

Social Sciences, Vol. 13, Pages 36: The Shifting Stress of Working Parents: An Examination of Dual Pandemic Disruptions—Remote Work and Remote Schooling

1. Introduction

Remote work has long been depicted as a way to address the often-conflicting and stressful demands between paid work and unpaid care work. Three prepandemic meta reviews ground their assessments in the presumed salutary effects of remote work in reducing stress. [Bailey and Kurland \(2002, p. 383\)](#) opened their review with the observation that “It [telework] has been lauded as a strategy to ... respond to employees’ needs for a healthy work–family balance.” Similar assessments are made by [Gajendran and Harrison \(2007, p. 1524\)](#) that remote work has been “touted as means for employees to adjust their schedule to meet household needs and family demands,” and [Allen et al. \(2015, p. 41\)](#) that “as the number of dual-earner couples climbed in the 1970s and 1980s, telecommuting was touted as an option for helping individuals manage work and family responsibilities.”

Has remote work indeed delivered on the promise of reducing the stress of combining work and care obligations? Prepandemic evidence on this question is largely mixed. To offer a clearer, more nuanced picture on the stress-reducing potential of remote/hybrid work, we leverage dual social experiments in response to the COVID-19 lockdown. The COVID-19 pandemic led to unprecedented numbers of workers forced to move into remote work overnight, followed by a subsequent shift to hybrid for some, and for others, a mandated return to the office ([Barrero et al. 2023](#)). In addition to this mass move to remote work, state-level variations in lockdown policies simultaneously drove exogenous variations in the number and intensity of parental childcare responsibilities on the home front. States mandated school closures aimed to curb the transmission of the virus, even as the push to remote learning pressed parents into teaching, rendering remote-working parents simultaneously childcare providers and educational assistants to their children.

Though there is suggestive evidence since the pandemic of the benefits of remote work ([Carlson and Petts 2022](#); [Fan and Moen 2023](#)) and clear evidence regarding the strains of added childcare obligations ([Calarco et al. 2020](#); [Dunatchik et al. 2021](#); [Ruppanner et al. 2021](#)), the effects of both in combination is not clear. Understanding the combined effects is nevertheless important to provide a better understanding of the benefits of remote or hybrid work, which may be obscured because of school closures. Neither is it clear whether these effects differ by parents’ intersecting and potentially disadvantaging social locations, such as their gender in combination with their race/ethnicity. Accordingly, we focus on the stress-reducing effects of remote/hybrid work among parents with minor children in the context of different state-level school closing policies. Given prepandemic assumptions about the stress-reducing impacts of remote work, we theorize parents should gain well-being benefits from moving to distance work—provided their children continue to be cared for through schools or other childcare arrangements. By contrast, those whose children began learning remotely might well experience additional stress when trying to simultaneously parent, teach, and work. These effects could be unevenly distributed, varying at the intersections of parents’ gender and race/ethnicity. We pose two research questions. First, do the well-being implications of remote/hybrid work for parents differ according to the stringency of school closure policies? Second, to what extent do state school closure policies modify the association between work locations and stress differently or similarly across stratifying contexts at the intersections of gender and race/ethnicity?

Addressing these questions advances our understanding of the implications of new ways of working—fully or partially at home—in several ways. First, we demonstrate the scope condition of any possible stress-reducing benefits of remote work, which is not only critical to making sense of mixed evidence to date but

also has important implications for developing policies that harness the well-being potential of remote work for working parents. To do so, we exploit the remote-work and remote-schooling natural experiments spawned by the COVID-19 pandemic that created an exogenous variation in both remote work and childcare obligations, allowing us to provide more robust evidence on the contexts under which remote/hybrid work is promoting or challenging parental well-being. Our findings suggest that even during the uncertainties and disruptive lockdowns of the pandemic era, there is evidence of the positive well-being effects of remote or hybrid work once the countervailing effects of school closures are taken into account. This aligns with the widespread popularity of remote or hybrid models among workers ([Barrero et al. 2021](#); [Richardson and Antonello 2022](#)).

Second, we move beyond prior research that has exclusively focused on gender variations to assess potential differences across subgroups at the intersections of gender and race. Incorporating race in combination with gender in the conceptual and analytical framework is important because dimensions of inequality intersect in complex ways, leading to distinct social contexts that constrain the lived experiences of individuals ([Cho et al. 2013](#); [Collins and Bilge 2020](#); [Crenshaw 1991](#)). Documenting how broad social transformations affect the stress of individuals situated at the intersection of various social structural locations is crucial to evaluate the combined forces of structural sexism and racism ([Bonilla-Silva 1997](#); [Homan 2019](#); [Laster Pirtle and Wright 2021](#)).

1.1. Remote/Hybrid Work and Parental Stress: Previous Studies

Originally coined in 1973, telecommuting was initially conceived as a way to reduce traffic problems and energy consumption ([Allen et al. 2015](#); [Avery and Zabel 2001](#)). Over time, it was gradually portrayed as a means to help individuals—especially parents—manage work and family responsibilities ([Bailey and Kurland 2002](#)). This is evident in results from a prepandemic experiment where, on average, workers report their willingness to give up 8% of their wages for the option to work from home, with the figure being especially high among women with young children, at 15.4% ([Mas and Pallais 2017](#)).

Does remote work in fact reduce stress for parents? Existing research paints a mixed picture ([Allen et al. 2015](#); [Bailey and Kurland 2002](#)). On one hand, perceived flexibility as to where one works is associated with workers' increased sense of autonomy in managing work and family demands ([Kossek et al. 2006](#); [Maruyama and Tietze 2012](#)), especially in their perceived ability to schedule their work hours around home demands ([Gajendran and Harrison 2007](#); [Golden et al. 2006](#)), opening up more time for family life and other activities ([Kelly and Moen 2021](#)). In support of this framing, evidence shows that remote work lowers levels of burnout and work–life conflict ([Gajendran and Harrison 2007](#); [Golden et al. 2006](#)). Such benefits may be especially pronounced among parents. Based on a sample of professional employees at two large information and financial services organizations, [Kossek et al. \(2006\)](#) show that women with children benefit more from using formal telework policies as evidenced by their lower depressive symptoms compared with men or women without children.

On the other hand, some argue that a border between work and home life is essential to give people time to recover from the demands and pressures of work ([Clark 2000](#); [Schieman and Glavin 2008](#); [Sonnentag and Zijlstra 2006](#)). Remote work, given its tendency to be geared to business rather than employee needs, may elevate the risk of unending efforts that extend work beyond traditional spatial, temporal, or psychological boundaries ([Chesley 2014](#); [Fan and Moen 2022](#); [Kelliher and Anderson 2010](#); [Noonan and Glass 2012](#); [Russell et al. 2009](#)). It may also blur the boundaries between work and home ([Golden et al. 2006](#); [Hyman et al. 2003](#); [Schieman and Glavin 2008](#); [Schieman and Young 2010](#); [Voydanoff 2005](#)), partly because domestic tasks become more evident when working at home, triggering employees' self-initiated interruptions to perform them ([Delanoeije et al. 2019](#); [Golden et al. 2006](#)).

Two explanations may account for the differential findings presented in previous studies. First, given the low prevalence of remote work prepandemic, prior research did not always define remote work in a consistent way. Whereas some focus on access to telework policies (e.g., [Yucel and Fan 2023](#)), others examine actual usage of such policies (e.g., [Kossek et al. 2006](#)), and still others consider bringing work home after hours as a form of remote work (e.g., [Song and Gao 2020](#)). A consensus is gradually emerging that working at home as part of one's job has well-being benefits ([Kim et al. 2020](#); [Yang et al. 2023](#)), but working at home in addition to a day at the office to catch up on workloads is detrimental to workers' (especially women's) well-being ([Kim et al. 2020](#); [Song and Gao 2020](#); [Yang et al. 2023](#)). The COVID-19 massive push to work remotely

offers a strategic research site to consider, among all those whose jobs allow telework, the effects of actually working from home on parents in different contexts. Accordingly, we focus on the impacts of working from home for a substantial portion of the working week (at least two days a week), as opposed to either access to (but not utilizing) telework policies or catching up on work after the conventional work day.

A second explanation for mixed findings to date is that remote/hybrid work could have differential impacts for different subgroups. One important dimension concerns the intersection of gender and parental status, as demonstrated by several previous studies (e.g., [Kossek et al. 2006](#); [Song and Gao 2020](#); [Yucel and Fan 2023](#)). An analysis of the 2010, 2012, and 2013 American Time Use Survey Well-Being Modules, for example, shows that parents, especially fathers, report a lower subjective well-being when working at home on weekdays, even as nonparents' subjective well-being varies less by where they work ([Song and Gao 2020](#)). In this study, we focus exclusively on the experiences of parents, moving beyond existing research to additionally assess possible differences at the intersections of parents' gender and race/ethnicity.

1.2. Remote/Hybrid Work, Remote Schooling, and Stress during the COVID-19 Pandemic

The COVID-19 pandemic produced dual natural experiments that can advance understanding of remote work in two ways. First, the unprecedented increase in the absolute numbers and relative share of remote workers made it possible to assess what working from home meant for a large number of workers, greatly attenuating the selection bias problematic in much prepandemic research. Prior to COVID-19, even as working remotely was slowly becoming a part of U.S. employment culture for some, only around 10–20% civilian workers worked from home, typically on an irregular basis, an opportunity largely available to highly paid white-collar professional workers ([Allen et al. 2015](#)) or to those who self-selected into remote jobs to accommodate family needs ([Bailey and Kurland 2002](#); [Mas and Pallais 2017](#)). Since the pandemic, it is estimated that 60% of workers have worked remotely at some point ([Brenan 2020](#)), many of whom had no or little prior remote work experience ([Fan and Moen 2022](#)). This pandemic-induced changing landscape greatly broadened the number of parents who personally experienced remote work. Second, with the closing of childcare facilities and the move to online schooling, especially at the beginning of the pandemic, parents with minor children at home found themselves de facto performing three jobs simultaneously: working, teaching, and parenting. School closure policies nevertheless varied considerably from state to state across the United States; these policies also evolved over time within each state throughout the pandemic ([Hale et al. 2021](#)). Such temporal and spatial variations in school closure policies generated different homeworking environments for parents, rendering it possible to evaluate whether the dramatic changes in parenting responsibilities related to school closures moderated potential stress effects of work location.

Our first research question therefore asks: do any stress-reducing implications of remote/hybrid work for parents differ by the stringency of school closure policies? Answering this question contributes to an emerging but still small number of pandemic studies on how the pandemic-driven move to remote work shaped workers' well-being. For example, drawing on German panel data collected before (September 2019) and during (April 2020) the pandemic (when schools and childcare facilities were closed), [Möhring et al. \(2021\)](#) find no effect on job or family satisfaction associated with the move to working from home, either for the overall sample or at the intersection of gender and parental status. A survey of more than 600 U.S.-based white-collar employees between late March and June 2020 shows reductions in stress and negative emotions concomitant with the move to working remotely, though family circumstances matter—those with children faring worse given their childcare responsibilities ([Bernstein et al. 2020](#)). Using a U.S. nationally representative panel survey conducted in October 2020 and April 2021, [Fan and Moen \(2023\)](#) show that remote workers returning to the office experience more stress, compared to those continuing to work remotely. Similar to [Bernstein et al. \(2020\)](#), [Fan and Moen \(2023\)](#) find that women and men with care obligations gain fewer emotional benefits from remote/hybrid arrangements compared with those without care obligations. Part of the reason may have to do with the added childcare demands due to the closing of schools and childcare centers, increasing time spent on housework and childcare for both remote working mothers and fathers ([Dunatchik et al. 2021](#)).

Qualitative studies additionally underscore the challenges faced by mothers of young children when working from home ([Calarco et al. 2020](#); [Çoban 2022](#)). For example, drawing on in-depth interviews conducted during the COVID-19 pandemic (April–May 2020) with mothers of young children in Southern Indiana, [Calarco et al. \(2020\)](#) show that the combination of disruptions in childcare arrangements and working from

home leads to mothers' spending more time with their children and increased stress. Conversely, mothers with uninterrupted childcare arrangements experienced increased parenting time as a source of joy in otherwise difficult times ([Calarco et al. 2020](#)). These contrasting findings indicate the importance of incorporating the school closing context to understand how remote work is associated with well-being.

Taken together, the extant evidence from both survey and interview data suggests that caregiving responsibilities may attenuate any stress-reducing benefits gained from working from home. However, most of these studies were conducted during the early days of the pandemic, when many workers, especially those who had never worked from home previously, were scrambling to adjust to new working (and childcare) environments. Another limitation of prior (quantitative) research is the use of parental status as a proxy for childcaring responsibilities, even as interview data (e.g., [Calarco et al. 2020](#)) show that parents' experiences vary considerably depending on the extent to which schools were closed. Accordingly, we leverage panel data from October 2020 to April 2022 to capture potential engagement in remote work over time in the context of temporal (within state) and geographic (across state) variation in school closure policies across U.S. states. Our goal is to understand whether the closing of schools mitigated any stress-reducing effects of remote work on parents in the United States. We expect remote/hybrid work to be stress-reducing when schools were not closed, but that an opposite pattern may emerge when schools were closed.

There may also be gender differences. Given deeply entrenched gender scripts, remote-working mothers and fathers may well be affected by school closure policies to different degrees. In light of the tensions and contradictions between the ethic of care and ideal worker norms ([Acker 1990](#); [Blair-Loy and Wharton 2002](#); [Hays 1996](#); [Moen and Roehling 2005](#); [Williams 2001](#)), prepandemic research shows that mothers with access to remote work are more likely to replace the time saved from commuting with childcare and household chores than are fathers ([Noonan et al. 2007](#); [Powell and Craig 2015](#)). As a result, mothers fail to benefit as much from telecommuting in terms of extra leisure time gains compared with fathers ([Hilbrecht et al. 2008](#); [Noonan et al. 2007](#)).

Pandemic research largely supports this gender variation. For example, relative to fathers, mothers working from home in 2020 were more likely to increase their supervisory parenting and alter their work schedules to fit family needs; by contrast, mothers and fathers working on site during the pandemic experienced smaller changes in time use ([Lyttelton et al. 2023](#); also see [Dunatchik et al. 2021](#)). However, based on survey data collected from March, April, and November 2020, evidence also exists that parents' division of housework and childcare became more equal when fathers worked from home ([Carlson and Petts 2022](#)), suggesting that fathers may also be affected by school closure policies when working remotely. Taken as a whole, we view it as an empirical question as to whether school closure policies moderate the work location/stress interface differently for mothers and fathers.

We also expect any moderating effects of school closure policies on potential stress-reducing benefits of remote work to differ at the intersections of gender and race. A growing body of literature demonstrates that the intensive mothering ideology does not hold for racial/ethnic minorities who are simultaneously subject to racial or ethnic norms that alter the cultural definition of a "good" father or a "good" mother ([Collins 2009](#); [Dow 2016](#)). Given the long history of labor market discrimination, men of color have difficulty in earning a family wage to financially provide for a family ([Hodges and Budig 2010](#)), leading to less emphasis placed on the domestic expectations of mothers and more on their economic contributions ([Collins 2009](#)).

Consequently, the division of housework is more equal among couples of color ([Collins 2009](#); [Penha-Lopes 2006](#)), and mothers of color tend to have more integrated conceptions of their roles as workers and caregivers ([Blair-Loy and Dehart 2003](#); [Dow 2016](#)). School closure policies in tandem with working remotely, therefore, may not have affected the stress level of mothers of color as much as that of white mothers.

Alternatively, given structural racism ([Bonilla-Silva 1997](#); [Laster Pirtle and Wright 2021](#)), it may be more challenging for parents of color to combine home working and parenting compared with white parents in the midst of a pandemic, rendering any negative effects of school closure policies more palpable to them. For instance, during the 2020–2021 school year, when schools began to reopen, school districts with a greater representation of Black and Hispanic students were less likely to offer in-person instruction than were districts with a greater representation of white students ([Landivar et al. 2022](#)). Parents of color, therefore, were more likely to live in school districts with prolonged and possibly more stress-inducing remote schooling. We draw on panel data to empirically adjudicate these different possibilities.

2. Data, Measures, and Methods

2.1. Data

To test our hypotheses, we drew on four waves of panel data collected from a nationally representative survey of workers who worked remotely at some point since the onset of COVID-19. The four-wave panel survey was fielded using Ipsos KnowledgePanel, the largest probability-based online panel in the United States, which reputable research organizations such as Pew also utilize. Both random-digit-dialing and address-based sampling methodologies are used to recruit KnowledgePanel members; households without an internet connection are provided with a web-enabled device and free internet service to complete online surveys. Our baseline survey was conducted in October 2020, consisting of 3017 randomly selected respondents ages 18 and above who worked remotely at some point since the onset of COVID-19 (ensured through a screening question). These respondents were surveyed again six (April 2021), twelve (October 2021), and eighteen (April 2022) months later with a follow-up rate of 76% ($n = 2286$), 74% ($n = 2232$), and 70% ($n = 2107$), respectively.

Given our focus on parents' well-being when working remotely or hybrid versus working at work, our analytic sample consisted of respondents with minor children living at home; we also removed 411 person-waves in which workers were either not employed or self-employed when surveyed. After further removing 31 person-waves with missing values for any variables used in the analysis, the final sample size was 1566 person-waves nested within 662 parents.

2.2. Measures

Our focal outcome was the stress experienced by working parents; accordingly, we constructed a scale of parental work–life tensions, consisting of four items that we describe below ($\alpha = 0.79$). We created a scale as opposed to examining the four items individually, given that single-item indicators are susceptible to reliability and multiple comparisons problems. Rushed was assessed by the question “How often do you feel rushed or pressed for time?” (1 = never to 4 = often). Interrupted was captured through the question “How often are you interrupted during the work day, making it difficult to get your work done?” (1 = never to 5 = all of the time). We note that even though feeling rushed or being interrupted could change daily, the two items ask for average levels to identify parents struggling with time adequacy or focused time. Burnout, one of the most frequently used measures of worker distress ([Fox et al. 2022](#)), was assessed by the question “How often do you feel burned out by your work?” (1 = never to 4 = often). Burnout develops cumulatively over time, though it can also be affected by sudden disruptions ([Bakker et al. 2014](#)) such as added childcare responsibilities. Work–life conflict was measured using the question “How often do the demands of your job interfere with your family or personal life?” (1 = never to 4 = often).

Our key independent variable was work location. At each survey wave, respondents were asked what best described their workplace arrangements when surveyed: (1) working mainly at home; (2) working mainly away from home at a fixed location (e.g., office); (3) hybrid (i.e., about equally at home and away from home); (4) working mainly on the road from a car, truck, train, plane, hotel, or motel room; (5) working at changing client or customer locations; (6) furloughed or laid-off; (7) left my job voluntarily; and (8) other (e.g., retired, keeping house, student). We combined categories 1 and 3 to create a remote/hybrid category and combined categories 2, 4, and 5 to create a “working away from home” category, consisting overwhelmingly of those working at the work site.

State-level school closure policies came from the Oxford COVID-19 Government Response Tracker data ([Hale et al. 2021](#)). The tracker collects state-specific data on a daily basis for a wide range of pandemic containment policies. For school closure, four levels were created: (0) no measures, (1) recommend closing or all schools open with alterations resulting in significant differences compared to non-COVID-19 operations, (2) require closing only some levels or categories, e.g., public schools only, and (3) require closing all levels. Separately for each state and each survey wave, we calculated the average strictness of school closure policies over the data collection period. Note that this measure does not include closures of

childcare facilities, even though school closures are highly correlated with childcare facility closures ([Garcia and Cowan 2022](#)). [Appendix A, Figure A1](#) displays trends in school closure policies across the 50 states and Washington D.C., with higher values indicating more stringent school closure policies.

We compared results across various social locational groups, first by gender and then by gender in intersection with race/ethnicity. Race/ethnicity contained four categories: non-Hispanic whites, non-Hispanic Blacks, non-Hispanic other, and Hispanics, which we adjusted for in all models. When conducting the intersectional analysis, we were able to distinguish only between non-Hispanic white and employees of color to ensure sufficient sample sizes.

In all models, we adjusted for respondents' age and couple status: (1) single (including a few respondents who had a spouse/partner but did not live with them), (2) spouse/partner working remotely, (3) spouse/partner working at work, and (4) spouse/partner not working. We also included college attainment, whether respondents had a preschool child, and whether respondents had a school-aged child. To capture respondents' care obligations, we controlled for who took the greatest responsibility for childcare (respondent, spouse/partner, or equal sharing) and whether respondents had adult care responsibilities. Additional covariates included sector (public, private for-profit company, and nonprofit organization), work hours, occupation (manager, nonmanagerial professional, and nonmanagerial nonprofessional workers), and experience of remote work before COVID-19, coded 1 for those who had never worked from home before the pandemic. We also controlled for respondents' work location in the previous wave (remote/hybrid or at work) to take into account respondents' continuities and changes in work locations. To capture the cross-state and over-time variation in the severity of the COVID-19 pandemic and its economic ramifications, we adjusted for state-level COVID-19 case rate and unemployment rate in each survey wave.

2.3. Methods

We applied mixed-effects models that exploited both within- and between-subject variability ([Gajek and Burzykowski 2013](#)), which allowed us to examine how changes and continuities in work location and school closure policies shaped parental stress. Mixed-effects models are closely related to the difference-in-difference approach or fixed-effects models but are more flexible because they can include time-invariant characteristics such as race/ethnicity. We first present the results based on a model where work location and school closure policies are entered individually. We then add an interaction term between work location and school closure policies to test our key proposition on the role of school closings in modifying the stress implications of remote/hybrid work. Note that in two states (Maine and South Dakota), school closure policies remained stable over our observational window (see [Appendix A, Figure A1](#)); respondents in these two states were still included in our analysis as mixed-effects models exploit both between- and within-state variation in school closure policies. Given our intersectional analytical lens, we then test whether the results are different across subgroups at the intersections of gender and race/ethnicity.

Results were largely similar regardless of the inclusion or exclusion of the covariates (not shown but available upon request), so we present results from the full models. Missing values are minimal (less than 2%), so we used listwise deletion to handle missingness. All models were weighted to yield findings that were nationally representative and robust to attrition.

3. Results

3.1. Descriptive Statistics

[Table 1](#) presents descriptive statistics for the variables used in our analysis, first for the overall sample and then separately by gender. In our parent sample, mothers reported higher levels of work–life tensions compared with fathers (0.35 versus 0.13 on a scale from 2 to 2, $p < 0.001$). Few gender differences were found in terms of where they worked (60% remote/hybrid) or state-level school closure policies, which had an average score of 1.07 on a 0–3 scale, indicating recommended but not required closing.

Two-thirds of the parents in our sample were non-Hispanic whites (66%), followed by Hispanics (16%), people from nonwhite, non-Black, and non-Hispanic racial/ethnic categories (mostly Asians, 12%), and non-

Hispanic Blacks (6%). The proportion of this sample who were Hispanics was higher among mothers, whereas the share of Asians was higher among fathers. About 72% of our sample held at least a college degree, especially among fathers (76% versus 67%, $p < 0.01$), reflecting the nature of telecommute-capable jobs that typically require a college degree ([Dey et al. 2020](#)). The average age was 41 for both mothers and fathers. Mothers were more likely than fathers to either be single (17% versus 7%, $p < 0.001$) or have a partner who worked at work (49% versus 35%, $p < 0.001$); fathers were more likely than mothers to have a partner who either worked remotely (39% versus 28%, $p < 0.001$) or did not work (19% versus 6%, $p < 0.001$). Mothers were more likely to take primary responsibility for childcare, with only 6% of mothers stating that their partner was the primary caregiver, and 18% of fathers claiming the same role. Mothers were additionally more likely to have adult-care responsibilities compared with fathers (16% versus 10%, $p < 0.01$).

A higher number of mothers than fathers—almost half—never worked from home prior to COVID-19 (49% versus 37%, $p < 0.001$). Most respondents (60%) in our sample of remote workers were employed by a private for-profit company, 25% were in the public sector, and 15% worked for nonprofit organizations; mothers were more likely than fathers to be in public-sector or nonprofit organizations ($p < 0.01$). Mothers also worked on average fewer hours than fathers (39 versus 43 h per week, $p < 0.001$). Even though our analytic sample consisted only of parents with a job, note that over the observational window, around 15% of this parent sample ever quit employment (for another job or out of the labor force) and about 3% were ever furloughed, with no gender difference.

3.2. Remote/Hybrid Work, School Closures, and Parental Stress

[Table 2](#) shows results from mixed-effects regression models predicting parental stress for mothers and fathers, respectively. We first present a main effects model where work location and school closure policies were added separately, and then introduce an interaction term between the two.

Results from the main effects model indicated a nonsignificant relationship between remote/hybrid work and work–life tensions for mothers (Model 1a). For fathers, working from home fully or partly predicted marginally lower stress ($\beta = -0.100$, $p < 0.1$, Model 2a). School closure policies did not directly affect either mothers' or fathers' well-being.

Regarding our core research question, whether state policies moderate the potential stress effects of work location, we found that this was indeed the case for mothers. In the absence of school closing policies, relative to working at work, remote/hybrid work lowered mothers' stress ($\beta = -0.231$, $p < 0.05$, Model 1b). However, this benefit was attenuated to a great extent with increasingly stringent school closure policies (interactions term: 0.187 , $p < 0.01$, Model 1b). [Figure 1](#) illustrates this contrast: remote/hybrid working mothers have considerably lower levels of work–life stress compared with onsite working mothers when there are no school closure policies, but the pattern reverses when all schools are required to be closed.

3.3. Differences at the Intersections of Gender and Race

Did the patterns presented above differ across subgroups at the intersections of gender with race? We found white mothers shifting to remote work were the most vulnerable to the stress of school closure policies. This can be seen in [Figure 2](#). For white mothers, when schools are not required to close, remote or hybrid work predicts lower levels of work–life tensions, relative to working at work ($\beta = -0.35$, $p < 0.01$). However, when schools are required to close, remote or hybrid work is associated with white mothers' higher levels of work–life tensions (0.37 , $p < 0.05$). In comparison, remote schooling policies had much weaker stress effects for mothers of color or fathers in general, as shown in [Figure 2](#) by the less pronounced gap in stress across work location or different school closure contexts.

3.4. Robustness Checks

It could be argued that school closure and other pandemic containment policies affected the stress of all workers, not just those who were parents. Accordingly, we conducted parallel analyses among nonparents. Models in [Appendix A](#), [Table A1](#) show that the interaction terms between school closure policies and place

of work are nonsignificant for nonparents, indicating that our main results are indeed reflecting remote working parents' struggles with care work when schools move to remote learning.

Given the growing popularity of hybrid work, we also examined whether findings differed between remote and hybrid arrangements. Models in [Appendix A, Table A2](#) indicate that fully remote and hybrid do not differ from each other in terms of their influences on parental work–life tensions or how their effects are moderated by school closure policies.

4. Discussion

The COVID-19 pandemic reshaped the landscape of where work was performed; for many parents, it also produced challenges in childcare. This put into sharp focus the fundamental mismatch that parents—and especially mothers—experience in trying to manage both work and family obligations ([Acker 1990](#); [Blair-Loy and Wharton 2002](#); [Hays 1996](#); [Jacobs and Gerson 2004](#); [Moen and Roehling 2005](#); [Williams 2001](#)). Pandemic-driven changes in both remote work and state-level remote schooling policies thus offered an opportunity to capture and test the effects on parental stress of the intersection of care and work.

Accordingly, we drew on national representative panel data collected from October 2020 to April 2022 to examine parental stress effects of the conjoint dynamics of these two disruptions—in work location and in state school closure policies. Did state policies requiring remote schooling (and thereby escalating parental childcare obligations) obscure any salutary effects of remote or hybrid work? Were such impacts uniform, or were there gender disparities and even intersectional disparities by gender and race in these processes?

Our results contribute to existing research in several ways. Situated in a profound social change induced by the COVID-19 pandemic, our research points first to the dynamics in work and family lives during this time of unprecedented transformation; both remote work and school closing policies mandating remote learning changed across the study period from October 2020 to April 2022. Specifically, 40% of the parents in our sample moved in or out of working remotely at least once, and almost all states altered their school closing policies throughout the pandemic. This speaks to the importance of considering continuity and change in working and school arrangements and their combined effects on the stress of working parents.

Second, by leveraging the remote-work and remote-schooling natural experiments spawned by the pandemic, we demonstrated that the positive well-being effects of remote work were obscured during the pandemic by the countervailing effects of school closures. In the absence of mandated school closures, mothers and fathers working in remote or hybrid arrangements were less apt to experience work–life stress. This salutary stress-reducing effect associated with remote/hybrid work reinforces much research conducted prepandemic (for reviews, see [Allen et al. 2015](#); [Bailey and Kurland 2002](#); [Gajendran and Harrison 2007](#)), a time when childcare arrangements presumably did not shift markedly.

A different picture emerged when schools were required to close. Mothers working remotely reported greater stress compared with their at-work peers. These findings underscore that the conditions under which parents work and care can change, and that changes affect parental stress. Notably, only among mothers did we find a moderating effect of school closure policies, suggesting that conventional gender norms with mothers being the default caregivers remain strong. Fathers' home working, by comparison, likely takes precedence over and absolves them from caregiving responsibilities, thereby preserving the benefits they derive from remote/hybrid work.

How do we apply these findings to understand parental stress in nonpandemic times? Our research reveals that new ways of working reduce the chronic strains typically experienced by working parents, even amidst a pandemic, as long as there is well-functioning childcare support. Only in the extreme case scenario, when schools are required to close, do we find remotely working parents caught in a bind. To maximize the well-being benefits of remote/hybrid work, more policy attention is needed to address the dependent care challenges many U.S. parents face. As life returns to normal postpandemic, remote/hybrid work is very likely a crucial component of workplace flexibility ([Barrero et al. 2021](#); [Bloom et al. 2022](#)) that benefits the well-being of parents, especially mothers. Conversely, mandatory returning to the office could elevate the already high levels of stress that contemporary parents are facing (e.g., [Fan and Moen 2023](#)).

Third, the effects of the combination of the two disruptions in where parents work and where their children are mandated to learn are contingent on parents' structural locations. In this case, not only gender, but gender in intersection with race/ethnicity moderated any reduction or increase in our measures of stress. Remote-

working mothers in general, but especially remote-working white mothers, were the most susceptible to the stress of added childcare obligations brought about by school closure mandates.

While we cannot pinpoint the exact explanation for this finding, several factors may play a role. Given the uneven distribution of single parents across racial groups, it is likely that nonwhite parents—especially nonwhite mothers—had to exit the labor market (and therefore our analytic sample) to care for their children. However, post hoc analysis indicated that the probability of leaving work was similar between white mothers (2.09%) and mothers of color (2.03%), suggesting that labor force exits are unlikely to be driving our findings. Another possibility is that, compared with mothers of color who may feel less bound by the “cult of domesticity” ([Collins 2009](#); [Dow 2016](#)), white mothers are more likely to take on the great majority, if not all, childcare and household labor ([Penha-Lopes 2006](#)), rendering the move to remote schooling particularly challenging for them to manage while working from home. In addition, it is likely that Black, Hispanic, and Asian American families are more prone to receiving support from their extended family members, given that multigenerational households are more prevalent among racial/ethnic minorities ([Pew Research Center 2022](#)), who also tend to have larger fictive kin networks ([Taylor et al. 2013](#)). Future research is needed to better understand the different findings at the intersections of gender and race.

There are a number of limitations to this research. First, in addition to the wide variation across states in school closure policies, within-state policy variation in timing and stringency also existed, especially in states where mandates were weak. Future research should explore further such local variations. Second, given our focus on work location, we did not include parents who left the labor force, many of whom—especially mothers—did so precisely because of heightened childcare demands ([Landivar et al. 2020](#)). Therefore, we may have underestimated the parental stress at the peak of remote schooling. Missing as well were workers in occupations requiring in-person work—particularly prevalent among less-educated workers and workers in historically disadvantaged social locations. Our findings cannot be easily generalized to these workers given the distinct nature of the occupations they hold; the well-being implications of remote work for parents holding non-telecommute-capable jobs should be key topics for further investigation. Third, given the sample sizes, we were unable to obtain estimates for some intersecting subgroups, e.g., by gender and each individual racial group. Future research with larger subgroup populations is needed to capture differences across and within subgroups differentially disadvantaged in labor market and home contexts.

In sum, this is a study of parents at particular times and places experiencing a sea change in their work and family lives during COVID-19. But it has much broader implications for life beyond COVID-19, pointing to the absence of fit between institutional logics around work as demanding total commitment and parenting requiring total commitment, both overlaid by gendered assumptions about the devotions to each ([Blair-Loy 2003](#)). Scholars studying the fundamental mismatch between these two institutions—work and family—embedded in enduring gender, race, and class inequities, are well poised to move from documenting disparities in stress arising from conflicting goals, timetables, and resources to assessing how these might be ameliorated as innovative templates such as remote or hybrid work emerge. To that end, research is needed on better and more equitable ways to care for children to be sure, but also on policies opening up opportunities for governing the spatial and temporal organization of work—greater schedule flexibility, remote/hybrid work options, and reduced work-hour strategies such as the four-day workweek. The pandemic may be fading into the past, and changes are occurring in fits and starts, but the structural constraints perpetuated by institutionalized work and care norms and policies unfortunately remain.