Time Use Before, During, and After the Pandemic

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Abstract

This article summarizes three sets of changes in how Americans spend their time: where people work, how much time they spend alone, and how parents share childcare responsibilities. Even before the COVID-19 pandemic, Americans were increasingly working from home, spending their days alone, and sharing childcare responsibilities more equitably. However, these trends greatly accelerated during the first months of the pandemic period. More recently available data suggest that there is no "going back" to a pre-pandemic world.

1. Introduction

This article discusses three major shifts in time use before, during, and after the COVID-19 pandemic. I characterize trends in working from home, in time spent alone, and in time engaged in childcare activities. I discuss the lessons from existing economic research, supplementing these findings by analyzing a large nationally representative dataset of Americans' time diaries, the American Time Use Survey (ATUS).[2] The article's main findings are that:

- Working-from-home (WFH) was already increasing in the decades leading up to the pandemic. Then, during the first months of 2020, the fraction of work hours that take place at home more than doubled. Although that fraction slowly drifted down thereafter, it stabilized at a level much higher than directly before the pandemic. The extent and increase in working from home are more pronounced for college-educated individuals.
- Similarly, the share of time that people spend alone was slowly increased in the decades before the pandemic, shot up in 2020, and then slowly declined to pre-pandemic levels. In contrast to trends in working from home, the share of time spent alone increased more for individuals without a college degree.
- Between 2003 and 2019, parental responsibilities were becoming more evenly distributed — between mothers and fathers — but only for college-educated parents. Beginning with the pandemic, time spent in secondary childcare activities (i.e., having children nearby

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[2] While this article focuses on the United States, time use patterns in other developed economies are broadly like those here. As in the U.S., in other countries the prevalence and attractiveness of remote work increased in the first years of the pandemic (Aksoy et al., 2022). Also as in the United States, mothers spend significantly more time on childcare than fathers; the gap in childcare responsibilities between mothers and fathers has been shrinking over time; and highly educated parents spend relatively more time on childcare activities compared to less educated parents (Dotti Sani, and Treas, 2006). While there are differences between the U.S. and other countries, too — for example, there is some suggestive evidence that the post-pandemic "return to office" may be stronger in other countries relative to the U.S. — many of this article's conclusions are likely to pertain more broadly.

while engaged in some other activity) increased considerably, especially for college-educated parents, and equally for mothers and fathers.

Understanding trends in time use — and how they differ across demographic groups — is critical for multiple ongoing and important debates in economics and finance. The work-from-home revolution has reshaped worker productivity and job satisfaction, real estate price trends, and municipal budgets. Increases in time alone represent a profound challenge for public health. And, finally, the distribution of parental responsibilities is a key determinant for gender equality in the labor market.

Furthermore, the three trends discussed in the article are inter-related: Increasing time spent in secondary childcare activities is likely related to the increase in WFH. Any increase in time spent parenting necessarily implies a reduction in time alone.

Trends in time use may depend on several background characteristics, but I focus on differences according to one's education. Recent research has argued that — even though the monetary returns to a college degree has not changed over the last two decades — "the economy has increasingly come to serve some, but not all Americans… where a central division is between those who do and those who do not have a 4-year college degree." (Case and Deaton, 2022 p. 2)[3] The three trends in time use patterns that are the focus of this article interrogate the idea of a growing divide. The opportunity to work from home is uniquely (and relatively recently) available to those with a college degree. Education, as well, is increasingly associated with stronger social relationships. This is relevant for both trends in time spent alone, and in time spent parenting.[4]

2. Data and Measurement

This article draws on two main data sources, the American Time Use Survey and the Google Mobility Trends database.

The American Time Use Survey (Hofferth et al., 2020) has been collected by the Bureau of Labor Statistics since 2003. Roughly 10 thousand adults participate each year. Survey participants are asked to provide a detailed time diary of a day in their life. For a 24-hour period, they describe — minute by minute — the activities they were pursuing, whom they were with (if anyone), and where they were. In addition, the ATUS contains rich detail on the demographics of the survey respondent: their location; the educational, racial, and ethnic background; the number of children and other adults in their household; and a variety of other measures.

There is one salient limitation to this dataset, especially given that the focus of the current article is on the effects of the COVID-19 pandemic. The Bureau of Labor Statistics was unable to retrieve ATUS time diaries between March 19 and May 10, 2020. Lack of data from this eight-week period

[3] Valetta (2018) and Autor, Dube, and McGrew (2023) document that the gap in incomes between workers with a college degree and without has stayed relatively constant since 2003. But money isn't everything. Case and Deaton (2022) argue that less educated individuals are at higher risk from "deaths of despair:" accidental drug overdoses, alcoholic liver disease, and suicide.

[4] Mongey, Pilossoph, and Weinberg (2021) find that highly educated workers are more likely to work in occupations for which remote work is possible. In Atalay (2023), I document that people without a Bachelor's degree are (increasingly) alone. Finally, Guryan, Hurst, and Kearney (2008) find that highly educated individuals spend a greater fraction of their free time in childcare activities.

is potentially problematic, as working from home and social isolation were likely extremely heightened during the initial stages of the pandemic. If I were to simply omit these weeks during which data was missing, I might understate the increase of working from home and time alone during the first half of 2020. In the Appendix, discuss how I use the Google Mobility Trends Database to fill in the missing data on WFH and on time alone for the March 19 and May 10, 2020 period.

3. Trends in Working from Home

Up to the nineteenth century, most Americans worked where they lived (primarily as self-employed farmers). This changed with the rise of industrial factories in the late nineteenth century and modern offices in the early twentieth century. Throughout the twentieth century Americans' work- and home-life took place in two distinct, separate locations. These long-running trends have reversed over the past couple decades. Reminiscent of the nineteenth century and before, the boundaries between work and home are slowly disappearing, at least for some workers.

For each activity in ATUS participants' time diaries, respondents record where the activity took place. For each year in the ATUS sample, I compute the fraction of work hours that take place at home.[5] According to Figure 3, the share of work time that takes place at home increased steadily in the years preceding the pandemic from 6 percent in 2003 to 10 percent in 2019. Both the initial share of time and its 2003-to-2019 increase are greater for workers with a college degree. For these workers, the share of work time that takes place at home increased from 10 percent to 16 percent, while for workers without a college degree, the share increased only modestly, from 5 percent to 6 percent.

At the onset of the pandemic, WFH quickly and dramatically increased. These shifts occurred both due to state and local governments' restrictions on in-person activities and to individuals' own desire to avoid exposure to the coronavirus. According to Figure 4, work-from-home peaked in the second quarter of 2020: 54 percent of work hours were performed at home, 74 percent for individuals with a college degree, 29 percent for individuals without one. As the COVID-19 wave subsided, work-from-home declined in importance. By the end of 2020, 29 percent of all work hours were performed at home. This share declined to 24 percent in the fourth quarter of 2021 and 22 percent in the fourth quarter of 2022. Although it's considerably lower than during the peak of the pandemic, hours worked from home is still double its pre-pandemic level.

Why has WFH become more prevalent over the last two decades? And why did it jump up during the pandemic? Three factors stand out: First, there is a shift in the types of occupations workers are employed in, away from production activities and towards business services. Second, even accounting for changes in the mix of occupational activities, advancements in information and communication technologies permit individuals to perform a wider range of activities from their home. Third, workers' and employers' norms and attitudes over working from home may change over time (perhaps in response to what firms and employees elsewhere in the labor market are doing.)

[5] In this calculation, "home" refers to the survey respondent's own home, but not someone else's home. (The results would not be much different if we to also include time spent in others' homes.) Work activities include those beginning with "0501," using the code list published at https://www.atusdata.org/atus-action/variables/activity#codes_section .

Although technological progress and the economy's occupational mix evolve slowly, norms and attitudes can shift quickly. Faced with a temporary increase in health risks associated with COVID-19, workers and firms responded by introducing new work arrangements to facilitate working from home. Barrero et al. (2020) report that initial experiences during the first months of the pandemic improved workers' perceptions of WFH. Workers gained experience using new communication technologies. And, given the permission to work from home, some workers moved further from traditional centers of employment (Ramani and Bloom, 2022), raising the commuting cost of returning to in-person work arrangements. In sum, consistent with the analysis of Bick, Blandin, and Mertens (2022), the temporary "shock" of the pandemic likely led to persistent changes in where Americans work, accelerating the pre-existing gradual trend of increasing time spent working from home.

Whether working for home "sticks" matters for labor markets, real estate markets, and public finances.

First, hybrid or fully remote work arrangements increase worker productivity (at least in some contexts, Bloom et al., 2015), and improve workers' job satisfaction (Bloom, Han, and Liang, 2022). However, more recent research has documented productivity declines in firms adopting remote-only work arrangements (Emanuel and Harrington, 2023). Furthermore, shifts to fully remote work arrangements may reduce opportunities for mentoring and hinder career development (Bloom, Han, and Liang, 2022).

Second, the opportunity to work from home has allowed individuals to move away from the center of large metropolitan areas, and this has dramatically reshaped real estate markets. Ramani and Bloom (2022), for instance, estimate that residential real estate prices increased 30 percent faster (between February 2020 and November 2022) in the exurbs of large metropolitan areas relative to city centers. Rosenthal, Strange, and Urrego (2022) document significant declines in commercial rents cities (especially in city centers, and especially in public-transit-oriented cities).

Finally, property taxes are an important source of municipalities' revenue, accounting for between 20 to 40 percent (van Nieuwerburgh, 2023), so WFH's effect on real estate prices may persistently and substantially impact city budgets.

4. Trends in Alone Time

Americans are increasingly isolated from their communities. The share of Americans reporting having three or fewer close friends nearly doubled — increasing from 27 percent to 49 percent — between 1990 and 2021 (Cox, 2021). Between 1960 and 2022, the share of single-person households increased from 13 percent to 29 percent in 2022.[6] In an influential book, *Bowling Alone*, Putnam (2000) chronicles a declining tendency for Americans to form connections either formally (e.g., through civic, religious, or volunteer organizations) or informally (e.g., by visiting friends' homes).

Figure 5 summarizes an additional measure of social isolation: the share of time that Americans spend alone. As part of the ATUS, survey participants described who they were with for most

[6] See https://www.census.gov/newsroom/press-releases/2022/americas-families-and-living-arrangements.html. Accessed July 6, 2023.

activities within their time diary. Participants were not asked who they were with while sleeping; washing, dressing, or grooming oneself; or during other private/personal activities. In addition, participants only were asked who they were with while working beginning in 2010. I compute the share of time spent alone among activities that are "eligible" for measurement, that is excluding work, sleep, and other activities where the ATUS does not record who the survey participant was with.

In 2003, Americans spent approximately 42 percent of their eligible time (4 hours 47 minutes out of a total 11 hours 16 minutes of eligible time) alone. The share of alone time was similar across different educational groups. Between 2003 and 2019, alone time increased much faster for people without a college degree: by 7 percentage points, compared to 5 percentage points for the entire population and less than 3 percentage points for those with a college degree.

Alone time shot up in 2020, peaking in the fourth quarter (coinciding with the pandemic's "second wave".) During this quarter, Americans spent roughly 53 percent of their time alone. This was 5 percentage points — 35 minutes per day — higher than in 2019. This increase had mostly reversed by the end of 2021. By the end of 2022, time alone had stabilized at 48 percent—marginally higher than directly before the pandemic.[7]

In a recent paper (Atalay 2023), I explore some of the reasons behind and implications of this increasing trend towards solitude.[8] Americans are spending significantly less time out of the house and with people from households other than their own. (Time spent with other people from one's own household has been constant since 2003.) Only part of the increase time can be explained by "virtual socialization": playing video games online and, to a lesser extent, engaging with social media.

For some people, and in some contexts, spending a greater share of time alone may represent an improvement in well-being. Certain relationships —an unhappy or abusive romantic relationship, for example — can be harmful for one's own emotional and physical well-being. A less extreme example, some people may find every-day, mundane social situations a source of anxiety and stress.

However, on average, greater time alone is associated with a *decrease* in emotional well-being and life satisfaction. The 2012 and 2013 editions of the ATUS asked about overall life satisfaction as well as how respondents felt — how happy, sad, stressed, in pain, or tired — during three randomly chosen activities within their time diary. On average, survey respondents who spend a greater share of their time alone report lower life satisfaction. And activities that are performed alone are rated as less enjoyable.

[7] Frazis (2023) measures changes in time alone, including work activities in his analysis. He finds that time spent alone while working increased considerably during the initial year of the pandemic, primarily so for college-educated workers. The increase in time spent alone while working reflects both an increase in working from home as well as an increase in working alone while at one's workplace. In contrast to other activities, when pursuing work activities survey respondents report greater emotional well-being while alone than when with others. This distinction between work activities and other eligible activities is a second reason — in addition to the lack of data before 2010 on whom people spent their time with — that I exclude work activities when computing trends in alone time.

[8] Part of the increase in time alone can be explained by changes in the composition of the American population: older people spend more of their time alone than younger people do, and the share of older Americans has increased over time. But even accounting for these changes, Americans are spending considerably more time alone than ever before.

Consistent with these patterns from the ATUS, in May of this year the U.S. government issued a Surgeon General's Advisory on "Our Epidemic of Loneliness and Social Isolation,"[9] writing that "Across many measures, Americans appear to be becoming less socially connected over time." (p. 12) Summarizing research from epidemiology, public health, and psychology, the Surgeon General's Advisory (p. 8) suggests that social isolation may increase the risk of cognitive decline in older adults (Lazzari and Rabottini, 2021), depression (Mann et al., 2022), and heart disease and stroke (Valtorta et al. 2016).

All in all, increases in time spent alone likely represent a deterioration in individuals' living standards and an intensifying public health risk.

5. Trends in Childcare Time

In the final decades of the 20th century, the amount of time that parents — especially fathers — spent in childcare activities increased considerably. Aguiar and Hurst (2007) compare time use diaries from the 1960s to the early 2000s. They find that the amount of time men spend in childcare nearly tripled between 1965 and 2003, from 1.2 hours per week to 3.1 hours per week. In a complementary analysis, Ramey and Ramey (2010) document that this increase in time spent with children was larger for more-educated parents.

How have things changed since 2003? To answer this question, I consider two separate categories of childcare. "Primary childcare" measures the amount of time parents are actively engaged in childcare activities: caring for and helping household children; activities related to household children's education; activities related to household children's health; or travel related to children's care, education, or health.

The top panel of Table 1 presents trends in parents' time spent engaged in these activities.[10] In the years leading up to the pandemic, time spent in primary childcare increased by nearly one hour per week: from 6.7 to 7.6 hours per week for fathers and from 13.5 to 14.4 hours per week for mothers. During the pandemic, there were little overall changes in mothers' or fathers' spent on primary childcare activities.

However, there are important differences across parents' educational backgrounds. Among parents with a college degree, the gap in childcare responsibilities narrowed considerably: Mothers spent 1.2 hours per week less in primary childcare activities (from 16.5 to 15.3 hours per week), while fathers spent 0.5 hours per week more. In this way, the gap between college-educated mothers' and fathers' childcare time closed by about 1.6 hours per week (nearly 20 percent of the beginning-of-the-sample gap.) In contrast, for parents without a college degree, time spent with children increased for both fathers and mothers—the gap in responsibilities between mothers and fathers did not shrink.

The second category ("Primary or secondary childcare") includes time spent in primary childcare *and* time engaged in other activities with one's own child (under the age of 13) in the parent's care.

[9] See https://www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf . Accessed July 6, 2023.
[10] The sample in Table 1 includes both married and unmarried parents. Nearly 90 percent of parents with a BA and 72 percent of parents without a BA are married. The changes depicted in Table 1 would look similar if one were to focus solely on married parents.

Within this broader definition may include, for example, a parent working from home but with their child nearby.

The bottom panel of Table 1 considers this more comprehensive measure of time with children. Three results stand out: First, parents spend substantially more time engaged in secondary than primary childcare activities. As of 2003, fathers spent about 32.1 hours per week in primary or secondary childcare activities; mothers spent 52 hours per week. Second, in the years leading up to the pandemic, gaps in childcare time between mothers and fathers — and between parents with and without a college degree — each shrank.

Finally, during the pandemic period and its aftermath, time with children shot up, especially for college-educated parents. College-educated parents spent an additional 4.8 hours per week in either primary or secondary childcare activities in 2020-2022 relative to 2017-2019. Given primary childcare time was, on average, flat in the years before and after the onset of the pandemic, secondary childcare activities are responsible for essentially all of the increase in time with children.

Two factors help explain the large increase in parental childcare responsibilities during the pandemic. First, especially during the first year and a half of the pandemic, school and childcare center closures increased demands on parents' time.[11] Second, the availability of WFH arrangements allowed parents to work while supervising their children (albeit with some distance.)[12] College-educated workers' jobs were more likely to permit working from home, and it is largely for this reason that the time they spend in secondary childcare activities increased especially quickly during the pandemic.

To the extent that childcare responsibilities are shared more evenly over time, gaps between men's and women's experiences in the job market may also close. The unequal distribution of childcare responsibilities between mothers and fathers is a key factor behind the "motherhood penalty" — whereby the earnings of mothers, but not fathers, fall around the birth of their first child — and, in turn, the differences in pay that men and women receive. Kleven et al. (2019) estimate that American mothers' earnings drop by approximately 30 percent after the birth of their first child, with little recovery over time. They conclude that most of the inequality between males' and females' labor market experiences can be traced to differing childcare responsibilities.[13]

[11] During the initial stages of the pandemic, in the final months of the 2019-2020 school year, Goldin (2022, p. 84) estimates that nearly "90 percent of US school-age children were in school only remotely and most childcare facilities were shuttered;" see also Andrew et al. (2020). Jack et al. (2023) compile data on school formats from 2,328 school districts in 11 states for the 2020 to 2021 school year. They find that 35.4 percent of school days in these districts were an in-person format; 41.2 percent were in a hybrid — whereby schools were in-person at some, but not all, days of the school week — format; and 20.9 percent were in a virtual—on-line only—format. Atalay, Kobler, and Michaels (2023) find that school closures lead parents to increase the amount of time they are working while also engaged in secondary childcare activities.

[12] Pabilonia and Vernon (2023) use the American Time Use Survey to measure parents' time spent in childcare activities, comparing days on which they are working from home to those they are not.

[13] Intuitively, measuring parents' time spent in childcare activities should be relevant for understanding for children's development and well-being. Summarizing the literature as of a decade and a half ago, Guryan, Hurst, and Kearney (2008, p. 38) write that "the empirical evidence on the relationship between parental time investment and children's outcomes is only moderately convincing."

6. Conclusion

Over the last 20 years, how Americans spend their time has changed considerably. Americans spend more of their working hours working from home. They are more often alone. And they are sharing parenting responsibilities (slightly) more equitably. The COVID-19 pandemic accelerated trends in where Americans work and how much time they spend with others. It also led to an increase in the amount of time parents spend supervising their children while jointly working. These trends differ according to education: College graduates had larger increases in WFH, smaller increases in time spent alone, and an increasingly equal division of childcare responsibilities between mothers and fathers.

Time may be our most precious resource. All of us are, unfortunately, endowed with a finite amount of it. How we allocate our time — whether at home or in the office; alone or with others; in leisure activities, caring for our children, or working for our employer — shapes our own life satisfaction, gender differences in the labor market, the state of city centers, macroeconomic productivity, and countless other economic phenomena.

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Appendix: Using Google Mobility Trends Database to Fill in Missing ATUS Data

This appendix discusses my attempts at using cell phone data from the Google Mobility Trends database to estimate time use during the March 19 to May 10 period during which the ATUS was not collected.

The Google Mobility Trends database tracks certain cell phone users' time spent in various locations: in parks, in transit stations, in retail and recreation establishments, in grocery stores and pharmacies, in workplaces, or in residential locations.[14]

For the portions of 2020 in which Google Mobility Trends database and the ATUS are available, there is a tight correspondence between time use measures in the two datasets.

The left panel of Figure 1 presents the relationship between weekly time spent at home (according to the Google Mobility Trends dataset) and the fraction of work time that takes place at home (according to the ATUS) for college-educated individuals.[15] As one might expect, there is a strong relationship between the two variables.[16]

In the solid orange line, I plot the (quadratic) curve which best fits the dates plotted in the scatterplot. Using this line, I can get a rough sense of what the ATUS would have recorded as the share of college-educated workers' work-from-home time for weeks between March 27 and May 1, 2020. For example, given the Google Mobility Trends database reports a 15 percent increase (relative to Google's pre-pandemic baseline period) in time spent at home for the week of May 8, the relationship depicted in the orange curve would suggest a 76 percent WFH share for college-educated workers for that week. I follow the same method to impute values for WFH time for college-educated workers for the remaining weeks during which the ATUS survey was not collected.

The right panel of Figure A1 depicts a similar relationship between cell phone time in residential locations and WFH shares for workers without a college degree. Workers without a college degree spent a smaller fraction of their work hours at home. However, like what was observed in the left panel, the relationship between ATUS measures of work-from-home and Google cell phone measures of time spent at home are positively related to one another.

I follow a similar approach to impute the share of time that individuals spend alone during the March 19 to May 10 period. I find that — among measures in the Google Mobility Trends dataset — cell phone time spent in groceries and pharmacies is most closely related to time spent alone in the ATUS. Figure A2 depicts the relationship between time in groceries and pharmacies and ATUS measures of time spent alone. The negative relationship between the two measures largely reflects the influence of governmental and private efforts to isolate to prevent coronavirus infection. In the very earliest stages of the pandemic (late February and early March 2020) individuals' time diaries

[14] The database is based on cell phone users who have opted to turn on their location tracking.

[15] The Google Mobility Trends data display extremely large fluctuations around holidays. In producing weekly averages of cell phone traffic data for Figures A1 and A2, I drop data from the 4th of July, Thanksgiving, Christmas Eve, and Christmas.

[16] Directly before lockdowns were imposed, in the final weeks of February 2020, cell phone users spent similar amounts of time at home relative to the January 3-to-Febuary 6, 2020 baseline period. In these weeks, approximately 14 percent of college-educated workers' hours were performed at home. In contrast, in the week ending May 15, 2020, 84 percent of work hours took place at home according to the ATUS; Google cell phone traffic in residences was up 14 percent relative to the baseline period.

and cell phone activity indicated less social isolation, with the opposite true towards the end of 2020 (as the second wave of the pandemic gathered steam.) Using the estimated relationship between the two measures of social isolation, I estimate that — during the weeks that ATUS data collection was interrupted — roughly 54 percent of college educated individuals' time was spent alone, with a slightly higher share (59 percent) for individuals without a college degree.

I use these predicted values in to describe trends in working from home (see Figure 2) and in time spent alone (see Figure 4) during the pandemic period.

Tables and Figures

	Fathers			Mothers		
	No BA	BA Degree	Both	No BA	BA Degree	Both
2004-2007	6.0	8.3	6.7	12.3	16.5	13.5
2008-2010	6.9	8.8	7.5	12.7	15.7	13.7
2011-2013	7.0	8.9	7.7	12.7	15.5	13.7
2014-2016	6.6	8.7	7.4	13.8	15.1	14.3
2017-2019	6.9	8.8	7.6	13.8	15.3	14.4
2020-2022	6.1	9.9	7.8	13.0	15.3	14.1
2017-19 vs. 2004-07	0.9	0.5	0.9	1.5	-1.2	0.9
2020-22 vs. 2017-19	-0.7	1.1	0.1	-0.7	0.0	-0.3
	Fathers			Mothers		
	No BA	BA Degree	Both	No BA	BA Degree	Both
2004-2007	31.0	34.3	32.1	50.5	53.5	51.4
2008-2010	33.6	34.7	34.0	50.5	51.1	50.7
2011-2013	32.8	34.6	33.4	49.2	50.9	49.8
2014-2016	33.6	34.2	33.8	51.5	49.3	50.7
2017-2019	32.5	34.0	33.1	52.1	48.5	50.6
2020-2022	33.6	40.0	36.4	52.7	52.3	52.5
2017-19 vs. 2004-07	1.5	-0.3	1.0	1.6	-4.9	-0.8
2020-22 vs. 2017-19	1.1	6.0	3.3	0.6	3.8	1.9

Table 1: Parental Time with Children

Notes: The top panel presents the average number of hours per week that parents spend in primary childcare activities: caring for and helping household children; activities related to household children's education; activities related to household children's health; or travel related to children's care, education, or health. The bottom panel presents the average number of hours per week that parents either in primary or secondary childcare activities. Secondary childcare includes time with one's own children (under the age of 13) regardless of the activity being pursued. The sample includes 72,265 parents — 29,887 fathers and 42,378 mothers — who were surveyed as part of the ATUS between 2004 and 2022 and who have at least one child under 18 years old in their household.

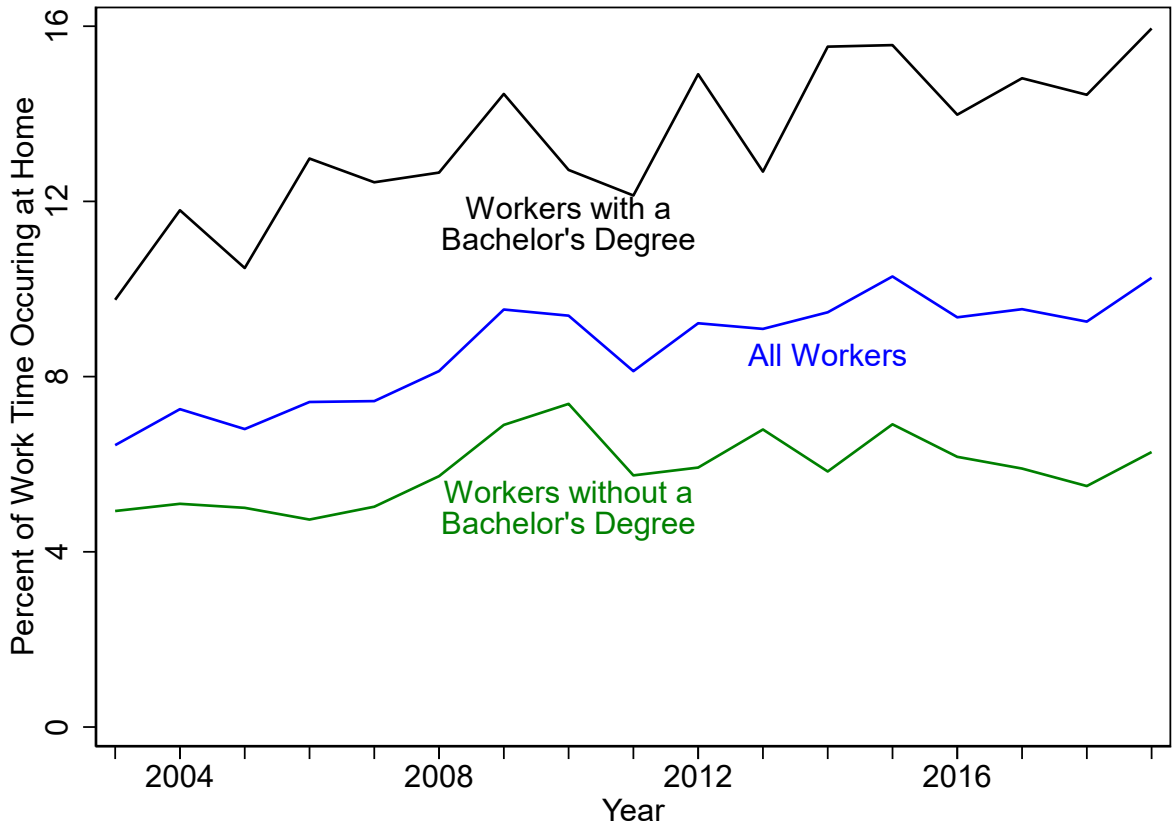

Figure 1—Working from Home, 2003 to 2019

Notes: This figure presents the fraction of work hours that occur at home. The sample includes 75,115 adult ATUS survey respondents who report at least some time working on the day on which they were surveyed.

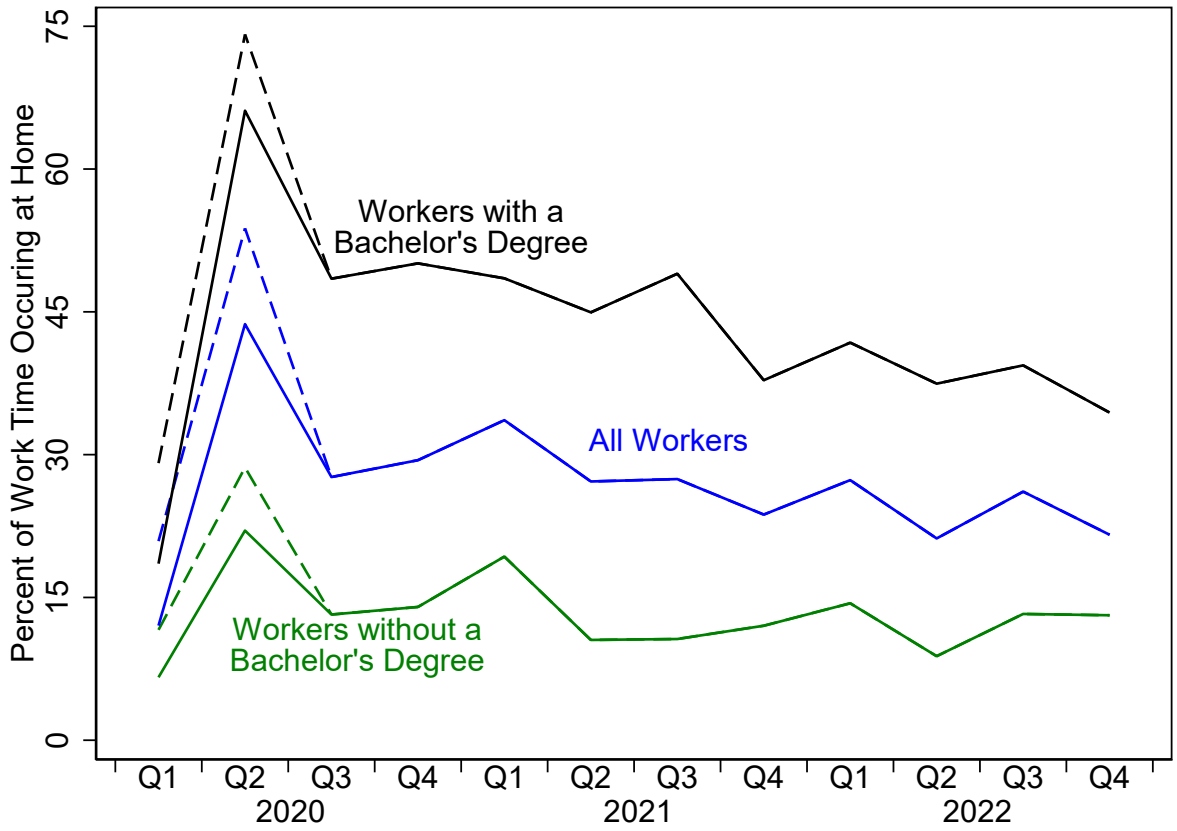

Figure 2—Working from Home, 2020 to 2022

Notes: This figure presents the fraction of work hours that occur at home. The sample includes 8,597 adult ATUS survey respondents who report at least some time working on the day on which they were surveyed. The ATUS survey was not collected between March 19, and May 10, 2020. For 2020Q1 and 2020Q2, respectively, the solid lines depict the sample averages for January 1 to March 18, 2020, and May 10 to June 30, 2020. The dashed lines present quarterly averages, imputing data from March 19 to May 10, 2020, using projected values given by the hollow triangles in Figure A1.

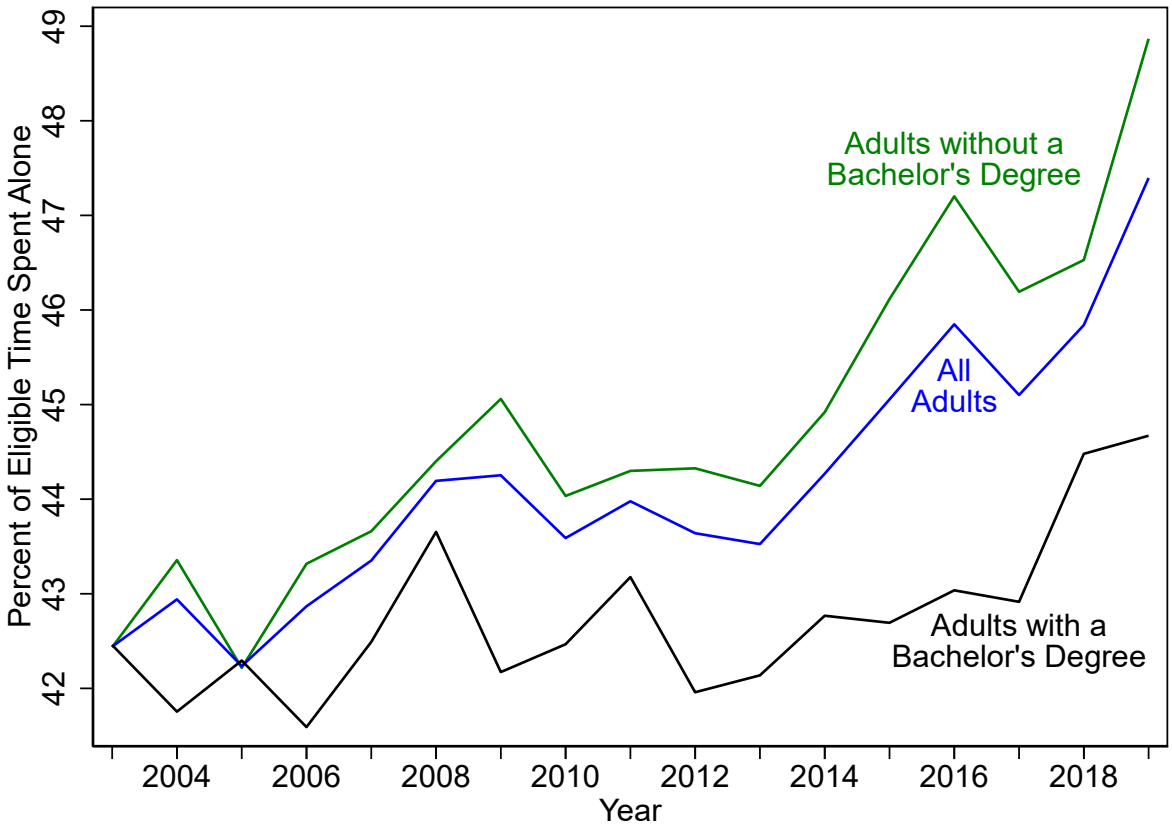

Figure 3—Alone Time, 2003 to 2019

Notes: This figure presents the share of "eligible" time where the survey respondent is alone. Eligible time refers to all activities except for work; sleep; washing, dressing, or grooming oneself, or other private/personal activities. The sample includes 201,834 adult ATUS survey respondents who report at least some time in eligible activities.

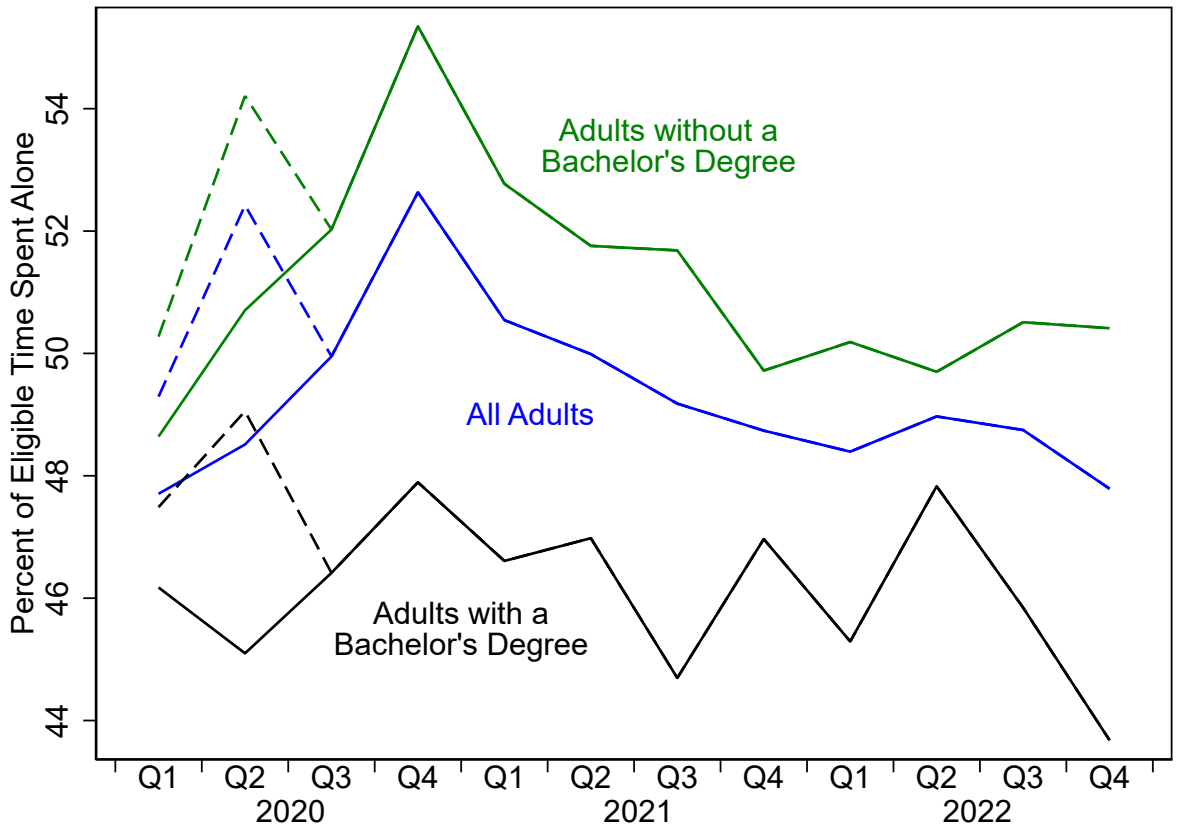

Figure 4—Alone Time, 2020 to 2022

Notes: This figure presents the share of "eligible" time where the survey respondent is alone. Eligible time refers to all activities except for work; sleep; washing, dressing, or grooming oneself, or other private/personal activities. The sample includes 25,357 adult ATUS survey respondents who report at least some time in eligible activities. The dashed lines present quarterly averages, imputing data from March 19 to May 10, 2020 using projected values given by the hollow triangles in Figure A2.

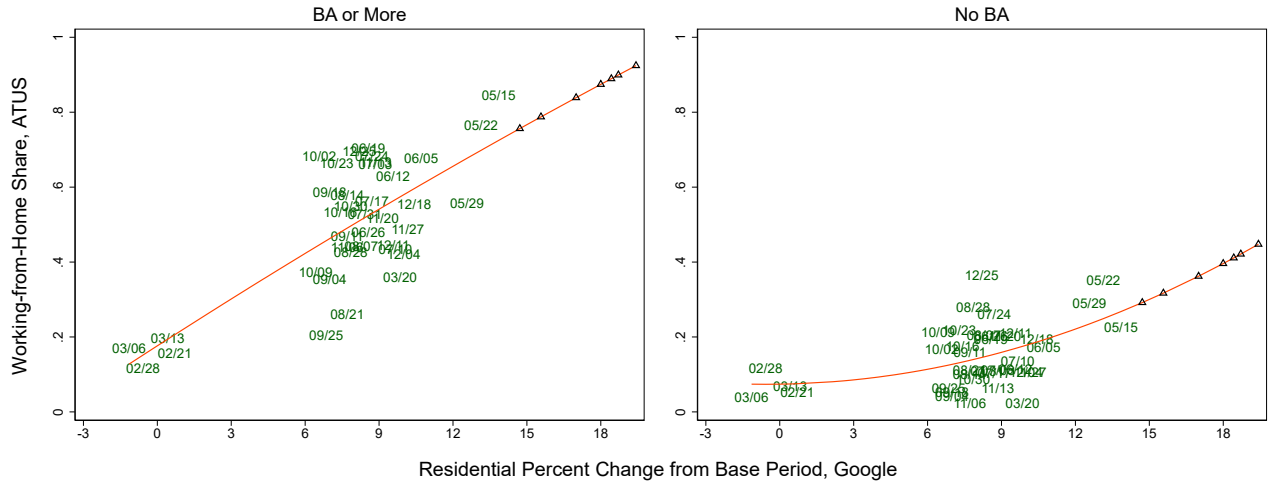

Figure A1—Work from Home Time in the ATUS and Residential Time in Google Mobility Trends

Notes: The horizontal axis refers to the change in the amount of time individuals spend in a residence, compared to the base period (January 3 to February 20, 2020). The vertical axis refers to the ATUS share of work time that takes place in a residence, computed for surveyed individuals with a college degree (left panel) or without a college degree (right panel.) The dates in the figures refer to the final day on the given week. I include weeks ending February 21 to March 20, 2020, and weeks ending May 15 to December 25, 2020. The orange solid line gives the quadratic curve which best fits the scattered dates. The Google Community Reports data begin in the week ending February 21, 2020. The ATUS was not collected between March 19 and May 10, 2020. The hollow triangles give residential cell phone activity for weeks between March 27 and May 1, 2020, along with their location on the orange curve.

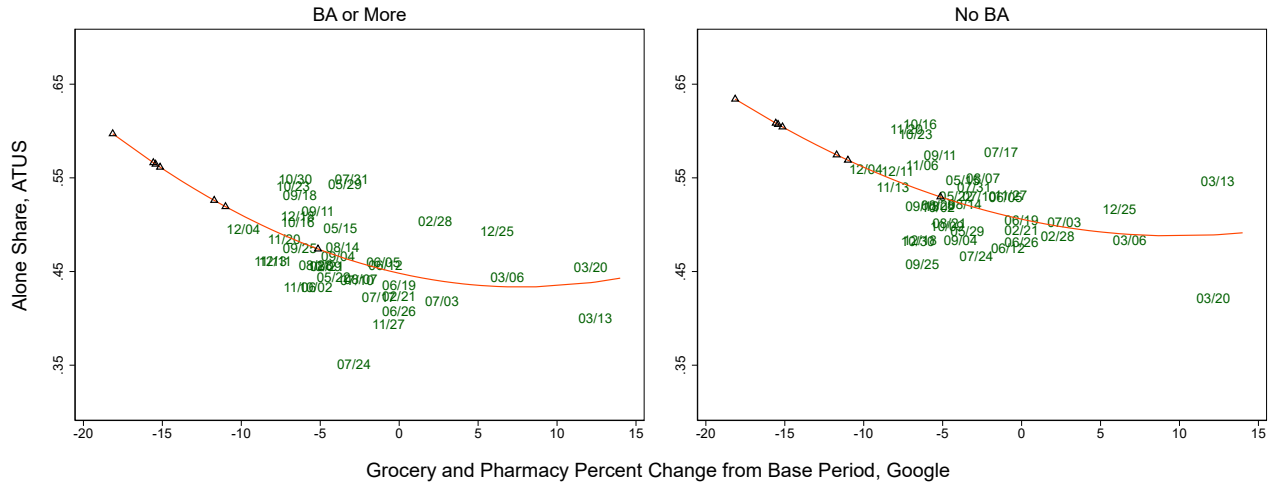

Figure A2—Alone Time in the ATUS and Grocery and Pharmacy Time in Google Mobility Trends

Notes: The horizontal axis refers to the change in the amount of time individuals spend in a grocery store or a pharmacy, compared to the base period (January 3 to February 20, 2020). The vertical axis refers to the ATUS share eligible that takes place alone, computed for surveyed individuals with a college degree (left panel) or without a college degree (right panel.) The dates in the figures refer to the final day on the given week. I include weeks ending February 21 to March 20, 2020, and weeks ending May 15 to December 25, 2020. The orange solid line gives the quadratic curve which best fits the scattered dates. The Google Community Reports data begin in the week ending February 21, 2020. The ATUS was not collected between March 19 and May 10, 2020. The hollow triangles give grocery and pharmacy cell phone activity for weeks between March 27 and May 1, 2020, along with their location on the orange curve.