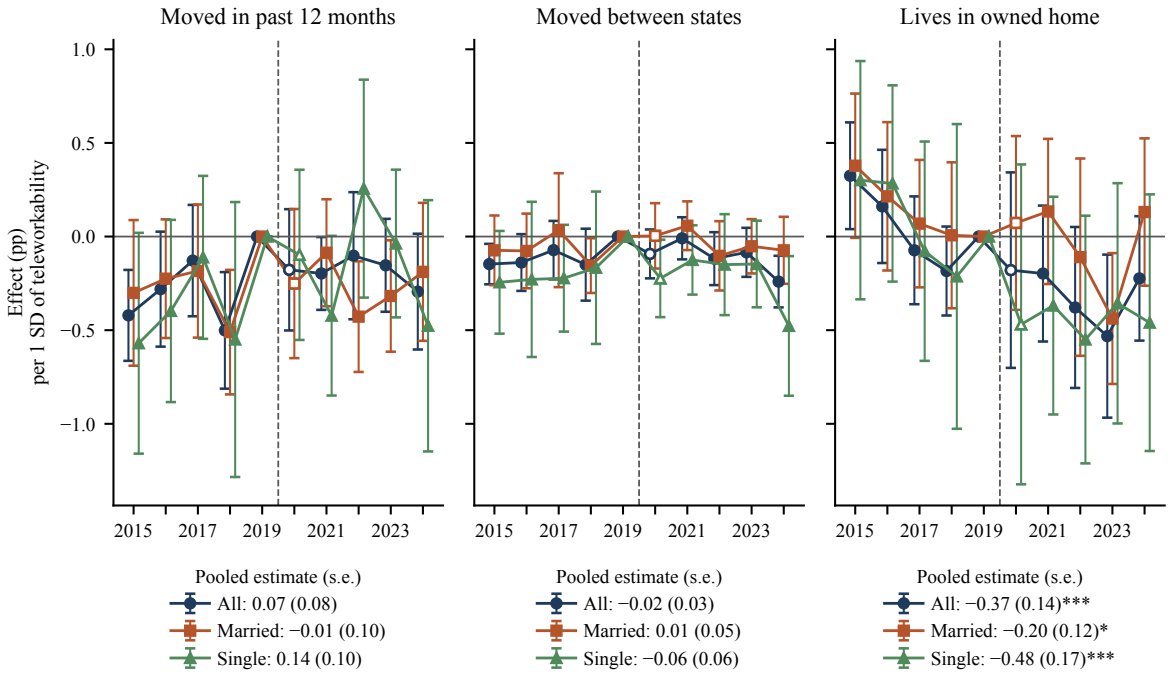
Notes: The left panel divides births in the past 12 months by proxied birth order. I approximate birth order using the number of the respondent's own children living in the household. Births to women with at most one resident own child are classified as first births; births to women with two or more are classified as later births. This classification may misclassify women whose older children live elsewhere. The two outcomes sum to the birth indicator. Before 2020 the annual rate was 4.9 percent for first births and 6.4 percent for later births. The right panel reports the birth rate separately for married women with no other own child in the household (pre-2020 rate 15.1 percent) and with at least one (9.4 percent). The split in the right panel conditions on household composition, which teleworkability may change. The sample is college-educated married women aged 18–44. The legend reports pooled estimates with the post period 2021–2024 and a separate interaction for 2020. See the notes to Figure 1.

Figure A.4: Teleworkability of College Major and Earnings



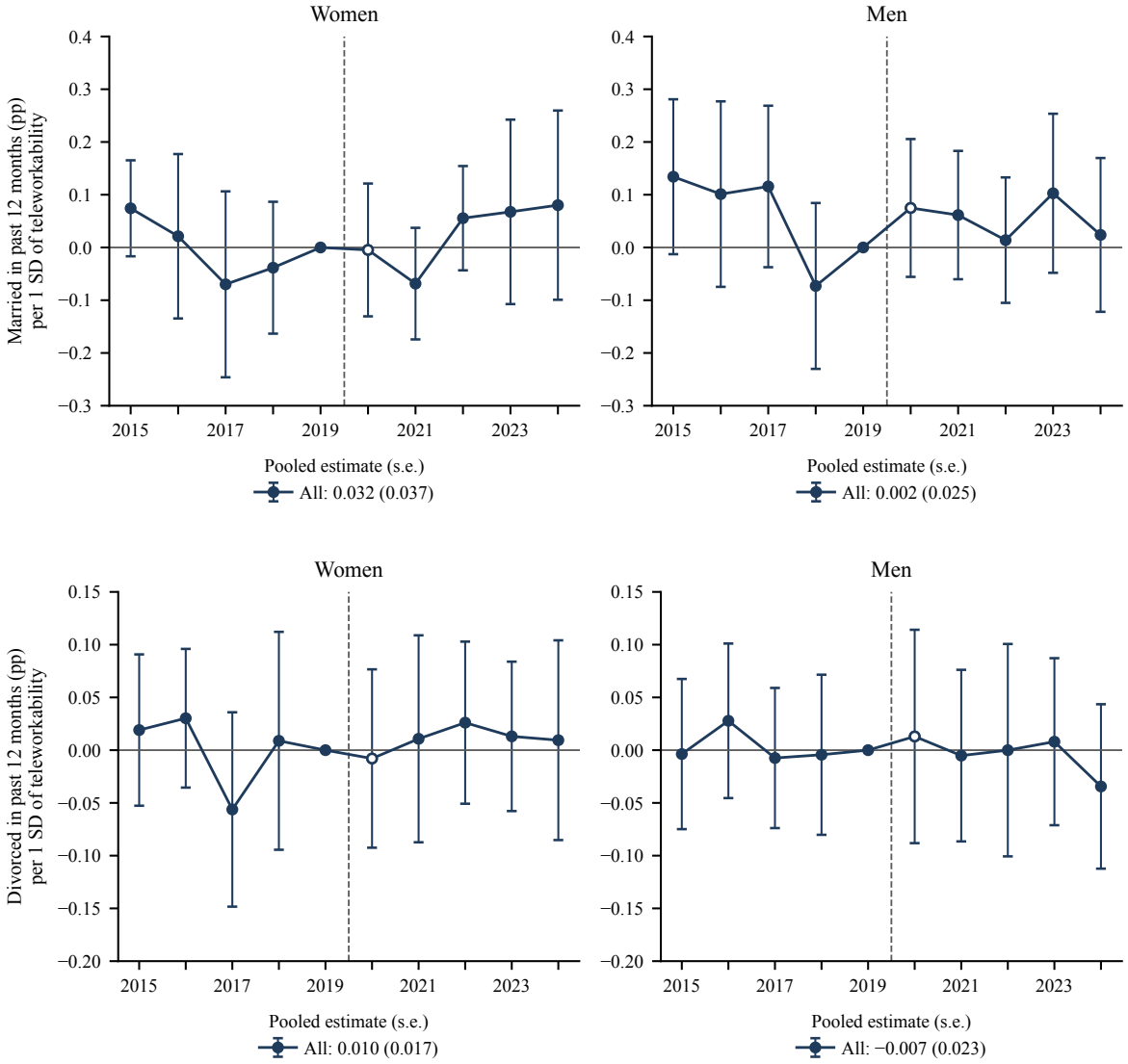
Notes: The top panels report effects on the log of annual wage and salary income, times 100, among people with positive wage income. The bottom left panel reports effects on a married person's share of the couple's combined wage income, in percentage points, among married couples living together with positive combined wage income. The bottom right panel reports effects on the spouse's annual wage and salary income, including zeros. Income is for the 12 months before the survey, in 2019 dollars deflated by the CPI-U, and the spouse's income is top-coded at the 99th percentile of each year. The legend reports pooled estimates with the post period 2021–2024 and a separate interaction for 2020. See the notes to Figure 1 for the sample and specification.

Figure A.5: Teleworkability, Residential Mobility, and Homeownership



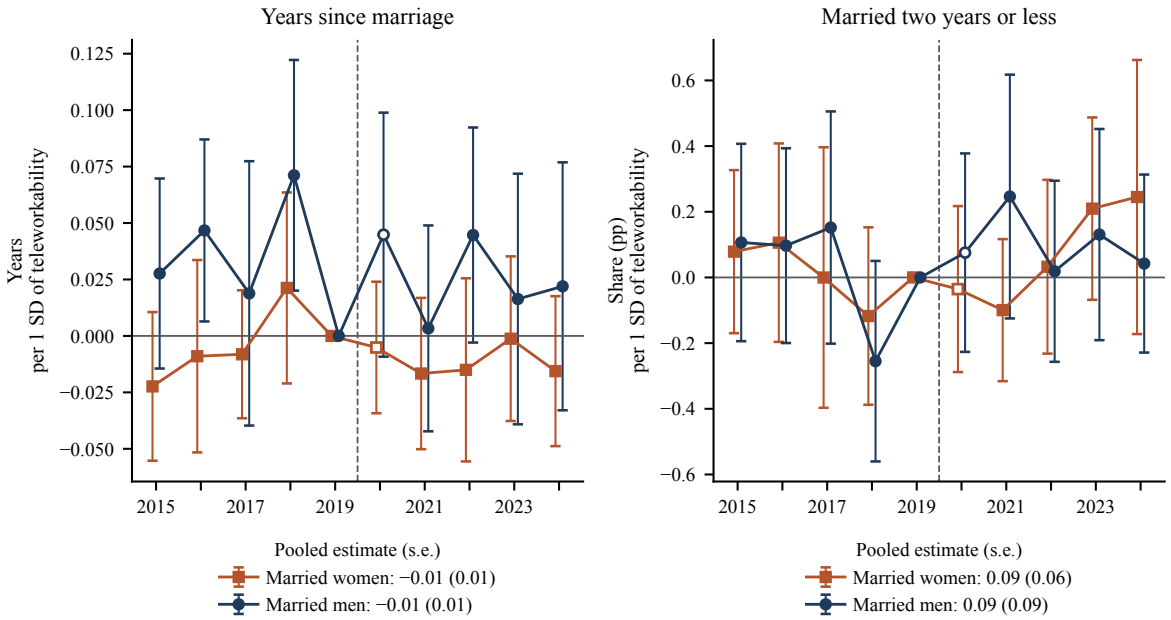
Notes: The outcomes are indicators, in percentage points, for having moved to a different house in the past 12 months, for having moved from a different state in the past 12 months, and for living in a home owned by a member of the household. The sample is college-educated women aged 18–44. Pre-trend tests reject for moves among all women ($p < 0.01$) and married women ($p = 0.04$) and for home ownership among all women ($p = 0.01$), where ownership was falling in teleworkable majors before 2020. The legend reports pooled estimates with the post period 2021–2024 and a separate interaction for 2020. See the notes to Figure 1.

Figure A.6: Marriage and Divorce in the Past 12 Months



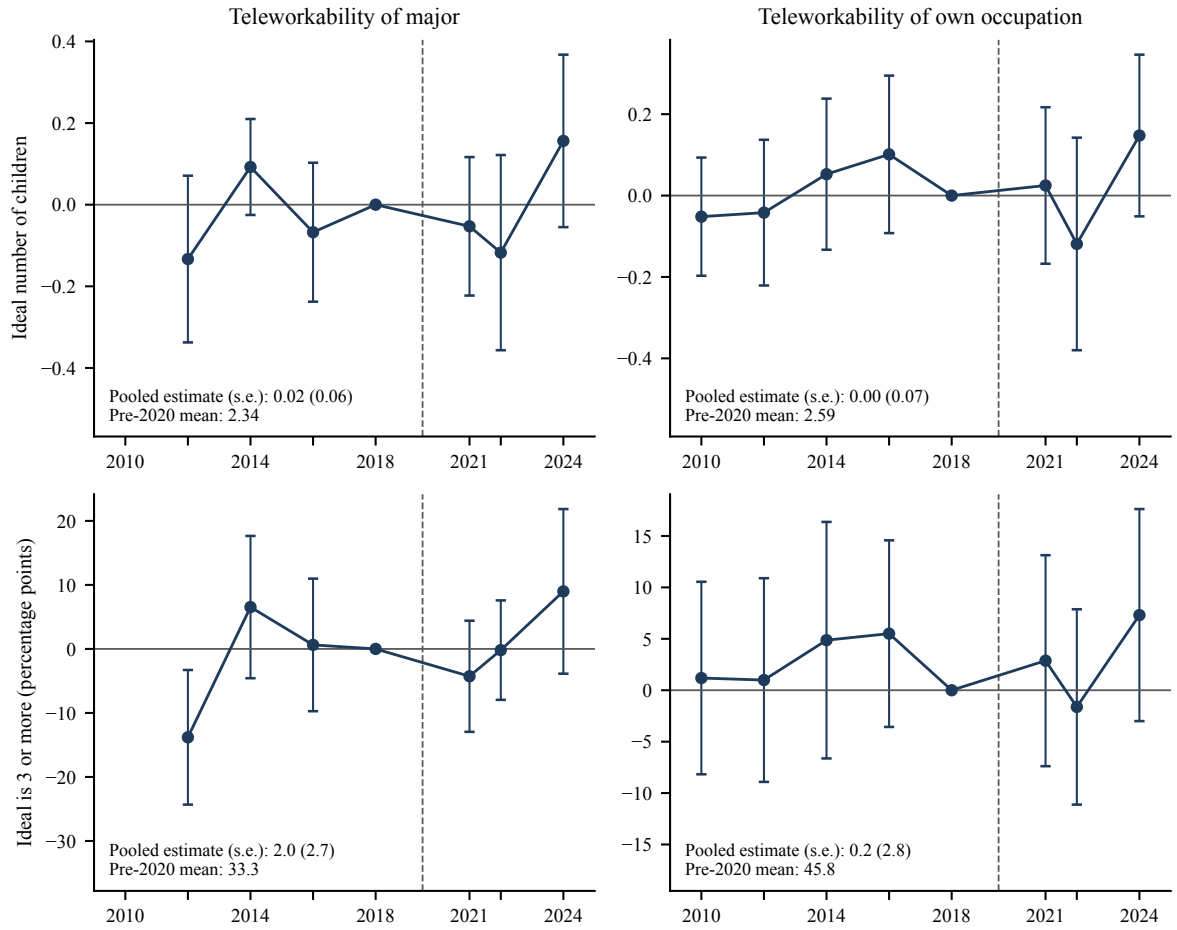
Notes: The outcomes are indicators for marrying (top) and divorcing (bottom) in the past 12 months, in percentage points. The legend reports pooled estimates with the post period 2020–2024. See the notes to Figure 1.

Figure A.7: Teleworkability of College Major and Time since Marriage



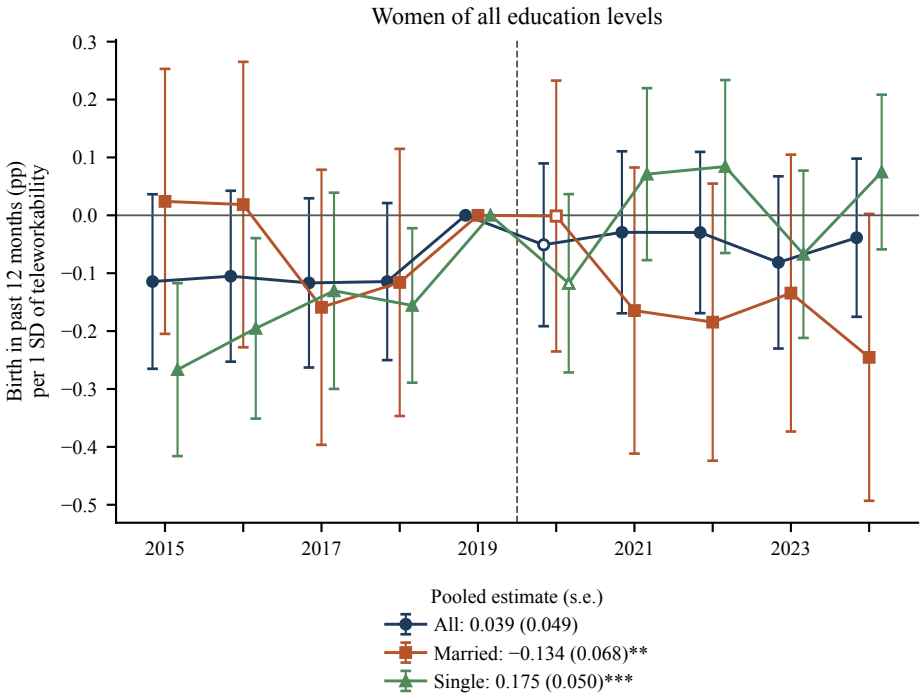
Notes: The sample is college-educated married women aged 18–44 and married men aged 18–50. Years since marriage is the survey year minus the year of the most recent marriage. The right panel reports effects on an indicator for having married within the past two years, in percentage points. A change in the timing or selection of marriage would change the composition of married women. The legend reports pooled estimates with the post period 2021–2024 and a separate interaction for 2020. See the notes to Figure 1.

Figure A.8: Teleworkability and Women's Preferred Family Size



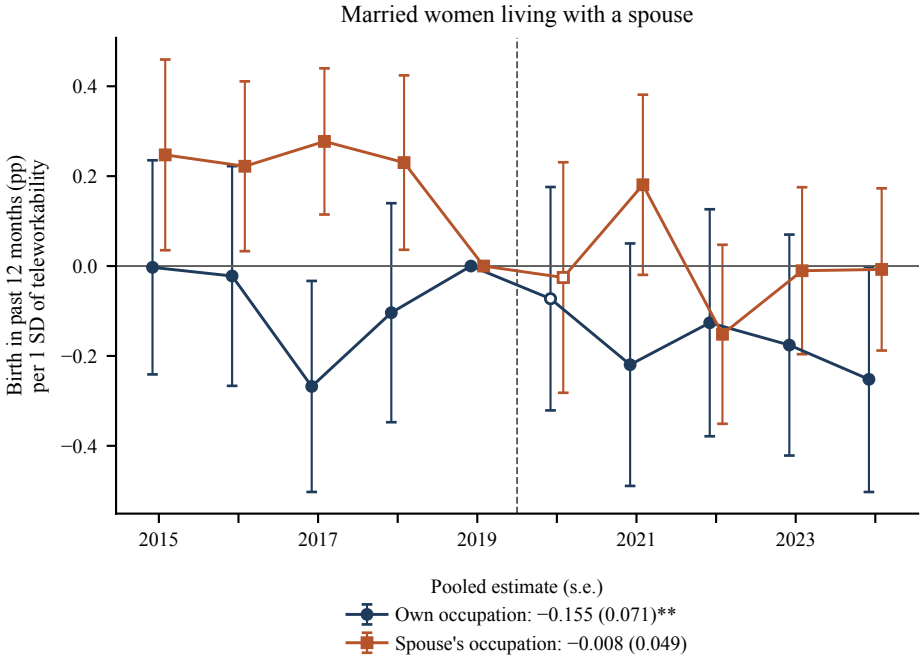
Notes: The data are the General Social Survey, 2010–2024, and the sample is women aged 18–44. The outcomes are the ideal number of children for a family (top) and an indicator that the ideal is three or more, in percentage points (bottom). Answers of "as many as you want" and "don't know" are excluded. In the left panels, teleworkability is that of a woman's general field of degree, computed from the ACS as in the main analysis; the sample is women with a bachelor's degree or more, and major is first recorded in 2012. In the right panels, teleworkability is that of a woman's current or last occupation, computed from the 2015–2017 ACS, which uses the same 2010 Census occupation codes as the GSS. Each panel plots coefficients on standardized teleworkability interacted with survey-year indicators, with 2018 omitted; there was no 2020 cross-section. Regressions include major or occupation, region-by-year, age, degree, and race and ethnicity fixed effects and use the GSS weight WTSSPS. The pooled estimate interacts teleworkability with an indicator for 2021–2024. Bars show 95 percent confidence intervals from standard errors clustered by major or occupation.

Figure A.9: Births and Occupational Teleworkability among Women



Notes: The figure repeats Figure 2 using the teleworkability of a woman's own occupation, with occupation fixed effects and standard errors clustered by occupation. The sample is women aged 18–44 who report an occupation. The legend reports pooled estimates with the post period 2021–2024.

Figure A.10: Births and Spouses' Occupational Teleworkability



Notes: The sample is married women aged 18–44 living with a spouse. The regression includes the teleworkability of the woman's occupation and of her spouse's occupation, each interacted with year indicators, with fixed effects for the woman's occupation and standard errors clustered by the woman's occupation. The legend reports pooled estimates for each term from one regression, with the post period 2021–2024.