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Remote Work, Gender Ideologies, and Fathers' Participation in Childcare during the COVID-19 Pandemic

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Abstract: During the early days of the COVID-19 pandemic, remote work became the new reality for many fathers. Though time availability theory suggests that this newfound flexibility should lead to more domestic labor on the part of fathers, many were skeptical that fathers would step up to shoulder the load at home. Indeed, the findings are decidedly mixed on the association of fathers' remote work with their performance of housework and childcare. Nonetheless, research has yet to consider how contextual factors, such as fathers' gender ideologies and mothers' employment, may condition these associations. Using data from Wave 1 of the Study on U.S. Parents' Divisions of Labor During COVID-19 (SPDLC), we examine how gender ideology moderates the association between fathers' remote work and their performance and share of childcare during the early days of the COVID-19 pandemic in both sole-earner and dual-earner families. The results show, for sole-earning fathers and dual-earner fathers with egalitarian gender attitudes, that the frequency of remote work was positively associated with fathers performing more, and a greater share of, childcare during the pandemic. Yet, only dual-earner fathers with egalitarian gender attitudes performed an equal share of childcare in their families. These findings suggest that the pandemic provided structural opportunities for fathers, particularly egalitarian-minded fathers, to be the equally engaged parents they desired.

Keywords: remote work; gender ideology; gender attitudes; fathers; childcare; domestic labor; gender equality



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1. Introduction

The COVID-19 pandemic was a time of great change and uncertainty. Social distancing protocols early in the pandemic forced Americans to spend an unprecedented amount of time at home. Ninety-three percent of households with school-aged children reported engaging in some form of remote learning (U.S. Census Bureau 2021), the vast majority of daycare centers shut down (Lin and Meghan 2023), and a majority of employees were provided options to work from home (Barrero et al. 2021).

The movement of children and work into homes created tensions as working parents had to juggle paid work with housework tasks, caring for their children, and assisting in children's remote learning (Johnson et al. 2022). Some feared that increases in childcare demands and work–family conflict would fall largely on women and exacerbate gender inequalities (Lewis 2020). Others hoped that public policy changes and the widespread use of remote work would enable fathers to act on their stated desires to be more engaged in childcare and increase their shares of domestic labor, leading to more gender equality at home (King et al. 2020; Offer and Kaplan 2021).

The findings on the association between remote work and fathers' childcare prior to the pandemic are decidedly mixed; some findings show that remote-working fathers perform more childcare, while others find that they do not (Carlson et al. 2021b; Chung

2022; Diamond and Greenstein 2002; Noonan et al. 2007). These equivocal findings may be explained not only by the fact that pre-pandemic research was subject to selection bias (i.e., fathers may have selected into remote work based on their proclivity for performing or not performing childcare), but also that the association between remote work and childcare performance may vary depending on fathers' and their partners' characteristics. Indeed, some of the main theories used to explain the division of labor in families indicate that the performance of domestic labor depends on the opportunity (e.g., time) and desire (e.g., beliefs about gendered family roles) to engage in domestic tasks. While working from home and wanting to be more engaged with children may be necessary conditions to increase fathers' performance of childcare and foster equitable childcare arrangements, alone they may be insufficient. Rather, fathers may need both the time and the desire to care for children to be more engaged fathers and equal partners. Moreover, their partners' time availability likely also matters, as working mothers' limited availability provides fathers even more opportunities (and reasons) to engage in childcare. Nonetheless, research on the pandemic has yet to consider how fathers' gender ideologies—their beliefs about gendered family roles—shape how remote work is related to their performance and shares of childcare and how this may vary by their partners' employment.

Using data collected during the lockdown period in Spring 2020 of the COVID-19 pandemic from the Study on U.S. Parents' Divisions of Labor During COVID-19 (SPDLC), this study examines the moderating role of partnered fathers' gender ideologies in the association of fathers' frequency of remote work and their time in, and shares of, childcare both in families in which mothers were employed and those in which they were not. Given the unique and natural experimental qualities of the COVID-19 pandemic, and thus a reduction of selection bias in remote work, this study builds on previous work (e.g., Lyttelton et al. 2022) to assess the contexts in which remote work may facilitate greater father involvement in childcare and potentially help to reduce gender inequalities (Brand 2015; Noonan 2013; Pedulla 2020).

2. Background

2.1. COVID-19, Remote Work, and Gender (In)equality at Home

Prior to the COVID-19 pandemic, remote work was becoming a more prevalent, yet still fairly limited feature of American workplaces, with less than 5% of workers regularly working from home (Barrero et al. 2021). By April 2020, however, approximately 69% of workers were working from home at least sometimes with 51% of workers working exclusively from home (Brenan 2020).

The ability to work remotely is one of, if not the most, desired workplace benefits among American workers (Jones 2017). A primary reason for this is that remote work offers workers flexibility in managing their work, social, and family obligations, and the majority of remote workers say that this form of flexibility helps them to achieve greater work–family balance (Pew Research Center 2023). Working parents, the majority of whom lament a paucity of time with their children, particularly desire this workplace benefit (Milkie et al. 2019). Of course, working from home is not a panacea that solves all work–life problems. Working from home can also lead to overwork and blurred boundaries between work and home and thus actually increase work–family conflict and stress (Schieman and Glavin 2008; Chung 2022).

The explosion of remote work during the COVID-19 pandemic was, of course, driven by social distancing policies designed to reduce the transmission of the SARS-CoV2 coronavirus. Aside from essential services, most public and private sector workplaces were shuttered in the early days of the pandemic, including schools and childcare centers. As such, not only was work thrust into the home for many working parents, but many also lost important childcare and educational supports.

Though parents reported increased family time as a benefit of pandemic lockdowns (Milkie 2020), the lockdown period also presented many challenges. Notably, working parents—and working mothers in particular—experienced increased stress during lock-

downs due to difficulty managing their own paid work responsibilities with increased care and educational obligations for children (Carlson et al. 2022; Montazer et al. 2022; Zamarro and Prados 2021). Not only did mothers continue to do the lion's share of childcare in most families during the pandemic, but they were also more likely than fathers to reduce their time in paid work as a result (Collins et al. 2021; Heggeness 2021; Petts et al. 2021). This was both true of mothers who were eligible to work remotely and those who were not (Collins et al. 2021). Indeed, though the ability to work from home appears to have helped mothers stay attached to the labor force, remote-working mothers reduced their work hours substantially when children were learning virtually or being cared for from at home (Carlson et al. 2022). Thus, although workers may perceive remote work as helpful for work–family balance under normal circumstances, this may not have been the case during pandemic lockdowns, at least for mothers, due to the loss of care supports and substantial increases in domestic responsibilities.

In response to the loss of domestic services and in-person schooling/childcare, partnered fathers appear to have elevated their performance of domestic labor during the pandemic (Carlson et al. 2021a; Carlson and Petts 2022b; Lyttelton et al. 2022), which was somewhat protective of partnered mothers' jobs (Petts et al. 2021). There is also evidence suggesting that partnered fathers taking on more of the household management during the pandemic may have psychologically benefitted both mothers and fathers (Petts and Carlson 2023). Nonetheless, the increase in fathers' shares of domestic labor was substantively small—approximately 4%—especially when considering not only men's stated desires to be more domestically engaged (Petts 2022), but also the number of men who began working from home, many exclusively (Brenan 2020; Brynjolfsson et al. 2020). Thus, although gender inequalities in domestic labor appear to have shrunk during the pandemic, they largely persisted despite the full-time presence of many fathers in homes.

2.2. Theoretical Perspectives on Fathers' Remote Work and Performance of Childcare

At the outset of the COVID-19 pandemic, scholars, journalists, and pundits debated openly about whether the loss of domestic supports would fall on women, exacerbating gender inequalities, or whether men might share some of the increased domestic load, leading potentially to more equal divisions of labor in families (Calarco et al. 2021; Carlson et al. 2021a; Miller 2020). Central to this debate was the question of whether fathers, many suddenly working from home, would use their newfound flexibility to engage in housework and care tasks.

Optimism that remote work could lead to more domestic contributions among fathers stems from the time availability hypothesis (Stafford et al. 1977). According to this perspective, one's performance of domestic labor depends on the available time one has to devote to domestic tasks. Though most research measures time availability as a function of one's own paid work hours—those who work fewer hours in the paid labor force have more available time for domestic labor—time availability is also a function of job flexibility (Carlson 2021). Having a flexible schedule and/or the ability to work from home, though it does not reduce paid work hours per se, increases time availability by enabling one to devote time and energy to domestic responsibilities as needed. Working from home, in particular, also increases time availability by eliminating work commutes.

Though the time availability hypothesis predicts that remote-working fathers will perform more childcare than fathers who do not work remotely, pre-pandemic research is decidedly mixed on the association between remote work and fathers' performance of childcare (Carlson et al. 2021b; Chung 2022; Lyttelton et al. 2022; Diamond and Greenstein 2002; Noonan et al. 2007; Sullivan and Lewis 2001). Indeed, some research suggests that men who work remotely use their time to invest more in their jobs rather than contribute domestically (Sharpe et al. 2002).

Equivocal findings from past research on the association of remote work and fathers' childcare performance may stem from fathers' selection into remote work. If selection processes operated prior to the pandemic, pre-pandemic findings on the association of

remote work and fathers' childcare performance are likely biased. Though there is some evidence that mothers may select into remote work to increase time for childcare (Mas and Pallais 2017), the same is not necessarily true for fathers. Though some research shows that, controlling for gender, having small children is associated with a greater utilization of remote work (Thompson et al. 1999), several studies indicate that fathers who are inclined to use job flexibility for domestic reasons may be less inclined to utilize this benefit than men who use it to increase job productivity (Sharpe et al. 2002; Thompson et al. 1999).

Selection processes suggest that the association between fathers' remote work and their performance of childcare may have been underestimated in pre-pandemic studies. Prior to the pandemic, workplace flexibility was a fairly rare benefit, as only one in six workers was able to work from home (Galinsky et al. 2011). Additionally, the availability and utilization of remote work were weakly correlated, driven perhaps primarily by the stigmatization and penalties remote workers faced from employers and coworkers when they used flexibility for family reasons (Allen 2001; Blair-Loy and Wharton 2004; Munsch 2016; Thompson et al. 1999; Williams et al. 2013). Prior to the pandemic, remote working positions were concentrated in occupations and industries (e.g., management and business) where overwork was common (Jacobs and Gerson 2004; Peters et al. 2008). The exogenous shock of COVID-19 lockdowns in forcing workers to work from home likely eliminated, or at least substantially reduced, issues of selection.

Another explanation for the equivocal findings is that the association between fathers' remote work and their performance of childcare is conditional and that this heterogeneity has been masked in past research, which only examines the general association between remote work and fathers' childcare responsibilities. Two factors in particular stand out as potential moderators—fathers' gender ideologies and mothers' paid work. Indeed, though remote work may increase fathers' available time to care for children, whether they use remote work to do so likely depends on their desires to engage in childcare and their partners' own time availability.

Like the time availability hypothesis, the gender ideology hypothesis is also widely employed by researchers to explain the division of labor in families (Davis and Greenstein 2009). The gender ideology hypothesis states that the division of labor in couples, and one's performance of childcare, depends on one's beliefs about gendered family roles (Stafford et al. 1977). Specifically, men with gender egalitarian ideologies are hypothesized to be more likely to engage in domestic labor and share it equally with their partners than men who adhere to gender conventions (e.g., men should be breadwinners and women should be homemakers). Research findings generally confirm this hypothesis (see Davis and Greenstein 2009) and demonstrate that men's gender ideologies tend to matter more for shaping the division of labor in families than women's attitudes (Carlson and Lynch 2013). Nonetheless, despite substantial increases in egalitarian gender ideologies among American men in recent decades (Scarborough et al. 2019), and in particular widespread desires among working fathers to be more engaged at home (Harrington et al. 2016; Petts 2022), men's shares of domestic labor have shifted only slightly. And though their shares of childcare have increased more than their performance of housework, mothers continue to perform the majority share of childcare (Bianchi et al. 2012). In considering the disconnect between ideology and behavior, fathers themselves point to the absence of supportive workplace policies as a key barrier to achieving their desires to be more involved at home (Harrington et al. 2016).

In "The Theory of Planned Behavior", Ajzen (1991) writes that, although individual attitudes are a strong predictor of future action, one's attitudes are more likely to predict behavior when individuals perceive themselves to have control over their behavior; the stronger the perceived control, the more likely the individual is to follow through on a behavior. Regarding childcare, many fathers want to be more engaged with their children and job flexibility provides fathers with the ability to better control their time to follow through on their desires. But not all fathers have the opportunity or the desire to share equally in the care of their children. Indeed, while having both the opportunity and the

desire appears important to fathers' performance of childcare, the evidence reviewed above indicates that either alone may be insufficient to facilitate fathers' equal contributions to childcare. Rather, whether fathers' equally share childcare with their partners likely depends on having both the time and the will to do more.

While pre-pandemic studies explored how motivations for working from home were associated with fathers' performance of childcare (e.g., Carlson et al. 2021b), studies to date have yet to examine how fathers' gender beliefs shape these associations. Prior to the pandemic, workers espoused many different motivations for working from home, including using time at home to coordinate family needs, reducing costs of commuting, job mandates, or personal preferences (Carlson et al. 2021b). Fathers that worked from home for job-mandated reasons spent significantly less time in housework and childcare than those that chose to work from home for family-related reasons (Carlson et al. 2021b). Additionally, men who chose to work from home in order to achieve a work–family balance were more likely to increase their time spent in childcare than if they chose to work from home in order to complete more work after hours (Lyttelton et al. 2022). Motivations to “coordinate family needs” or “achieve work–family balance” do not, however, speak specifically to men's perspectives on their domestic or childcare responsibilities. When considering how one's orientation toward working from home may affect one's time in, and share of, domestic labor, research has yet to directly take fathers' gender ideologies into account.

Remote-working fathers with egalitarian views on gendered family roles likely feel a larger responsibility to contribute to childcare than remote-working fathers who do not desire an equal partnership (Kuo et al. 2018). For these men, especially those new to remote work during the pandemic, the opportunity to work from home may have finally provided them the chance to follow through on their beliefs. Therefore, we hypothesize:

Hypothesis 1. *The association between the fathers' frequency of remote work and fathers' childcare performance depends on fathers' egalitarian gender ideologies. The more strongly a father believes in gender equality, the stronger and more positive the association between their remote work and their performance of childcare.*

Though fathers' own time availability may lead them to spend more time in domestic labor, especially if they have gender egalitarian attitudes, this association may also depend on their partners' time availability. Indeed, when it comes to couples' domestic divisions of labor, time availability may function as a relative resource (Blair and Lichter 1991). That is, the partner with the most time relative to their significant other is likely to conduct a larger share of domestic tasks. Though fathers were more likely to be home during the pandemic, increasing their time availability, so too were mothers. Not only were mothers more likely to be out of the labor force before the pandemic, but female-dominated industries were also more affected by lockdowns than male-dominated industries, leading to higher rates of layoffs and furloughs for women (Qian and Fuller 2020). Additionally, remote work increased, leading more women to work from home (Brynjolfsson et al. 2020).

In general, mothers' employment narrows the time availability gap, making it more likely that fathers will perform more and a larger share of childcare. In different-gender partnerships where fathers are the sole earner, fathers' remote work may increase their time availability, but their female partners are still likely to have more available time overall, suggesting that fathers' increased time availability may have a weak effect, if any, on their performance of childcare. Given mothers' presence at home, sole-earning fathers' gender ideologies may also matter less in shaping how remote work is utilized. Indeed, research demonstrates that when mothers are present they may actually protect remote-working fathers' time and shield them from domestic labor (Calarco et al. 2021; Sullivan and Lewis 2001). In contrast, fathers' remote work in dual-earner families may substantially reduce differences in partners' relative time availability, leading to equal or more time availability for fathers compared to mothers. In these situations, what fathers believe about gendered

family roles is likely to be highly relevant to how they spend their time. Therefore, we hypothesize:

Hypothesis 2a. *The associations of remote work with fathers' time and shares of childcare will be stronger for fathers in dual-earner couples than for fathers who are sole-earners.*

Hypothesis 2b. *The moderating effect of gender ideology for the association of remote work and fathers' time and shares of childcare will be stronger for dual-earner fathers than sole-earner fathers.*

3. Methods

3.1. Data

Data for this analysis came from Wave 1 of the Study on U.S. Parents' Divisions of Labor During COVID-19 (SPDLC). The SPDLC is a longitudinal survey of partnered U.S. parents that assesses changes in parents' divisions of domestic labor, divisions of paid labor, and well-being throughout and after the COVID-19 pandemic (Carlson and Petts 2022a).

Surveys for the SPDLC were administered via Prolific (www.prolific.co), an opt-in online platform designed to facilitate scientific research. The sample comprised U.S. adults who resided with a romantic partner and at least one biological child (at the time of entry into the study). SPDLC respondents answered questions about both themselves and their partners. Wave 1 of the SPDLC was conducted over a period of one week in mid-April 2020 during COVID-19 lockdowns in the United States. Though the majority of questions pertained to the respondents' current experiences and behaviors during this lockdown period, some questions were retrospective, assessing respondents' behaviors prior to start of the pandemic (i.e., early March).

3.2. Analytic Sample

The original SPDLC sample consisted of 1157 respondents. Men, Black individuals, individuals who did not complete college, and people who identified as politically conservative were oversampled to increase diversity. Due to the focus on fathers in this study, the sample was restricted to respondents who were fathers (mothers and respondents with missing data on gender were excluded; $n = 696$). We further excluded fathers who were not employed at the time of the survey ($n = 67$), fathers who did not have a child under the age of 18 years given that childcare questions were only asked to parents with children younger than 18 years old ($n = 17$), fathers in same-sex/same-gender partnerships ($n = 23$), and any cases with missing values on the variables of interest ($n = 17$). The final analytic sample for the study was $n = 337$ partnered fathers.

3.3. Measures

Childcare

The respondents were asked to report on the division of numerous domestic tasks between themselves and their partners (0 = I do it all, 1 = I do more of it, 2 = we share it equally, 3 = my partner does more of it, 4 = my partner does it all) both before and during the pandemic. Additionally, the respondents also reported on how their time, and their partners' time, in domestic tasks changed since the start of the pandemic (options of -2 = doing much less, -1 = doing somewhat less, 0 = no change, 1 = doing somewhat more, 2 = doing much more). Respondents were provided the option of reporting "N/A" for both themselves and/or their partner if they did not perform a task. A response of "N/A" was coded as missing.

Routine childcare tasks were the primary focus of this study. The respondents were asked to report on behavior specific to their youngest child. For the parents of pre-school-aged children (younger than the age of 6 years), the respondents reported on each of the following: physical care (e.g., bathing, feeding, and dressing), talking/listening to child, looking after child, putting child to bed, reading, playing, organizing, and enforcing rules. Parents of school-aged children (ages of 6–17 years) reported on talking/listening to

child, monitoring, attending events, reading, playing, organizing, enforcing rules, picking up/dropping off, and helping with homework.

Childcare was operationalized into two different variables: fathers' shares of childcare and change in childcare since the pandemic. For *fathers' shares of childcare during the pandemic* (April 2020), the responses to each childcare task were first recoded (to range from 0 = mother does it all to 4 = father does it all) and then averaged into a mean scale to indicate fathers' total shares of childcare. For *father's change in childcare*, the responses to each childcare task were also combined into a mean scale. We also controlled for *fathers' shares of childcare pre-pandemic* (March 2020) in all models to focus on changes to fathers' childcare during the pandemic (this variable was measured in the same way as the during the pandemic measure). For each measure of childcare, we calculated the mean scale for any respondent who provided a valid response on at least four childcare items, given that some childcare tasks became moot during the pandemic.

Because few fathers reported performing less childcare during the lockdown period (see Table 1), we also created a dummy variable—*father did more childcare*—such that fathers with scores 0.51 or higher on the change in childcare scale were ascribed a value of 1 (i.e., fathers who performed more childcare), whereas those with scale scores below 0.51 (i.e., fathers who reported no change in childcare or performing less childcare) were ascribed a value of zero.

Table 1. Descriptive statistics.

| Variable | Entire Sample | | Sole-Earner Fathers | | Dual-Earner Fathers | |
|------------------------------------------------------|---------------|--------|---------------------|-------|---------------------|--------|
| | Mean/% | SD | Mean/% | SD | Mean/% | SD |
| Father's Egalitarian Gender Ideology | 4.045 | 0.689 | 3.900 | 0.705 | 4.156 | 0.657 |
| Fathers' Share of Childcare Pre-Pandemic | 1.739 | 0.523 | 1.598 | 0.599 | 1.847 | 0.427 |
| Fathers' Share of Childcare Since the Pandemic | 1.921 | 0.496 | 1.830 | 0.578 | 1.991 | 0.411 |
| Father's Change in Childcare Since the Pandemic | | | | | | |
| Performing Less | 3.9% | | 4.1% | | 3.7% | |
| No Change | 56.7% | | 50.7% | | 61.3% | |
| Performing More | 39.5% | | 45.2% | | 35.1% | |
| Used Childcare Pre-Pandemic | 27.0% | | 18.5% | | 33.5% | |
| Father's Frequency of Remote Work Since the Pandemic | | | | | | |
| Does Not Work from Home | 23.7% | | 28.8% | | 19.9% | |
| Works from Home Once per Month | 0.9% | | 0.7% | | 1.0% | |
| Works from Home 1–3 Times per Month | 0.3% | | 0.0% | | 0.5% | |
| Works from Home Once per Week | 2.7% | | 0.7% | | 4.2% | |
| Works from Home More Than Once per Week | 11.6% | | 12.3% | | 11.0% | |
| Works from Home Exclusively | 60.8% | | 57.5% | | 63.4% | |
| Father's Frequency of Remote Work Pre-pandemic | | | | | | |
| Did Not Work from Home | 59.6% | | 63.7% | | 56.5% | |
| Worked from Home Once per Month | 7.4% | | 11.0% | | 4.7% | |
| Worked from Home 1–3 Times per Month | 8.9% | | 7.5% | | 9.9% | |
| Worked from Home Once per Week | 9.2% | | 6.2% | | 11.5% | |
| Worked from Home More Than Once per Week | 7.4% | | 7.5% | | 7.3% | |
| Worked from Home Exclusively | 7.4% | | 4.1% | | 9.9% | |
| Partner's Work Status Since the Pandemic | | | | | | |
| Partners' Paid Work Hours | 33.209 | 11.310 | --- | | 33.209 | 11.310 |
| Partner Does Not Work from Home | 15.1% | | --- | | 26.7% | |
| Partner Voluntarily Decreased Paid Work Hours | 8.0% | | --- | | 14.1% | |
| Partner Voluntarily Left Job | 3.6% | | 8.2% | | --- | |
| Partner Lost Job Involuntarily | 9.8% | | 19.2% | | --- | |

Table 1. Cont.

| Variable | Entire Sample | | Sole-Earner Fathers | | Dual-Earner Fathers | |
|-------------------------------------|---------------|-------|---------------------|-------|---------------------|-------|
| | Mean/% | SD | Mean/% | SD | Mean/% | SD |
| <i>Control Variables</i> | | | | | | |
| Father's Age | 37.706 | 7.606 | 35.99 | 7.44 | 39.021 | 7.489 |
| Partner's Age | 35.433 | 6.409 | 33.58 | 5.58 | 36.853 | 6.648 |
| Age of the Youngest Child | 5.905 | 4.593 | 4.91 | 4.33 | 6.664 | 4.657 |
| Number of Children in the Household | 1.813 | 0.840 | 1.91 | 0.90 | 1.738 | 0.784 |
| Married Partners | 94.4% | | 94.5% | | 94.2% | |
| Household Income Pre-Pandemic | 5.223 | 1.433 | 4.671 | 1.447 | 5.644 | 1.248 |
| Father's Race | | | | | | |
| Black | 5.3% | | 4.1% | | 6.3% | |
| White | 76.9% | | 82.9% | | 72.3% | |
| Other | 7.5% | | 5.5% | | 8.9% | |
| Hispanic/Latinx | 10.4% | | 7.5% | | 12.6% | |
| Race of Partner | | | | | | |
| Black | 3.6% | | 2.7% | | 4.2% | |
| White | 77.2% | | 80.1% | | 74.9% | |
| Other | 10.4% | | 10.3% | | 10.5% | |
| Hispanic/Latinx | 8.9% | | 6.8% | | 10.5% | |
| Father's Education Level | | | | | | |
| Some College or Less | 14.6% | | 9.2% | | 13.2% | |
| Associate's Degree | 7.4% | | 4.8% | | 9.4% | |
| Bachelor's Degree or Higher | 78.0% | | 80.1% | | 76.4% | |
| Partner's Education Level | | | | | | |
| Some College or Less | 23.1% | | 31.5% | | 16.8% | |
| Associate's Degree | 11.3% | | 12.3% | | 10.5% | |
| Bachelor's Degree or Higher | 65.6% | | 56.2% | | 72.8% | |

3.4. Gender Ideology

Father's egalitarian gender ideology is a mean scale of 6 questions adopted from the National Survey of Families and Households (NSFHs) (Bumpass et al. 2017). The respondents were asked to report their level of agreement with six statements measuring different aspects of gender beliefs (1 = Strongly agree, 2 = Somewhat agree, 3 = Neither agree nor disagree, 4 = Somewhat disagree, 5 = Strongly disagree): (1) "Preschool children are likely to suffer if their mother is employed", (2) "It is OK for mothers to work full-time when their youngest child is under age 5", (3) "If a husband and wife both work full-time, they should share household tasks equally", (4) "Men and women should share equally in the raising of their children", (5) "Parents should encourage just as much independence in their daughters as their sons", and (6) "It is much better for everyone if the man earns the main living and the woman takes care of the home and family". Items 2, 3, 4, and 5 were reverse-coded so that higher scores on each item indicate more egalitarian attitudes (alpha = 0.75).

3.5. Remote Work

The respondents were asked to report how often they and their partners worked from home both before the pandemic in early March 2020 and during the pandemic in April 2020. The response options included: 1 = Never, 2 = Once a month, 3 = 1–3 Times per month, 4 = Once a week, 5 = More than once a week, 6 = Exclusively. For the purposes of parsimony, *fathers' frequency of remote work* (both pre-pandemic in March 2020 and during lockdowns in April 2020) was treated as a continuous variable in statistical models. The supplemental analyses (not shown; available upon request), in which fathers' frequency of remote work was treated as a categorical variable (e.g., never; rarely; and primarily), indicated no clear cut-points in the frequency of remote work that were associated with more or less childcare among fathers, supporting the decision to treat fathers' frequency of remote work as a continuous variable.

3.6. Control Variables

The following variables were included in the models as the statistical controls: *age of youngest child* (in years), *number of kids in the household*, *age of father and partner* (in years), *education level of both father and partner* (some college or less, associate's degree, Bachelor's degree or higher) *household income* (ranging from 1 = less than USD 1000/month to 7 = USD 9000 or more/month; treated as continuous), *race/ethnicity of both father and partner* (Black, White, Latinx, and other), *marital status* (1 = married; 0 = cohabiting), and *the use of pre-pandemic childcare* (1 = yes). In models for dual-earning fathers, additional controls included: *partners' paid work hours*, whether a father's partner *voluntarily decreased paid work hours* due to COVID-19 (1 = yes), and *partners' remote work status* (1 = partner does not work from home). The partners who worked from home once a week or less were coded as not working from home. This cut-point was chosen since fewer than 5% of remote working partners were working from home once a week or less. Lastly, in models for sole-earning fathers, we controlled for whether the father's *partner involuntarily lost their job* during the pandemic (1 = yes) and whether they *left job voluntarily* (1 = yes)

3.7. Analytic Approach

We used OLS and binary logistic regression models to examine the association of fathers' remote work and fathers' changes in childcare since the pandemic, and OLS regression models to assess the association of fathers' remote work and fathers' shares of childcare during the pandemic. To assess the moderating role of fathers' gender ideologies, we included statistical interactions between fathers' gender ideologies and their frequency of remote work in the regression models. To consider whether the moderating effect of fathers' gender ideology varied between fathers in sole- and dual-earner partnerships, we conducted analyses separately for sole-earner fathers (whose partner was out of the labor force; $n = 146$) and fathers in dual-earner partnerships ($n = 191$). To ease the interpretation of the statistical interaction and component coefficients, both the frequency of remote work and fathers' gender ideologies were mean-centered using the group means for dual- and sole-earning fathers.

4. Results

Descriptive statistics are presented in Table 1. As shown, remote work increased substantially among partnered fathers of minor children at the beginning of the pandemic. Prior to the pandemic, just 7% of employed fathers in the SPDLC worked from home exclusively. By mid-April 2020, however, this increased to 61% of employed fathers. Dual-earning fathers were twice as likely to exclusively work from home prior to the pandemic as sole-earning fathers (9.9% vs. 4.1%, respectively). All fathers became equally more likely to work from home exclusively in the early days of the pandemic; nonetheless, the gap between dual- and sole-earning fathers grew by only 1 percentage point by April 2020, from 5.8 points to 6.8 points (63.4% vs. 56.6%, respectively).

Although the majority (57%) of employed fathers reported no change in the amount of childcare they performed since the onset of the pandemic, 40% said they increased their time in childcare and only 4% of fathers reported less childcare. Sole-earning fathers (45.2%) were more likely than dual-earning fathers (35.1%) to increase their performance of childcare, but this is likely owed to the fact that they performed a smaller share of childcare, on average, pre-pandemic than dual-earning fathers (1.598 vs. 1.847, respectively). Consistent with the broad increase in fathers' childcare time, fathers' mean shares of childcare increased in the early days of the pandemic. In all, dual-earning fathers continued to perform a larger share of childcare compared to sole-earning fathers (1.991 vs. 1.830, respectively). As a score of 2 indicates that partners equally share childcare, the results show that dual-earning fathers and their partners appear to have shared childcare equally in the early days of the pandemic, on average.

Historically, fathers are more likely to participate in disciplinary and play-based childcare tasks compared to instrumental or management tasks (Raley et al. 2012). To examine

where fathers increased their shares of childcare, we conducted supplemental analyses using paired sample *t*-tests to examine changes from March to April 2020 by various tasks. As Table 2 indicates, fathers with young children under the age of 6 years reported increases in their shares of both traditionally male and traditionally female childcare tasks. Only enforcing rules and reading with children did not change. The change was most apparent in the traditionally female-dominated tasks of physical care and organizing/planning. A similar trend held for fathers of older children. These fathers increased their shares not only of play-based and monitoring tasks, but also instrumental tasks, such as organizing. Interestingly, though nearly all children were learning from home in Spring 2020, the fathers of these older school-aged children did not significantly change their shares of helping with homework, on average.

Table 2. Paired *t*-tests of the mean change in the fathers' shares of various childcare tasks from March 2020 to April 2020.

| Childcare Task | Child under 6 Years of Age | | Child 6–17 Years of Age | |
|--------------------------------|----------------------------|-------|-------------------------|-------|
| | Mean Change | SE | Mean Change | SE |
| Talking/listening to child | 0.154 ** | 0.051 | 0.238 *** | 0.058 |
| Looking after/monitoring child | 0.185 ** | 0.058 | 0.269 *** | 0.060 |
| Organizing/planning for child | 0.272 *** | 0.056 | 0.134 * | 0.060 |
| Playing with child | 0.180 *** | 0.049 | 0.290 *** | 0.054 |
| Enforcing rules for child | 0.006 | 0.041 | 0.103 | 0.058 |
| Reading to/with child | 0.080 | 0.048 | 0.210 ** | 0.071 |
| Physical care of child | 0.270 *** | 0.054 | | |
| Putting child to bed | 0.095 * | 0.048 | | |
| Attending events for child | | | 0.250 *** | 0.069 |
| Picking child up from school | | | 0.264 ** | 0.088 |
| Helping child with homework | | | 0.126 | 0.070 |

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Changes in fathers' childcare participation during the pandemic may reflect not only increases in time availability due to increases in remote work, but also the possibility that fathers wanted to participate more in childcare. On average, fathers had a mean score of 4.05 (out of 5) on the egalitarian gender ideology scale, with a standard deviation of 0.69 (95% CI = 2.7–5.0), indicating that many fathers had egalitarian views, with dual-earning fathers exhibiting more egalitarian views than sole-earner fathers.

Fathers' Frequency of Remote Work and Changes in Their Performance of Childcare

Tables 3–6 present the results from the regression analyses of fathers' childcare performance during COVID-19, disaggregated by fathers' partners' work status. All models include controls, but for the sake of presentation, only the results for the main study variables are presented. The full results can be found in the Supplementary Materials. Model 1 of Table 3, which examines changes in fathers' performance of childcare during COVID-19, shows that the frequency of remote work is, on average, positively associated with changes in dual-earning fathers' childcare responsibilities ($b = 0.054$; $p < 0.05$). Interestingly, a greater frequency of remote work pre-pandemic is negatively associated with a change in dual-earning fathers' childcare during the pandemic. The negative coefficient indicates that decreases in childcare were steeper and/or increases less steep the more often dual-earning fathers worked from home prior to the pandemic. This suggests that changes in dual-earning fathers' time in childcare during the early days of the COVID-19 pandemic were concentrated amongst fathers who were not working from home frequently before the pandemic began.

Table 3. OLS regression of fathers’ change in childcare during the COVID-19 pandemic.

| Variable | Dual-Earner Father (n = 191) | | Sole-Earner Father (n = 146) | |
|-----------------------------------------------------------------------------|---------------------------------|--------------------|---------------------------------|-------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 |
| | b (se) | b (se) | b (se) | b (se) |
| Father’s frequency of remote work | 0.054 * (0.024) | 0.055 * (0.024) | 0.051 (0.028) | 0.052 (0.028) |
| Father’s egalitarian gender ideology | 0.060 (0.064) | 0.042 (0.063) | −0.098 (0.082) | −0.093 (0.084) |
| Fathers’ frequency of remote work X Fathers’ egalitarian gender ideology | | 0.088 * (0.034) | | 0.011 (0.035) |
| R ² | 0.126 | 0.155 | 0.079 | 0.072 |

* *p* < 0.05.

Though time spent working from home is positively associated with change in dual-earning fathers’ childcare performance, in general, the results from Model 2 support Hypothesis 1, as this association varies according to the father’s egalitarian gender ideology. The model shows that, at the mean level of egalitarian gender ideology for dual-earning fathers, the association of the frequency of remote work and change in childcare performance is statistically significant (*b* = 0.055; *p* < 0.05). At the mean gender ideology, fathers exhibit somewhat, but not fully egalitarian attitudes, meaning that, although they adhere to some feminist ideals, those ideals may not be strong or may also be mixed with some more gender conventional attitudes. The positive interaction coefficient (*b* = 0.88; *p* < 0.05) in Model 2 shows that the association between remote work and change in fathers’ childcare during COVID-19 becomes stronger as egalitarian gender ideology increases. In contrast to the results for dual-earning fathers, and consistent with Hypothesis 2a and 2b, the results of Models 3 and 4 of Table 3 show neither a statistically significant association between the sole-earning fathers’ frequency of remote work and changes in their childcare performance during COVID-19 nor a moderating effect of gender ideology.

To assess the variation in dual-earning fathers’ changes in childcare across gender ideology, we present predicted mean values in Table 4. We present the results for three values of gender ideology—neutral (score of 3.33), somewhat egalitarian (score of 4.16—the scale mean), and egalitarian (score of 5). The estimates are limited to gender ideology scores of 3.33 or higher as supplemental analyses (not shown; available upon request) indicate that less than 10% of dual-earning fathers have gender ideology scores less than 3.33. The mean values of change in childcare were calculated holding statistical controls at their means.

Table 4. Predicted mean values of change in the childcare scale by fathers’ remote work and gender ideology.

| Fathers’ Egalitarian Gender Ideology (GI) | Frequency of Remote Work | | | | | |
|-------------------------------------------|--------------------------|--------------|---------------------|-------------|-----------------------|-------------|
| | Never | Once a Month | 1–3 Times per Month | Once a Week | More than Once a Week | Exclusively |
| Neutral GI | 0.39 | 0.38 | 0.36 | 0.34 | 0.32 | 0.31 |
| Somewhat Egalitarian GI | 0.16 | 0.21 | 0.27 | 0.32 | 0.38 | 0.43 |
| Egalitarian GI | −0.08 | 0.04 | 0.17 | 0.30 | 0.43 | 0.56 |

As the table shows, only dual-earner fathers with the most egalitarian gender ideologies who work from home exclusively are predicted to perform more childcare (scale score of 0.51 or higher). For all other fathers, regardless of the frequency of remote work, the model predicts no change in childcare (scale score between −0.50 and +0.50).

To further examine whether remote work was associated with fathers performing more childcare during COVID-19, we conducted binary logistic regression analyses predicting fathers' odds of performing more childcare. The results in Models 1 and 2 of Table 5 indicate that the association between the frequency of remote work and dual-earning fathers' odds of performing more childcare varied depending on the fathers' gender ideologies. Model 1 shows no general association of remote work and dual-earning fathers' odds of performing more childcare. Yet, in line with Hypothesis 1, Model 2 shows that, as the egalitarian gender ideology increases, the association between the frequency of remote work and the odds of fathers' performing more childcare becomes stronger. Consistent with Table 3, the results indicate a significant association between the dual-earning fathers' frequency of remote work and the odds of performing more childcare at average levels of egalitarian gender ideology. This suggests that, among dual-earning fathers with somewhat egalitarian attitudes, working from home more frequently during COVID-19 increased the odds (odds ratio (OR) = 1.39; $p < 0.05$) that they would perform more childcare. Among those with egalitarian attitudes, the association between frequency of remote work and the odds of performing more childcare was considerably stronger (OR = 2.38; $p < 0.01$; not shown in table).

Table 5. Binary logistic regression of fathers' odds of performing more childcare during the COVID-19 pandemic.

| Variable | Dual-Earner Father (<i>n</i> = 191) | | | | Sole-Earner Father (<i>n</i> = 146) | | | |
|-----------------------------------------------------------------------------|-----------------------------------------|-------|---------------------|-------|-----------------------------------------|-------|---------------------|-------|
| | Model 1 | | Model 2 | | Model 3 | | Model 4 | |
| | b (se) | OR | b (se) | OR | b (se) | OR | b (se) | OR |
| Fathers' frequency of remote work | 0.219 (0.116) | 1.245 | 0.326 * (0.147) | 1.385 | 0.333 ** (0.116) | 1.395 | 0.331 ** (0.118) | 1.393 |
| Fathers' egalitarian gender ideology | −0.025 (0.307) | 0.975 | −0.372 (0.366) | 0.689 | −0.154 (0.332) | 0.858 | −0.154 (0.332) | 0.857 |
| Fathers' frequency of remote work X Fathers' egalitarian gender ideology | | | 0.650 ** (0.242) | 1.916 | | | −0.013 (0.149) | 0.987 |
| Pseudo R ² | 0.336 | | 0.387 | | 0.306 | | 0.306 | |

* $p < 0.05$; ** $p < 0.001$.

Models 3 and 4 show that the frequency of remote work was positively associated with sole-earning fathers' odds of performing more childcare (Model 3), and this was the case regardless of their gender ideologies (Model 4). The results therefore provide support for Hypothesis 2b, but only mixed support for Hypothesis 2a. On the one hand, sole-earning fathers had partners with more time availability, suggesting that the association of remote work and their odds of performing more childcare should be weaker than for dual-earning fathers. Yet, the association of the frequency of remote work and increased odds of performing more childcare (OR = 1.40; $p < 0.01$) was as strong as it was for dual-earning fathers with somewhat egalitarian beliefs. On the other hand, the association for sole-earning fathers was not moderated by the fathers' gender ideologies and as weaker than for dual-earning fathers with egalitarian attitudes.

To help to illustrate group differences in the likelihood of performing more childcare, the log odds from Table 5 are plotted in Figure 1a,b as probabilities ($p_r = e^{(\log \text{ odds})} / (1 + e^{(\log \text{ odds})})$). The association of remote work and dual-earning fathers' probabilities of performing more childcare is presented in Figure 1a, while Figure 1b shows sole-earning fathers' probabilities of performing more childcare. The estimates in both figures were calculated holding all controls at their group mean values. For dual-earning fathers with neutral gender ideologies (score of 3.33), the frequency of remote work was statistically unassociated with the odds of performing more childcare early in the pandemic. For

these fathers, the probability of performing more childcare was low regardless of where they worked (9% probability if they never worked from home; 23% if they worked from home exclusively). In contrast, the odds of performing more childcare early in the pandemic varied substantially depending on the work location for dual-earning fathers with somewhat egalitarian (score of 4.16) and egalitarian (score of 5) gender ideologies. For those with somewhat egalitarian attitudes, which was typical of dual-earning fathers, the probability of performing more childcare was only 3% if they never worked from home. However, if they worked from home exclusively, these fathers had a 31% probability of performing more childcare. Though dual-earning fathers with egalitarian attitudes had the lowest odds of performing more childcare if they never worked from home, they had the highest probability of performing more childcare among dual-earning fathers if they worked from home exclusively (41%). As shown in Figure 1b, sole-earner fathers have the highest probability of performing more childcare when never working from home, though the probability is still incredibly low (12%), but the highest probability of performing more childcare among all fathers when working from home exclusively (43%).

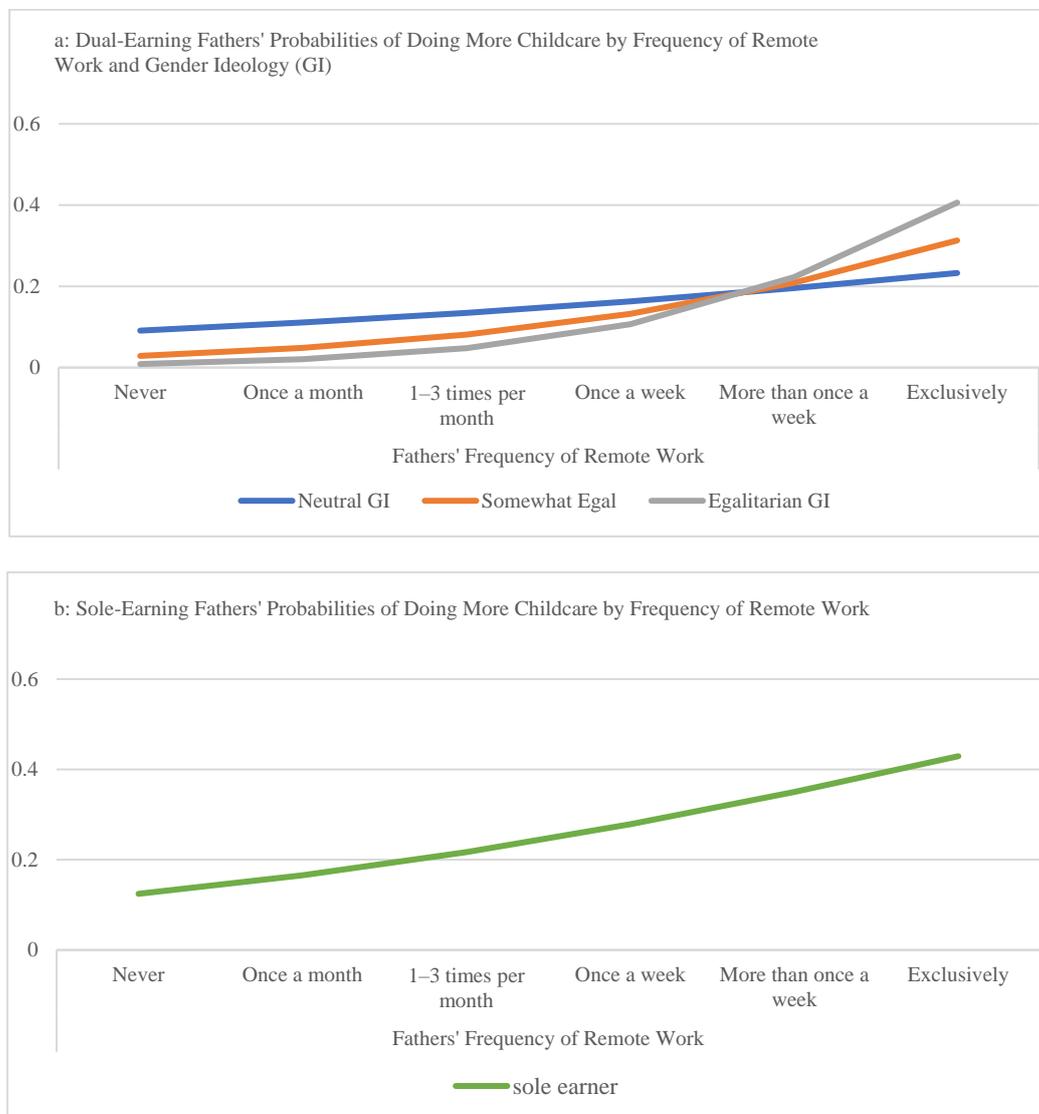


Figure 1. (a) Dual-earning fathers’ probabilities of performing more childcare according to the frequency of remote work and gender ideology (GI). (b) Sole-earning fathers’ probabilities of performing more childcare according to the frequency of remote work.

Though sole-earning fathers who worked from home exclusively were just as likely as dual-earning fathers with egalitarian attitudes to increase their time in childcare, sole-earning fathers performed a substantially smaller share of childcare in their families pre-pandemic than dual-earning fathers. To assess how increases in fathers' childcare performance relate to gender equality in childcare, Table 6 presents the results predicting fathers' shares of childcare during the pandemic. Similar to the results in Tables 3 and 5, and consistent with Hypothesis 1, Models 1 and 2 of Table 6 show that gender ideology moderates the association of the frequency of remote work and dual-earning fathers' shares of childcare and that the positive association of the frequency of remote work and a father's shares of childcare strengthens as gender ideology becomes more egalitarian. Models 3 and 4 show that the frequency of remote work among sole-earner fathers is associated with a significant increase in their shares of childcare ($b = 0.41$; $p < 0.05$), but this association does not vary according to a sole-earning father's gender ideology. Like analyses of changes in childcare, the findings provide support for Hypothesis 2b, but only mixed support for Hypothesis 2a.

Table 6. OLS regression of the fathers' shares of childcare during the COVID-19 pandemic.

| Variable | Dual-Earner Father ($n = 191$) | | Sole-Earner Father ($n = 146$) | |
|-----------------------------------------------------------------------------|-------------------------------------|--------------------|-------------------------------------|--------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 |
| | b (se) | b (se) | b (se) | b (se) |
| Father's frequency of remote work | 0.025 (0.016) | 0.026 (0.016) | 0.041 * (0.019) | 0.039 * (0.020) |
| Father's egalitarian gender ideology | 0.018 (0.043) | 0.007 (0.042) | −0.089 (0.057) | −0.096 (0.058) |
| Fathers' frequency of remote work X Fathers' egalitarian gender ideology | | 0.055 * (0.023) | | −0.017 (0.025) |
| R ² | 0.274 | 0.295 | 0.497 | 0.495 |

* $p < 0.05$.

The results from Table 6 are illustrated in Figure 2a (dual-earning fathers) and 2b (sole-earning fathers). Among dual-earning fathers, the association between remote work and their childcare shares is negative for those with neutral ideologies and slightly positive for those with somewhat egalitarian ideologies. Supplemental analyses indicate that neither of these associations are statistically significant, however. Among those with egalitarian beliefs, the association is positive and significant ($b = 0.079$; $p < 0.01$). Based on the model estimates, dual-earning fathers with egalitarian gender ideologies who worked from home exclusively performed a slight majority of childcare in their partnerships in the early days of the pandemic ($2.08/4 = 0.52$ or 52%). Moreover, their share of childcare was approximately ten percent greater than egalitarian-minded fathers who never worked from home in the early days of the pandemic ($1.72/4 = 0.43$ or 43%). Comparing Figure 2a to Figure 2b, the results show that, although remote work is associated with greater shares of childcare for sole-earning fathers, their shares are predicted to be lower than those of dual-earning fathers at all levels of remote work and gender ideology. Even when working from home exclusively, the model predicts that sole-earning fathers performed just 39% of the childcare in their partnerships in the early days of the pandemic ($1.55/4 = 0.388$).

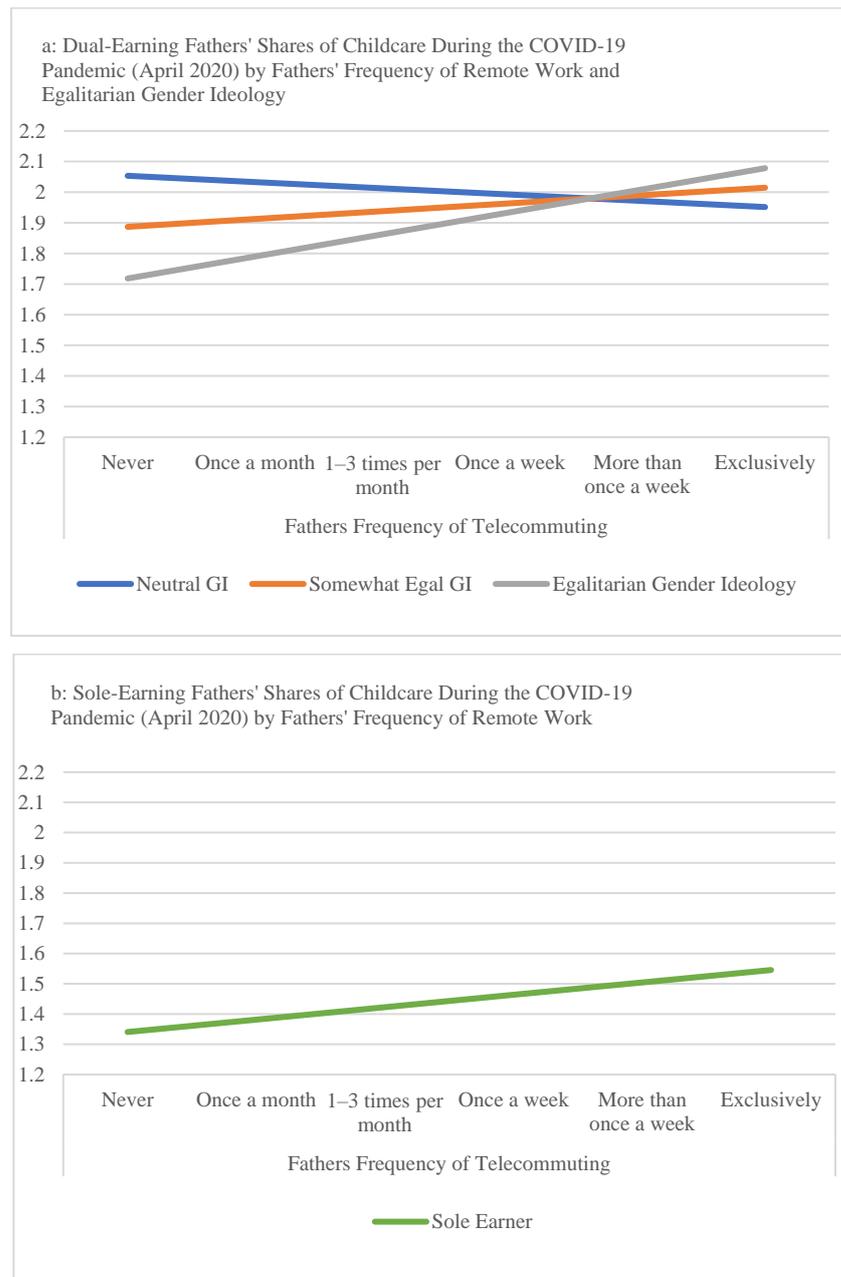


Figure 2. (a) Dual-earning fathers’ shares of childcare during the COVID-19 pandemic (April 2020) according to the fathers’ frequency of remote work and egalitarian gender ideology. (b) Sole-earning fathers’ shares of childcare during the COVID-19 pandemic (April 2020) according to the fathers’ frequency of remote work.

5. Discussion

The large-scale shift to remote work among fathers at the beginning of the COVID-19 pandemic created an opportunity for parents to better balance work and family responsibilities, create more equitable divisions of childcare, and possibly help mothers to stay in their paid jobs. Whether fathers’ increased time availability would lead to more childcare responsibilities, however, was debatable. Combining insights from the theory of reasoned action, the time availability hypothesis, and the gender ideology hypothesis, we argued that fathers’ contributions to childcare during the pandemic likely required both the opportunity and the desire to act, while either alone may have been insufficient. As such, the move to remote work during the COVID-19 pandemic should have been especially likely to increase fathers’ childcare responsibilities among dual-earning fathers with gender egalitarian

tarian attitudes as they not only have the desire to do more but also the opportunity and need to do more given their own enhanced availability and the more limited availability of their partner.

The results from this study show that not only did fathers work from home more frequently during the early days of the pandemic, but they also increased their amount and share of childcare. Among working fathers, three in five worked exclusively from home during the early days of the pandemic, and more than 40% reported performing more childcare. Increases in fathers' time in childcare coincided with increases in their proportionate share of childcare, though on average, fathers' partners continued to shoulder the majority of childcare responsibilities early in the pandemic.

The results of this study provide support for the hypothesis that remote work would lead to the most childcare involvement among dual-earning fathers with egalitarian attitudes, though the results are not entirely consistent with the notion that fathers' childcare performance requires both the opportunity and desire to act. Dual-earning fathers with egalitarian attitudes who worked exclusively from home had a 41% probability of performing more childcare during the pandemic—the highest among dual-earning dads—and had a slightly more than equal share of childcare with their partners. In contrast, remote work was unassociated with childcare for dual-earning fathers with neutral ideologies and was positively associated with performing more childcare for those with somewhat egalitarian ideologies but not with their shares of childcare. This suggests that the partners of somewhat egalitarian fathers also increased their time in childcare, counteracting fathers' own increases.

For sole-earning fathers, remote work, and the time availability it provided, functioned as both an absolute and relative resource during the pandemic, leading to more time in, and shares of, childcare. Our hypotheses were partially supported in that the association of remote work with childcare was weaker for sole-earning fathers than dual-earning fathers with egalitarian ideologies and that sole-earning fathers' gender ideologies did not condition the association. Yet, sole-earning fathers' remote work was significantly associated with their childcare performance, whereas this was not the case for dual-earning fathers without egalitarian attitudes. Indeed, sole-earner fathers who worked from home exclusively had the highest probability of increasing their performance of childcare in the early days of the pandemic.

Though remote work appears to have led to more childcare responsibilities for sole-earning fathers, their overall shares of childcare were still lower than those of all dual-earning fathers, even those with neutral ideologies. This is likely due to the fact that, despite working from home, sole-earning fathers continued to have less time availability than their partners. Indeed, these fathers performed the lowest shares of childcare pre-pandemic and were also less likely to have been working remotely prior to the pandemic. Because sole-earning fathers performed the least amount of childcare prior to the pandemic, it was likely easier for them to perform more childcare, and working from home facilitated this. That remote work was associated with increases in sole-earning fathers' childcare regardless of their ideologies may be attributable to the massive increase in domestic labor in American homes due to social distancing-induced lockdowns. The sheer volume of childcare needed in homes, and the presence of sole-earner fathers, may have led fathers to take up a bit more of the domestic load just because there was so much to do. More remarkable, however, is that, despite owning a much larger share of childcare responsibilities in families prior to the pandemic, dual-earning fathers with egalitarian beliefs who worked from home exclusively were just as likely to perform more childcare during the pandemic as their sole-earning counterparts.

These findings are important because they highlight some of the factors that can lead to a more equal distribution of childcare in families. More time availability may increase fathers' time in, and shares of, childcare, but alone, it is insufficient to produce equal divisions of childcare. Rather, it must be paired with fathers' motivation to use their flexibility not just to increase work productivity but to be an equal partner. Without strong

beliefs in gender equality and the time to follow through on those beliefs, dual-earner families default to mothers' performing the majority of childcare. Yet, when fathers have both the time and the desire to contribute equally, the results here show that they do so. The time availability of mothers is also important to consider, as increases in fathers' time availability is associated with a more incremental increase toward an equal distribution of childcare when mothers are not employed.

How remote work is perceived moving forward also appears to be important for the future of gender equality in families. The pandemic created new opportunities to work remotely for millions of employed fathers. Whether those fathers had past access to remote work and did not use it for unknown reasons or they only gained access during pandemic lockdowns, this increased access was leveraged to perform more childcare, on the whole. Maintaining this access and/or fathers' comfort with, and acceptance in utilizing remote working options, will be central to fathers' contributions to childcare moving forward.

Although this study contributes to our understanding of the consequences of fathers' remote work during the pandemic as well as variations in how fathers used this increased flexibility, it is not without limitations. One limitation is the measure of gender ideology. First, there is much debate about gender ideology as a construct and the validity and reliability of measures designed to capture it (Davis and Greenstein 2009; Jacobs and Gerson 2016). Though this study uses a scale with acceptable reliability from a well-respected and oft-used national survey, it is not entirely clear that it captures fathers' attitudes about gender and parenting that are most salient to childcare. As such, this study may underestimate the salience of gender ideology for fathers' performance of childcare. Second, gender ideology was captured only at the onset of the pandemic. Though the survey was administered just weeks after the pandemic started, and though gender ideology is fairly static once adulthood is reached (Davis and Greenstein 2009), it is possible for it to change, and emerging research from the pandemic shows that gender ideologies may have actually become slightly more conventional as the pandemic endured (Rosenfeld and Tomiyama 2021). It is possible, though unlikely, that changing ideologies may have been a product of fathers' childcare participation early in the pandemic. Third, the respondents' partners' gender ideologies were not assessed in the SPDLC. Mothers' gender beliefs are important to understand as they could also influence fathers' childcare contributions and the distribution of childcare in couples. Mothers with more traditional views may have maintained primary childcare duties, whereas mothers with more egalitarian views may have advocated for fathers to perform more childcare. Still, research shows that men's ideologies are likely the most important in shaping the division of unpaid domestic labor in partnerships (see Carlson and Lynch 2013; Greenstein 1996).

In addition to measures of gender ideology, a modest sample size limited our ability to examine variations in mothers' work status (i.e., employed vs. not) and disaggregate by their remote work status. Variations in dual-earning fathers' childcare performance by both their own and their partners frequency of remote work should be explored in future research. Additionally, examining variations in sole-earner fathers' childcare contributions by whether their partners were voluntarily or involuntarily out of the labor force is also something future research should consider. Another limitation of this study is that the findings are based on fathers' self-reports of their own and their partners' childcare performance. Fathers tend to inflate their own and their partners time in domestic tasks (Yavorsky et al. 2015), and so, though their estimates of their shares of childcare may be unbiased, they may overstate the amount of childcare they perform and how much it increased during the pandemic. Studies of fathers' childcare using time-use data may provide more accurate estimates. Finally, because the SPDLC is an online opt-in survey, the results may be subject to some bias. Sampling bias is possible since those without regular access to a computer and internet may not have been able to participate. For instance, this sample has a higher number of respondents with advanced degrees than the average American population, and educational achievement may affect both gender ideology and the availability of remote work pre- and post-pandemic.

Understanding the relationships among gender ideology, remote work, and domestic labor is important for the future of work and gender equality. Remote work is here to stay, as more than 60% of people working from home during the pandemic reported wanting to continue working from home after the pandemic ended (Parker et al. 2022). Prior to the pandemic, flexible work arrangements, like remote work, were offered to a handful of workers, but not always utilized for fear of reprisal from employers and co-workers (Allen 2001; Munsch 2016; Williams et al. 2013). Parenting ideals are changing, with more partners expecting to equally share childcare and housework (Kuo et al. 2018; Davis and Greenstein 2009). In particular, the results from this study indicate that increased remote work among fathers during the early days of the pandemic is positively associated with performing more and a larger share of childcare, for egalitarian-minded fathers especially. The pandemic may have decreased the stigma around working from home for those that want to take on a larger share of domestic responsibilities and may continue to facilitate fathers' engagement in childcare post-pandemic. As the demographics of the workforce change, it is important that employers understand the kinds of policies and corporate cultures that employees desire—those that can support families and promote equality both at home and in the workplace.

Supplementary Materials: Supplementary Materials: The following are available online at <https://www.mdpi.com/article/10.3390/socsci13030166/s1>, Table S1. OLS Regression of Fathers' Change in Childcare during COVID-19 Pandemic, Table S2. Binary Logistic Regression of Fathers' Odds of Doing More Childcare during COVID-19 Pandemic. Table S3. OLS Regression of Fathers' Shares of Childcare during COVID-19 Pandemic.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Data used in this study is available on openICPSR (<https://openicpsr.org>).

Conflicts of Interest: The authors declare no conflict of interest.

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