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ABSTRACT

Neither Backlash nor Convergence: Dynamics of Intracouple Childcare Division after the First COVID-19 Lockdown and Subsequent Reopening in Germany*

Using unique monthly panel data from the Institute for Employment Research (IAB) covering the immediate postlockdown period from June to August 2020, we investigate the opposing claims of widening/closing the gender gap in parental childcare during the COVID-19 pandemic in Germany. We contribute to the current literature by analyzing the medium-term dynamics of couples' childcare division and by considering the prepandemic division rather than providing merely snapshots during lockdown. Our results suggest a slight shift toward a more egalitarian division in June that, however, faded out in subsequent months. Starting from a fairly "traditional" prepandemic childcare division, the lockdown stimulus was not nearly strong enough to level the playing field. A subgroup analysis differentiating between parents' individual lockdownspecific work arrangements shows that the drivers of the observed shift were mothers who worked more than 20 hours a week and for whom remote work was not possible. Fathers' work arrangement instead did not play a significant role. We conclude that the shift emerged out of necessity rather than opportunity, which makes it likely to fade once the necessity vanishes, thereby catapulting parents back to their initial childcare arrangements.

JEL Classification: D13, J13, J16

Keywords: COVID-19, intracouple division of unpaid work, childcare, gender, working from home, IAB-HOPP

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1 Introduction

Recent efforts toward gender equality within society at large and the vital debate on digitization as a potential gender equalizer during the pandemic and thereafter stand in stark contrast to the persistent gender inequalities present in the private sphere. The unequal division of childcare attracts particular attention since childcare is – unlike housework – of limited substitutability, scalability and delay. At the same time, locked-down daycare facilities and schools have put parents of young children under particularly high pressure during the ongoing pandemic. Surrounding the effects of the COVID-19 crisis on the childcare division among couples, the scientific debate stretches between two opposed expectations, namely, the 'backlash notion' and the 'convergence notion'. On the one hand, it is hoped that a considerable number of bread-earning fathers will get to know and appreciate family care work at home and thus permanently increase their share of such work (Alon *et al.*, 2020; Arntz *et al.*, 2020; Hupkau/Petrongolo, 2020). On the other hand, there are fears of a massive relapse into a traditional pattern of behavior (Allmendinger, 2020; Kohlrausch/Zucco, 2020; Müller *et al.*, 2020). To date, most studies only provide snap shots of the acute lockdown situation; if they longitudinally incorporate the prepandemic situation, they seldom take couple constellations into account.

This study provides novel evidence on the effect of the COVID-19 crisis on intracouple childcare division. Referring to the theoretical underpinnings of intracouple bargaining over childcare division, the current study makes two contributions to the literature. First, we use prepandemic childcare division as a reference point to elucidate behavioral changes over time. Second, a high-frequency longitudinal scope allows us to investigate the dynamics and the durability of the observed changes approximately five months beyond the acute lockdown, i.e., until August 2020.

We employ unique monthly panel data covering the period of gradual reopening after Germany's first COVID-19 lockdown in spring 2020 up until August. Based on a sample of about 1,120 parents, we find an only small and temporary shift toward increased paternal childcare participation. The main driver for this shift consists of mothers with relatively intense labor market participation who cannot work from home. The work arrangement of fathers instead does not play a significant role, which suggests that the small shift we observe emerged out of *necessity* (since mothers cannot take over childcare) and not out of *opportunity* (enabling fathers to increase their share). It comes as no surprise that such shift may fade once the necessity vanishes. Overall, our results support neither the 'backlash' nor the 'convergence' notion put forward in the current debate, but rather evidence a striking degree of stability in intracouple childcare arrangements.

The paper is structured as follows: Section 2 reviews the theoretical background and empirical findings on intracouple childcare division and develops hypotheses for the pandemic context; Section 3 introduces the data used and describes sample selection and variables; Section 4 presents the empirical setup; and Section 5 reports and discusses the results. The final section concludes.

2 Theories on Intracouple Childcare Division and Empirical Findings

Among the most influential theories for the division of labor in couples documented in the literature are the relative time budget of the partners, the relative human capital of the partners (education, income) and the gender norms prevailing in the couple (e.g., Boll, 2017; Beblo/Boll, 2014; Beblo, 2001). The time mechanism is grounded in the '*time availability*' approach (Shelton, 1992). The higher one's involvement in gainful employment is, the less time one has available for unpaid work. This approach emphasizes the importance of path dependence and the inertia of adjustment mechanisms resulting from habituation to established patterns and adjustment costs

(e.g., when changing employment contracts). Partners' relative earnings, in combination with their relative productivity for domestic work, give rise to the comparative advantage of partners for market or domestic work, based on the *unitary model of new household economics* (Becker, 1965). *Cooperative bargaining theories* (McElroy/Horney, 1981; Manser/Brown, 1980) come to the same conclusion, albeit based on a different rationale; here, higher human capital reflects a higher bargaining position within the couple in regard to (re)negotiations of domestic work. *'Gender display' or 'doing gender' theories* assume that behavior constructs gender identity and that people therefore prefer behavior that conforms to gender stereotypes, thereby avoiding stereotype-averse behavior (West/Zimmermann, 1987; Berk, 1985). Traditional gender roles are still quite common in Germany, more so in the western part of the country than in the eastern part (Schmitt/Trappe, 2014; Wenzel, 2010; Cooke, 2007).

The aforementioned theories differently advocate the arguments exchanged in the current COVID-19 debate that juggle between 'backlash' and 'convergence'. Referring to prevalent traditional norms, proponents of the 'backlash' thesis argue that women will be held responsible to address the "sudden spike in childcare needs" (Alon *et al.,* 2020, p. 11f.), which will result in the retraditionalization of formerly egalitarian couples during the lockdown (in a similar vein: Kohlrausch/Zucco, 2020). In fact, survey results for Germany from the early phase of the pandemic suggest that working mothers reduced their workload relatively more than did fathers to meet the additional childcare needs caused by the pandemic (Bünning *et al.* 2020), that teleworking mothers spent more hours on childcare than did teleworking fathers (Adams-Prassl *et al.*, 2020), and that full-time employed mothers increased their time spent on childcare in April 2020 by more than fathers, compared to the previous year (Zinn, 2020). Consequently, mothers were more likely (than before the pandemic and more likely than fathers) to feel heavily stressed with childcare tasks

(Fuchs-Schündeln/Stephan, 2020). Time availability and economic rationales are further plausible explanations for the observed care arrangements; women have been hit harder by employment drops than men in the current crisis (Hammerschmid *et al*., 2020). Marginal employment (so-called 'Minijobs'), in which women prevail, has been significantly reduced under the pandemic (Deutsche Rentenversicherung Knappschaft Bahn-See/Minijobzentrale, 2020a). Depending on the household context, it can be assumed that some women will refrain from a new job search upon economic recovery if the money is not needed to make ends meet (Fuchs *et al*., 2020). Due to traditional gender roles and a persistent earnings disadvantage against men, women are still lagging behind in terms of career perspectives. Thus, for some couples, having the mother step in seems economically reasonable.[1]

However, the results from surveys during the first COVID-19 lockdown indicate that fathers also expanded the time they spent with their children (Kreyenfeld/Zinn, 2021, Hank/Steinbach, 2020) and that a higher share of fathers – and a lower share of mothers – saw themselves in the role of primary caregivers compared to the prepandemic period (Kohlrausch/Zucco, 2020 for the time from 3 to 14 April, 2020; similarly Zinn *et al.*, 2020). These empirics motivate the 'convergence notion' by suggesting that increased paternal engagement could help to narrow down the gender divide in childcare responsibilities. The related optimism is further grounded in the fact that women are overrepresented in systemically relevant jobs, which cannot be done from home. This holds true for occupations in the health care and social sector, where 77 percent of the employees are women (Bundesagentur für Arbeit, 2019). Based on SOEP 2018 data, the share of couples in which only the mother has a systemically relevant job is approximately 16 percent (Boll/Schüller,

[1] For an evaluation of the economic situation of families between mid-March and mid-May 2020 see, e.g., Boll (2020), and for a discussion of political measures with respect to gender equality Schmieder and Wrohlich (2020).

2020). It is exactly this situation […] "where the father is able/forced to work from home during the crisis, while the mother is not" […] from which Alon *et al.* (2020, p. 21f.) expect the biggest impact on the intracouple labor division. However, though quite optimistic regarding the upward shift in fathers' participation, the authors do not rule out that the phenomenon could be temporary (p. 22).

Indeed, referring to the theoretical literature, couples' initial conditions should matter. The formation of expectations regarding the parental division of labor after the COVID-19 crisis requires an analysis of the prepandemic constellations. Behavioral adjustments, i.e., learning new role models within the couple, entails symbolic and/or economic costs.[2] Paternal agents might avoid those costs and, instead, frame their additional childcare engagement as temporary "emergency care", which ends when the emergency ends, i.e., after the reopening of daycare facilities and schools. It is therefore by no means evident, either in the short-term or the medium-term, that paternal care will increase in cases where there was little involvement prepandemic ('convergence notion') or that paternal care will decrease where childcare arrangements were previously more egalitarian ('retraditionalization notion').

This study makes a twofold contribution to the literature. First, unlike previous studies, which mostly provide snapshots of the situation during the pandemic, we observe and employ the prepandemic couple division of childcare as a reference point to evaluate the dynamics over time and to scrutinize possible retraditionalization and convergence trends. Second, the high-frequency

[2] Cognitive psychology points to further barriers to behavioral adjustments (cf. Caspi/Moffitt, 1993, p. 247f.); people's interpretation of new experiences is influenced by pre-existing schemes that help us categorize and organize (Nisbett/Ross, 1980) and maintaining organism integrity (Menninger, 1954). In uncertain situations, with a strong press to behave, learning a new response might be costly and the second best strategy only if innate defense reactions are unavailable or prove to be unsuccessful (Bolles, 1970).

panel data covering the period of gradual reopening after Germany's first COVID-19 lockdown until August 2020 allow us to test the sustainability of short-term shifts in the medium term.

Hypotheses

H1. (Childcare specificity) We suppose for the aforementioned reasons that the childcare shift is greater than the shift in other forms of unpaid work.

H2. (Initial conditions) We expect that initial conditions in terms of norms and relative resources that shape parental behavior prepandemic and are proxied by the initial childcare division remain decisive under the crisis. Specifically, the more pronounced the gender asymmetry in childcare division was prepandemic, the less likely and the less persistent the significant change should be thereafter. This also means that there should be no significant shift for previously egalitarian couples.

H3. (Dynamics: Opportunities and necessities arising from work arrangements) Both a low labor market involvement in terms of employment status and hours and the opportunity to work from home during the lockdown provide additional time resources that should relate to a more strongly increased childcare involvement of the respective parent, hence to a more (less) equal division of childcare, compared to the prepandemic situation, in case that the parent is a father (mother). This is what we would expect short-term. A persistent childcare shift would require a permanent shift in parents' relative resources.

3 Data, Sample and Variables

3.1 Data

To investigate the postlockdown dynamics of the division of labor within parental couples in Germany, we employ unique data from the IAB High-Frequency Online Personal Panel (HOPP), which is a monthly[3] online panel survey developed by the Institute for Employment Research (IAB). This panel survey has been developed to investigate how the COVID-19 pandemic affects individuals in the German labor market (Sakshaug *et al.*, 2020).[4] HOPP is based on a random sample of 200,000 individuals, which was drawn from the Integrated Employment Biographies (IEB) of the IAB. The IEB includes the universe of employees subject to social insurance contributions, registered unemployed individuals, unemployment and welfare benefit recipients, and job seekers. Thus, HOPP is representative of the employable population in Germany. Furthermore, the survey data can be linked to the administrative data of the IAB if the respondents provided informed consent for such linkage. The data and data documentation will be provided internationally at the Research Data Centre (FDZ) of the German Federal Employment Agency (BA) at the Institute for Employment Research (IAB) in the near future.

We use the 2020 May, June, July, and August waves, in which approximately 11,500 individuals (mainly employees subject to social insurance contributions) participated at least once in the survey and reported changes in their social, family and working lives in the course of the COVID-19 pandemic.

[3] After the August 2020 wave, the panel became bimonthly.

[4] A short survey description can be found at https://www.iab-forum.de/glossar/hopp-befragung/?pdf=17949 and several data tables on special content are available at http://doku.iab.de/arbeitsmarktdaten/ADuI_hopp_aktuell.xlsx (only in German).

3.2 Sample

We restrict our analysis sample to couples with at least one child below the age of 12 because those children are defined as being necessitative of childcare, according to the Infection Protection Act (§56, Abs.1a). We consider two subsamples. The first subsample is an unbalanced panel of mothers and fathers who were interviewed at least in May and June 2020, including a total of 2,795 person-period observations (1,120 individuals). The second subsample is a balanced panel of 269 mothers and fathers, who were interviewed in all waves between May and August, resulting in 1,075 person-period observations (see Table 1 for summary statistics). When considering lockdown-specific work arrangements, the sample slightly reduces to 1,112 (267) mothers and fathers in the unbalanced (balanced) version. In line with the literature, we consider the time before 19 March 2020 as the prepandemic period. Although the reopening after the first COVID-19 lockdown started at the end of April 2020, this reopening was gradual, and the reopening of childcare facilities was especially prolonged – in a phase of "extended emergency childcare" – over the entire month of May before most federal states switched to a phase of "restricted normal operation" (see Figure 1). Thus, we define the period spanning from 19 March to the end of May 2020 as the (extended) lockdown period.

[Table 1 about here]

[Figure 1 about here]

3.3 Dependent variable

Due to the lockdown and associated daycare facility and school closures, parents were more strongly forced to renegotiate childcare; thus, compared to other forms of unpaid care, childcare is

our main dependent variable. Such care has to be analyzed separately from housework (Sullivan, 2013), which we do; we consider housework and (grocery) shopping, which are scaled and recoded in the same way as our main dependent variable. Regarding childcare, the respective survey question has been posed to a subgroup of respondents who state that their partner and at least one child born after 2005, i.e., under the age of 15, live in their household. The question reads as follows: "*How do you and your partner currently organize childcare? This is about the time that children are not taken care of in school, kindergarten, etc., but by you and/or your partner.*" Responses are measured on a five-point scale: 1 "(almost) entirely my partner", 2 "predominantly my partner", 3 "approximately 50/50", 4 "predominantly myself", 5 "(almost) entirely myself". For the purpose of our analysis, we recoded the responses according to the respondent's gender to obtain a measure of the gender pattern in childcare division within the couple.[5] The recoded five-point scale then ranges from 1 "(almost) entirely the father" to 5 "(almost) entirely the mother". We additionally examine dichotomized versions of the outcome. Importantly, only in the June wave were the respondents additionally asked to report the division of unpaid labor in the immediate prepandemic period, which we used as a reference point in our analysis.

3.4 Explanatory variables

As we are interested in the postpandemic dynamics of parental childcare division, we employ month dummies for June, July and August 2020 and used the respective prepandemic division as a reference. We consider the main possible types of lockdown-specific work-care arrangements among parental couples. The relevant coping strategies that addressed work-care conflicts in the immediate lockdown were (not) working at all, switching to remote work and reducing one's

[5] The data does not contain information about the gender of the partner; however, we impose the assumption that there are no same-sex couples in the sample.

working hours. Specifically, we use information on whether one's employer offered the possibility of working from home (rather than actual usage), assuming that anyone with the possibility of working from home did do so in the acute lockdown period when schools and daycare facilities were closed and employees were ordered to work from home whenever possible. Similarly, we rely on information about actual working hours in the work week prior to the interview (including overtime, etc.). Since we do not observe actual work-care arrangements during the acute lockdown in March/April 2020, we employ survey information from the May 2020 HOPP wave for approximation. We thereby assume that individuals tended to maintain their lockdown-specific care-work arrangements in the subsequent phase of stepwise reopening of schools and daycare facilities, which lasted at least until the beginning of June 2020.

We do not distinguish by the possibility of working from home if an individual worked less than or equal to 20 hours weekly, since we assume that leisure time at home is more strongly expected to be devoted to childcare tasks than work time at home. Whether with or without the possibility of working remotely, the parent who reduced their work time was likely be the main caregiver. We focus on these four main types of lockdown-specific work-care arrangements since the limited sample size prevents us from a more detailed specification regarding working time. Note that as we do not observe prepandemic work arrangements of both partners, we are unable to measure respective changes.

When analyzing lockdown-specific work arrangements, we show results for mothers and fathers separately because we do not have partner information on employment status, working from home and working hours from the May 2020 HOPP wave. Consequently, the work-care arrangements we can investigate concern the individual and not the couple. That is, we employ the following arrangements for mothers and fathers: (a) more than 20 working hours without the possibility of

working from home, (b) more than 20 working hours with the possibility of working from home, (c) less than or equal to 20 working hours, and (d) not employed.

Overall, we examine the dynamics over three consecutive monthly waves of the HOPP survey (June, July and August) in which questions on the intracouple division of childcare were included for the first time.[6] Information on the pre-COVID-19 division of childcare is taken from the June survey. The prepandemic period is used as a separate reference period preceding the others; hence, our analysis spans four periods in total. We additionally employ the first HOPP wave administered in May 2020 to examine the division-of-childcare dynamics for subgroups of mothers and fathers according to their lockdown-specific work arrangements. Note also that there is no systematic (household) linkage between the fathers and the mothers in our sample. Table 2 depicts the information we use and the wave from which it is retrieved.

[Table 2 about here]

4 Empirical Setup

Our descriptive investigation of the intrahousehold division of childcare in the aftermath of Germany's first COVID-19 lockdown in spring 2020 mainly aims to explore two types of research questions. The first question concerns the overall dynamics of the intrahousehold division of childcare: did the lockdown,—i.e., school and childcare closures—significantly affect the gendered pattern in childcare provision, and if so in what direction? To examine these questions, we run linear regressions of the following type:

$$Y_{it} = \alpha + \beta_1 June_t + \beta_2 July_t + \beta_3 August_t + u_i + \epsilon_{it} \qquad (1),$$

[6] May is not included since the intracouple division of childcare was not surveyed in the HOPP May wave.

where Y represents the childcare division among parents reported by individual *i* in period *t* (with *t*=["Pre-COVID-19", June 2020, July 2020, August 2020]). $June_t$, $July_t$ and $August_t$ are dummy variables indicating the interview wave. u_i is an individual fixed effect, and ϵ_{it} is a time-varying random error term. Throughout the article, all standard errors are clustered at the individual level and are robust to heteroscedasticity. The parameters β_1, β_2 and β_3 represent the postlockdown changes of the childcare division among parents with respect to the reference period "Pre-COVID-19".

The second research question concerns the postlockdown dynamics of parental childcare division across specific subgroups: have changes in the intracouple childcare division been driven by specific work arrangements during the period where (extended) emergency childcare was in place (termed as "extended lockdown" before)? We run regressions of the following type separately for mothers and fathers:

$$Y_{it} = \theta + \boldsymbol{Wave'}_t\boldsymbol{\delta}_0 + [\boldsymbol{Work}_i \times \boldsymbol{Wave}_t]'\,\boldsymbol{\delta}_1 + u_i + \epsilon_{it} \qquad (2),$$

where Y represents the intracouple childcare division reported by mothers or fathers. $Wave_t$ is a vector of dummy variables indicating the interview wave. The equation again includes individual fixed effects (u_i) and a time-varying random error term (ϵ_{it}). The interview wave indicators ($Wave_t$) are now interacted with $Work_i$, which is a vector of mutually exclusive dummy variables for mothers' (fathers') individual lockdown-specific work arrangements (a)-(d), as delineated in Section 3. We provide results on both models (1) and (2), each on the balanced and the unbalanced sample, as well as with and without individual fixed effects.

5 Results and Discussion

5.1 Overall dynamics

We start with the estimation results of equation (1) in Section 4. Relative to the precrisis work division, the respondents reported a shift toward a greater paternal share of childcare in these postlockdown months. However, this shift was rather small and decreased over time, as depicted in **Figure 2,** where we plot the period effects from a simple OLS model on the unbalanced panel. This fact is evident from the regression results presented in **Table 3**, also with individual fixed effects and based on the balanced panel. Longer-term period effects for July and August 2020 are statistically significant only when individual fixed effects are included. Specifically, by August 2020, we observe a shift in parental division of childcare toward fathers that amounts to approximately 0.07-0.1 points on a 6-point scale.[7] Further activities that might likewise be subject to intracouple bargaining, such as housework and shopping, show no significant (housework) or only small and very temporary shifts (shopping), thereby supporting hypothesis **H1**.

[Figure 2 about here]

[Table 3 about here]

In the following, we take a closer look at where childcare division shifts toward slightly more paternal care originate from, i.e., traditional or rather more egalitarian couples. We rerun fixed-effects regressions on the balanced panel (Column 3 of Table 3) for a variety of dichotomized outcomes. We employ binary variables indicating whether childcare was provided (i) entirely by

[7] The sizeable and significant female respondent coefficient in Table 3 hints at the importance of gendered reporting behavior with respect to the levels of childcare division. Gender biases in childcare levels are, however, fully controlled for in regressions including individual fixed effects, where we look at intrapersonal changes only.

the mother, (ii) predominantly or entirely by the mother, (iii) by both parents equally, or whether childcare was delivered (iv) predominantly or entirely by the father. We then multiply these binary indicators by 100 for the period effects to represent percentage-point changes. **Table 4** presents the results, which indicate that the traditional childcare constellation remained remarkably stable over time. Within the balanced sample, the probability of a mother being entirely responsible for childcare (approximately 28 percent prepandemic) did not significantly change in the aftermath of the COVID-19 lockdown (Column 3). The small changes we observe instead originate from constellations, in which mothers are still the main caregivers but fathers were already considerably involved in childcare duties prepandemic. The results presented in Column 2 of Table 4 indicate that the probability of predominantly or sole maternal caregiving statistically significantly decreased from approximately 66 percent prepandemic by 5.6 (4.5, 5.2) percentage points in June (July, August) 2020.

On the flipside, this shift led to an increased probability of fathers taking over the main caregiver role rather than to an increased probability of egalitarian care divisions by June 2020. Moreover, the egalitarian constellation was 2.6 percentage points less likely to occur with respect to a 30.5-percent likelihood prepandemic, albeit not statistically significant, whereas the paternal caregiver constellation increased by statistically significant 8.2 percentage points with respect to a prepandemic likelihood of 3.3 percent. These dynamics are still visible and significant in July and August; with respect to the prepandemic situation, fathers were still 5.2 (2.6) percentage points more likely to be in the main caregiver role by July (August) 2020). However, there are obvious backward dynamics over time in this group; moreover, the group is rather small. Given that both egalitarian constellations and sole maternal caregiver constellations lack significant changes in prevalence over time and since maternal main caregiver constellations still constitute the large

majority, our hypothesis **H2** is fully supported.[8] The dynamics in parental childcare after the first COVID-19 lockdown in Germany seem quite limited in size.

[Table 4 about here]

5.2 Childcare dynamics by work-care arrangements during the lockdown

We now turn to determining the drivers of the shift toward paternal childcare with respect to lockdown-specific work-care arrangements, as denoted in equation (2) in Section 4. Tables 5 and 5 show the postlockdown dynamics with respect to the intracouple division of childcare for mothers and fathers, respectively.

Figure 3 graphically displays the maternal group-specific dynamics in childcare division based on OLS results from the unbalanced panel. As a first result, we identify the group of mothers with more than 20 actual working hours per week who cannot work remotely as potential candidates to show significant shifts toward stronger paternal participation in childcare. From the cross-sectional perspective, it becomes evident that the lower the level of mothers' paid work involvement is, the less symmetrical their pre- and postpandemic childcare division is within the household.

[Figure 3 about here]

Next, we provide a regression-based test to verify the aforementioned shift. We focus on the individual fixed effects regressions presented in Columns 2 and 4 in **Table 5**. It becomes evident that the main dynamics indeed stem from the group of mothers who work more than 20 actual working hours per week without any possibility of working from home, while mothers who work

[8] Strikingly, those couples that shift back over time do not seem to readopt maternal main caregiver constellations, but rather remain in an egalitarian division of childcare labor (albeit without statistical significance).

similar hours but *can* work remotely show no significant shifts. That is, **H3** is confirmed for mothers. Note that these two groups of mothers are rather similar in their division of childcare prepandemic (see Figure 3), which indicates that this result is unlikely to be driven by selection into remote work. The shift toward increased paternal caregiving for mothers who *cannot* work from home amounts on average to 0.427 (0.669) points on the 5-point scale (ranging from 1 "*entirely father*" to 5 "*entirely mother*") for the unbalanced (balanced) sample by June 2020 and decreases to 0.233 (0.425) by August (becoming statistically insignificant for the unbalanced sample). None of the remaining groups of mothers shows significant persistent changes in the division of childcare with respect to the prepandemic situation.[9] The indication that working from home does not bring a relief for mothers fits into the results for parental stress based on the first HOPP wave in May, according to which mothers who worked from home in the week before the survey had an above-average likelihood of reporting an increase in parental stress compared to the total of mothers and a higher likelihood of doing so than did fathers who worked from home (Fuchs-Schündeln/Stephan, 2020). The OLS regression results on the unbalanced and balanced panels (Columns 1 and 3, respectively) support the relevance of maternal time availability for the postpandemic (a) symmetry of childcare division.

Although we cannot accurately model the reduction in working hours before and after the pandemic, it can be assumed that a notable portion of women fell below this hours threshold due to the crisis. According to the *Böckler-Erwerbspersonen-Befragung*, the mean actual working hours of mothers with children in need of care declined from 31 pre-COVID to 24 in April (WSI, 2020). In May 2020, 22 percent of male and 19 percent of female employees subject to social

[9] The only temporary and marginally significant improvement—for June only in the unbalanced sample—refers to mothers with less than 20 weekly work hours.

insurance contributions were in short-time work (Kruppe/Osiander, 2020). Moreover, mothers had higher odds of being suspended from work during the early phase of the lockdown than men (Möhring *et al.,* 2021), and mothers were more strongly affected by the significant decline in marginal employment between 31 March 2019 and 31 March 2020 (Deutsche Rentenversicherung Knappschaft Bahn-See/Minijobzentrale, 2020a) and during the second quarter of 2020 (Deutsche Rentenversicherung Knappschaft Bahn-See/Minijobzentrale 2020b).

[Table 5 about here]

For fathers, **Figure 4** graphically displays the group-specific dynamics in childcare division based on OLS results from the unbalanced panel. Here, we may tentatively identify the groups of unemployed fathers and fathers with a maximum of 20 actual weekly working hours as the main potential candidates to show significant shifts toward increased male caregiving.

[Figure 4 about here]

However, the regression results, including individual fixed effects (Columns 2 and 4 of **Table 6**), reveal that all groups of fathers contribute equally to a shift toward increased male childcare participation. The size of the shift oscillates at approximately 0.2 and seems to be rather stable over time. Temporarily, in June 2020, fathers who worked more than 20 hours weekly but were not able to work from home did not participate in the shift. The fact that a father's work arrangement seems to have played no role in the dynamics over time contradicts hypothesis **H3** for fathers. Analogous to mothers, we would have expected a negative association of fathers being offered telework with the maternal share on the overall childcare burden. H3 focuses on these dynamics over time and not on the differences between groups. Note, however, that the OLS results retrieved from the unbalanced and balanced panels (Columns 1 and 3, respectively) show that

working less than 20 hours a week is significantly associated with higher paternal childcare involvement in the cross-sectional perspective. While this result is in line with that for mothers, things are different for nonemployment. Paternal nonemployment is not significantly associated with parental childcare division.

[Table 6 about here]

6 Conclusion

Overall, our findings indicate that while the pandemic has not changed much in regard to the childcare division of parental couples, we can observe at least temporary shifts for childcare but not for other forms of unpaid work, thereby supporting our first hypothesis. Furthermore, the main driver for the small shifts toward increased paternal childcare participation that we observe consists of mothers with relatively intense labor market participation who cannot work from home. On the other hand, none of the work-care arrangement groups of fathers can be clearly identified as a main driver. Thus, our third hypothesis gains support from our data for mothers but not for fathers. Taken together, our findings suggest that the small shift we observe is a shift that emerged out of *necessity* (since mothers cannot take over childcare) and not out of *opportunity* (of remotely working fathers and/or fathers with reduced hours). Hence, such a shift is likely to fade once the necessity vanishes. That is, in the context of a pronounced asymmetry in childcare division along the lines of prepandemic routines, stimuli are only short-lived. Our results therefore neither support the notion of a retraditionalization nor of an equalization of unpaid work among genders. Rather, they emphasize the overwhelming role of the initial conditions, which force a reset of childcare arrangements as soon as the emergency vanishes. All in all, childcare arrangements show a striking degree of stability.

Our results are in line with some previous findings but different from others. We confirm the 'stability notion' made by Globisch and Osiander (2020) based on the first two waves of our data; however, with our longer time horizon, we are able to trace the fading-out of the stimulus until August 2020. Different from Hank and Steinbach (2020), we do not find shifts at the extremes of the distribution. Neither couples with previously egalitarian arrangements nor those in which the mother was entirely responsible show significant dynamics over time in our study. This is what we expected and confirms our second hypothesis. Furthermore, although our results build on previous findings that observed an increased involvement of fathers during the pandemic (e.g., Kreyenfeld/Zinn, 2021; Hank/Steinbach, 2020; Kohlrausch/Zucco, 2020; Zinn *et al.*, 2020), our data indicate that a respective shift in childcare division toward a more equal divide faded out in the months thereafter, with the only group persistently showing a slight shift being the couples in which the mother was previously predominantly responsible but where the father was already somewhat engaged. Apparently, these couples underwent a supportive change in relative resources and/or followed sufficiently egalitarian role models.

Regarding the role of telework, our findings support previous results stating that maternal telework does not decrease the childcare burden for mothers but rather entails an increase (Fuchs-Schündeln/Stephan, 2020). Paternal telework does not relate to a particular level of paternal childcare engagement in our study, which is in contrast to earlier studies that in this case find a lower likelihood of sole maternal care (Zoch *et al.*, 2020) or a decreased maternal share of the overall childcare burden (Hank/Steinbach, 2020). These deviations may to some extent be driven by methodological differences, e.g., with respect to the measure (offer vs. use of telework), earlier period of observation, and sample size. However, for example, the finding in Hank and Steinbach (2020) that the maternal childcare burden was only reduced if the father alone (and not the mother)

switched to remote work is in line with our conclusion that the remote work of fathers plays no role *per se* but is important only through its association with maternal behavior. Recent evidence reports a similar finding for Austria (Derndorfer *et al.,* 2021).

There are some significant limitations of our study. First, due to a lack of information on the couple's work constellation before and during the lockdown, we do not observe parents' relative resources; thus, we cannot identify the role of comparative advantage. Second, the results for mothers who worked a high number of hours and had no opportunity to work from home could to some extent be affected by social desirability reporting bias. In the context of traditional gender roles, this is the only work arrangement in which a decreased level of maternal childcare involvement might be socially tolerated. The insensitivity of paternal work arrangements with respect to childcare involvement perfectly fits into this notion.

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Metzger, Malte Schierholz, Mark Trappmann, Niklas Büchele, Stefan Zins, Steffen Kaimer, Thomas Kruppe, Van Phan thi Hong. We also thank Philipp vom Berge. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. Declarations of interest: none.

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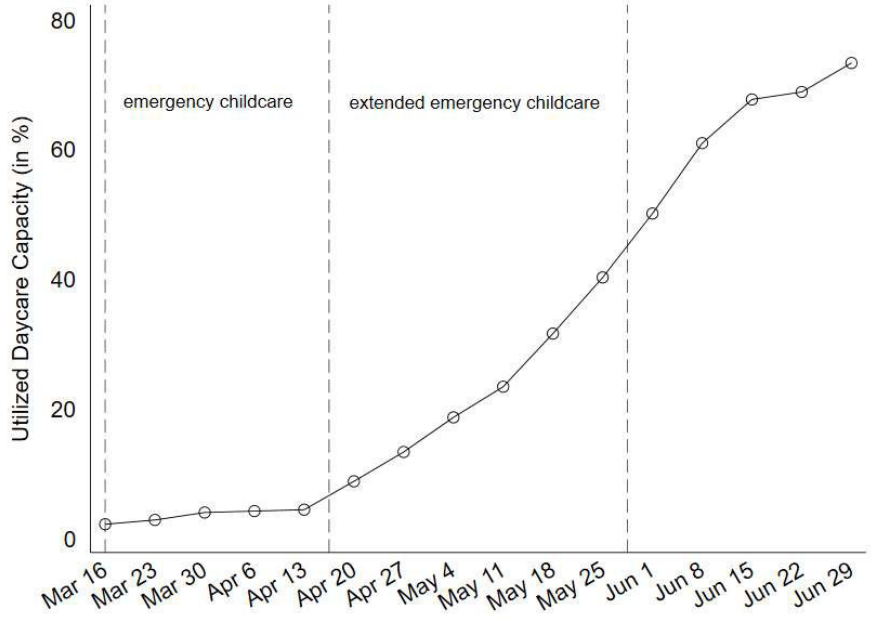
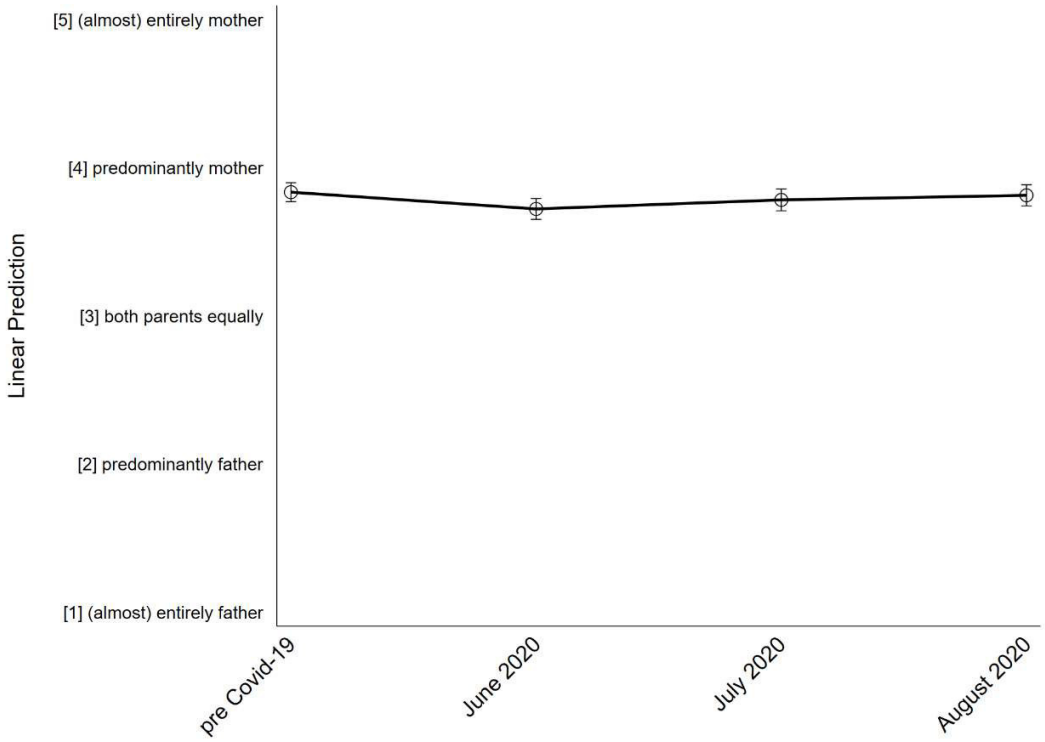
Figure 1. Utilized childcare capacity in Germany during the first COVID-19 lockdown in early 2020 and the subsequent reopening.



Source: DJI-RKI (2020); own calculations.

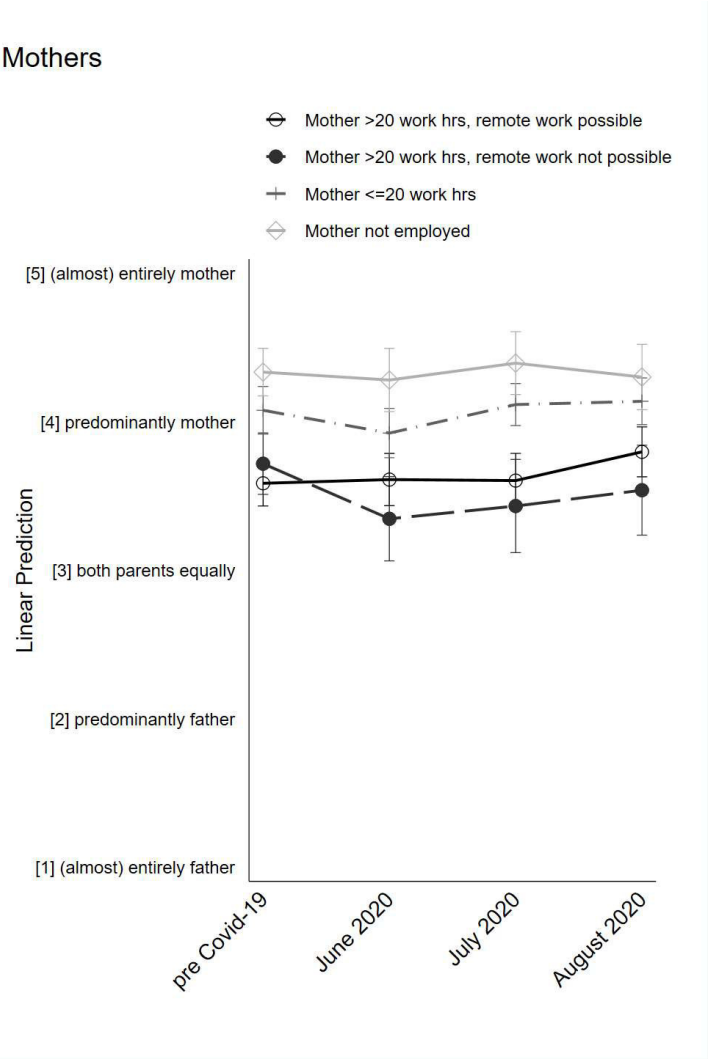
Note: Utilized childcare capacity represents the share of children who are currently in childcare among those children who were registered in childcare by March 2020. DJI-RKI (2020) reports these shares weekly by federal state based on communications of the respective federal state ministries; we subsequently aggregate those shares to the national level. We define the timing of transition from emergency childcare to extended emergency childcare and from extended emergency childcare to the phase of (restricted) normal operation as the week where more than five observed federal states switch status, based on information from DJI-RKI (2020, Table 1).

Figure 2. Overall postlockdown dynamics of parental division of childcare.



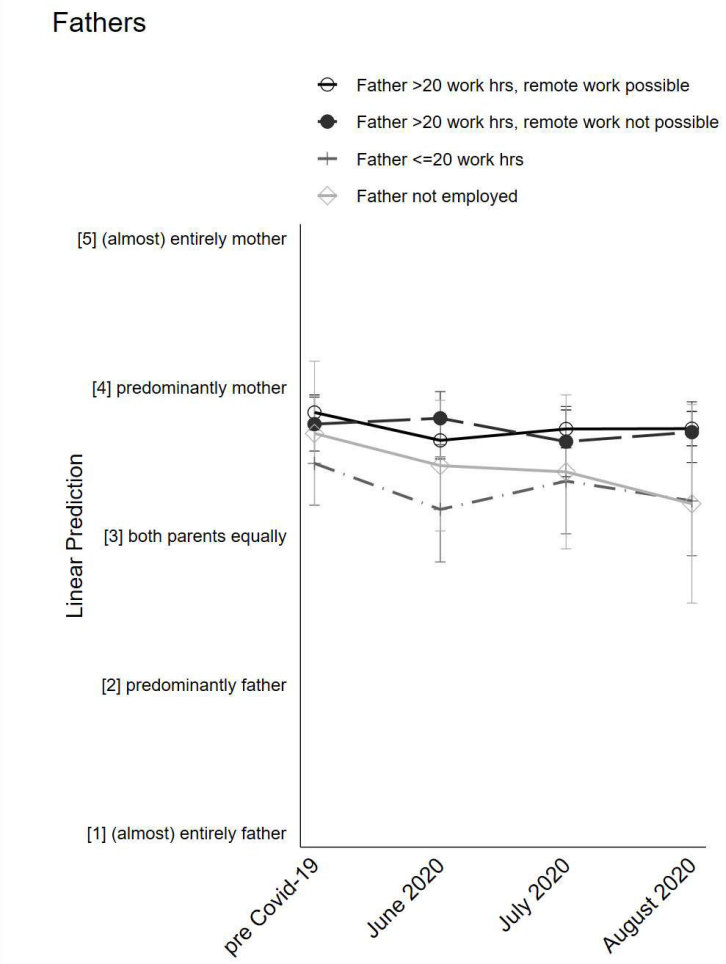
Source: IAB High-Frequency Online Personal Panel (HOPP), own calculations.
Notes: This figure plots period effects based on regression results presented in Column 1 of Table 3.

Figure 3. Overall postlockdown dynamics of the parental division of childcare by mothers' lockdown-specific work arrangements.



Source: IAB High-Frequency Online Personal Panel (HOPP), own calculations.
Notes: This figure plots group-specific period effects based on regression results presented in Column 1 of Table 5.

Figure 4. Overall postlockdown dynamics of parental division of childcare by fathers' lockdown-specific work arrangements.



Source: IAB High-Frequency Online Personal Panel (HOPP), own calculations.
Notes: This figure plots group-specific period effects based on regression results presented in Column 1 of Table 6.

Table 1. Summary statistics.

	Full Sample				Mothers				Fathers			
	unbalanced		balanced		unbalanced		balanced		unbalanced		balanced	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Parental division of childcare*	3.786	0.948	3.797	0.954	3.886	0.970	3.916	0.978	3.674	0.916	3.647	0.907
Parental division of childcare, dichotomized (in Percent)[↓]:												
Predominantly/entirely father	7.084	25.660	7.342	26.095								
Predominantly/entirely mother	62.075	48.529	62.361	48.471								
Entirely mother	25.581	43.640	26.487	44.147								
Both parents equally	30.841	46.192	30.297	45.976								
Parental division of housework*	3.772	0.886	3.787	0.920								
Parental division of shopping*	3.264	1.214	3.367	1.220								
Female	0.523	0.500	0.554	0.497								
Lockdown-specific work arrangements (as of HOPP wave May 2020)												
>20 work hrs, remote work possible					0.362	0.481	0.372	0.484	0.610	0.488	0.622	0.485
>20 work hrs, remote work not possible					0.129	0.335	0.122	0.327	0.246	0.431	0.252	0.435
<=20 work hrs					0.322	0.467	0.304	0.460	0.098	0.297	0.092	0.290
not employed					0.187	0.390	0.203	0.402	0.046	0.210	0.034	0.180
Age 18–29	0.041	0.199	0.041	0.199	0.057	0.231	0.059	0.236	0.024	0.153	0.019	0.136
Age 30–39	0.502	0.500	0.514	0.500	0.557	0.497	0.551	0.498	0.441	0.497	0.472	0.500
Age 40–49	0.378	0.485	0.366	0.482	0.350	0.477	0.338	0.474	0.408	0.492	0.396	0.490
Age 50–59	0.069	0.253	0.062	0.241	0.031	0.174	0.044	0.206	0.112	0.315	0.085	0.279
Age>60	0.010	0.098	0.016	0.127	0.005	0.068	0.007	0.086	0.015	0.123	0.028	0.166
Age youngest child in household	5.059	3.362	5.175	3.309	5.213	3.330	5.216	3.177	4.872	3.380	5.042	3.437
Child aged 0-3 in household	0.400	0.490	0.387	0.487	0.369	0.483	0.365	0.482	0.435	0.496	0.420	0.494
No. children <age 18 in household	1.736	0.747	1.736	0.691	1.715	0.735	1.716	0.689	1.758	0.758	1.756	0.698
N	2,795		1,076		1,457		592		1,317		476	
No. individuals	1,120		269		580		148		532		119	

Source: IAB High-Frequency Online Personal Panel (HOPP), own calculations.
Notes: *measured on a 5-point scale from 1 "entirely father" to 5 "entirely mother". [↓] does not add up to 100% since the category "entirely mother" is included in two dichotomizations.

Table 2. Utilized survey information.

HOPP Wave	**May**	**June**	**July**	**August**
Prepandemic childcare division		x		
Lockdown-specific individual work arrangements of mothers and fathers	x			
Current childcare division		x	x	x
Current division of housework and doing the errands		x	x	x
Prepandemic division of housework and doing the errands		x		

Source: IAB High-Frequency Online Personal Panel (HOPP).
Notes: Prepandemic childcare division: "*Thinking about the time before the COVID-19 crisis: How did you and your partner organize childcare? This question aims at the time, when the kids where not looked after at school, kindergarten, etc., but by you and/or your partner.*" - This was done…[1] (almost) completely by partner, [2] mostly by partner, [3] about half – half, [4] mostly by me, [5] (almost) completely by me. Lockdown-specific individual work arrangements of mothers and fathers: "*And if you think about your last working week: How many hours did you actually work, including regular overtime, extra work, etc.? Note: If you do not have a fixed working time, enter the average hours over several weeks*.", "*Do you have the possibility of working from home?"*. Current childcare division: "*How do you and your partner organize childcare at the moment? This question aims at the time when the kids are not looked after at school, kindergarten, etc., but by you and/or your partner.*" Current division of housework and doing the errands: *"How do you and your partner split the work currently? - Housework (laundry, cooking, cleaning, tidying up) – Shopping (groceries)"*. Prepandemic division of housework and doing the errands: *"Thinking about the time before the COVID-19 crisis: How did you and your partner split the work in the following fields? – Shopping (groceries)"*.

Table 3. Postlockdown dynamics of parental division of childcare (housework, shopping).

Parental division of labor wrt.:	Childcare			Housework	Shopping
	(1)	(2)	(3)	(4)	(5)
Pre-COVID-19 (ref.)					
June 2020	-0.113***	-0.123***	-0.156***	-0.047	-0.115**
	(0.031)	(0.031)	(0.055)	(0.040)	(0.056)
July 2020	-0.052	-0.104***	-0.138***	0.053	-0.045
	(0.041)	(0.036)	(0.053)	(0.046)	(0.051)
August 2020	-0.021	-0.069*	-0.100**	0.057	-0.019
	(0.041)	(0.035)	(0.047)	(0.045)	(0.051)
Female respondent	0.208***				
	(0.053)				
Constant	3.726***	3.859***	3.896***	3.771***	3.412***
	(0.042)	(0.020)	(0.033)	(0.028)	(0.033)
Individual FE	*no*	*yes*	*yes*	*yes*	*yes*
No. individuals	1,120	1,120	269	269	269
N	2,795	2,795	1,076	1,075	1,074
Sample	unbalanced	unbalanced	balanced	balanced	balanced

Source: IAB High-Frequency Online Personal Panel (HOPP), own calculations.
Notes: Parental division of childcare measured on a 5-point scale from 1 "entirely father" to 5 "entirely mother". Cluster-robust standard errors at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4. Postlockdown dynamics of parental division of childcare. Dichotomized outcome.

Parental division of childcare	Predom./entirely father	Predom./entirely mother	Entirely mother	Both parents equally
	(1)	(2)	(3)	(4)
Pre-COVID-19 (ref.)				
June 2020	8.178***	-5.576**	0.00000	-2.602
	(2.116)	(2.642)	(2.474)	(2.860)
July 2020	5.204***	-4.461*	-3.346	-0.743
	(1.799)	(2.459)	(2.953)	(2.689)
August 2020	2.602*	-5.204**	-2.230	2.602
	(1.529)	(2.337)	(2.686)	(2.497)
Constant	3.346***	66.171***	27.881***	30.483***
	(1.165)	(1.595)	(1.710)	(1.699)
Individual FE	*yes*	*yes*	*yes*	*yes*
No. individuals	269	269	269	269
N	1,076	1,076	1,076	1,076
Sample	balanced	balanced	balanced	balanced

Source: IAB High-Frequency Online Personal Panel (HOPP), own calculations.
Notes: Dichotomized outcomes have been multiplied by 100 for the period effect estimates to display percentage-point changes. Cluster-robust standard errors at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5. Mothers—Postlockdown dynamics in parental division of childcare by lockdown-specific work arrangements.

	(1)	(2)	(3)	(4)
Pre-COVID-19 (ref.)				
June 2020	0.025	0.032	-0.109	-0.109
	(0.083)	(0.082)	(0.142)	(0.142)
July 2020	0.018	0.016	-0.127	-0.127
	(0.097)	(0.083)	(0.133)	(0.133)
August 2020	0.211**	0.126	0.036	0.036
	(0.095)	(0.081)	(0.114)	(0.114)
Mother >20 work hrs, remote work possible (ref.)				
Mother >20 work hrs, remote work not possible	0.132		0.012	
	(0.131)		(0.207)	
Mother ≤20 work hrs	0.491***		0.545***	
	(0.113)		(0.170)	
Mother not employed	0.748***		0.812***	
	(0.113)		(0.174)	
June 2020 × Mother >20 work hrs, remote work not possible	-0.396**	-0.427**	-0.669*	-0.669*
	(0.178)	(0.177)	(0.346)	(0.345)
July 2020 × Mother >20 work hrs, remote work not possible	-0.303	-0.312*	-0.317	-0.317
	(0.202)	(0.166)	(0.299)	(0.298)
August 2020 × Mother >20 work hrs, remote work not possible	-0.390**	-0.233	-0.425**	-0.425**
	(0.194)	(0.158)	(0.198)	(0.198)
June 2020 × Mother ≤20 work hrs	-0.178*	-0.197*	-0.024	-0.024
	(0.107)	(0.106)	(0.167)	(0.167)
July 2020 × Mother ≤20 work hrs	0.021	-0.075	0.016	0.016
	(0.132)	(0.110)	(0.162)	(0.161)
August 2020 × Mother ≤20 work hrs	-0.151	-0.096	0.075	0.075
	(0.137)	(0.112)	(0.146)	(0.146)
June 2020 × Mother not employed	-0.078	-0.074	0.242	0.242
	(0.118)	(0.118)	(0.189)	(0.189)
July 2020 × Mother not employed	0.042	0.111	0.127	0.127
	(0.160)	(0.162)	(0.238)	(0.238)
August 2020 × Mother not employed	-0.245	-0.120	-0.036	-0.036
	(0.155)	(0.134)	(0.177)	(0.177)
Constant	3.585***	3.911***	3.655***	3.986***
	(0.078)	(0.028)	(0.131)	(0.046)
Individual FE	*no*	*yes*	*no*	*yes*
No. individuals	580	580	148	148
N	1,457	1,457	592	592
Sample	unbalanced	unbalanced	balanced	balanced

Source: IAB High-Frequency Online Personal Panel (HOPP), own calculations.

Notes: Dependent variable parental division of childcare measured on a 5-point scale from 1 "entirely father" to 5 "entirely mother". Cluster-robust standard errors at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6. Fathers—Postlockdown dynamics in parental division of childcare by lockdown-specific work arrangements.

	(1)	(2)	(3)	(4)
Pre-COVID-19 (ref.)				
June 2020	-0.188***	-0.187***	-0.203*	-0.203*
	(0.054)	(0.053)	(0.110)	(0.110)
July 2020	-0.111	-0.199***	-0.149	-0.149
	(0.075)	(0.064)	(0.101)	(0.100)
August 2020	-0.109	-0.208***	-0.203**	-0.203**
	(0.072)	(0.066)	(0.096)	(0.095)
Father >20 work hrs, remote work possible (ref.)				
Father >20 work hrs, remote work not possible	-0.078		-0.112	
	(0.110)		(0.194)	
Father ≤20 work hrs	-0.342**		-0.515**	
	(0.155)		(0.223)	
Father not employed	-0.141		-0.378	
	(0.254)		(0.580)	
June 2020 × Father >20 work hrs, remote work not possible	0.227***	0.216***	0.203	0.203
	(0.084)	(0.083)	(0.154)	(0.154)
July 2020 × Father >20 work hrs, remote work not possible	-0.007	0.005	0.015	0.015
	(0.144)	(0.128)	(0.145)	(0.145)
August 2020 × Father >20 work hrs, remote work not possible	0.054	0.040	-0.097	-0.097
	(0.126)	(0.116)	(0.153)	(0.152)
June 2020 × Father ≤20 work hrs	-0.121	-0.166	-0.252	-0.252
	(0.193)	(0.189)	(0.265)	(0.264)
July 2020 × Father ≤20 work hrs	-0.008	0.056	-0.033	-0.033
	(0.203)	(0.164)	(0.156)	(0.155)
August 2020 × Father ≤20 work hrs	-0.144	-0.023	0.021	0.021
	(0.225)	(0.178)	(0.201)	(0.200)
June 2020 × Father not employed	-0.029	-0.063	-0.047	-0.047
	(0.246)	(0.249)	(0.437)	(0.436)
July 2020 × Father not employed	-0.148	-0.196	-0.351	-0.351
	(0.350)	(0.305)	(0.579)	(0.577)
August 2020 × Father not employed	-0.365	-0.034	-0.297	-0.297
	(0.384)	(0.426)	(0.578)	(0.577)
Constant	3.828***	3.805***	3.878***	3.790***
	(0.060)	(0.028)	(0.103)	(0.048)
Individual FE	*no*	*yes*	*no*	*yes*
No. individuals	532	532	119	119
N	1,317	1,317	476	476
Sample	unbalanced	unbalanced	balanced	balanced

Source: IAB High-Frequency Online Personal Panel (HOPP), own calculations.

Notes: Dependent variable parental division of childcare measured on a 5-point scale from 1 "entirely father" to 5 "entirely mother". Cluster-robust standard errors at the individual level. *** p < 0.01, ** p < 0.05, * p < 0.1.