WORKING FROM HOME AND THE DIVISION OF HOUSEWORK AND CHILDCARE AMONG DUAL EARNER COUPLES DURING THE PANDEMIC IN THE UK

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Abstract

This paper examines how working from home influenced the division of childcare and housework among dual earning heterosexual couples with children in the UK during the first wave of the COVID-19 lockdown. We use unique data gathered during the peak of the UK lockdown (May-June), when many employees were required to work from home, to see whether fathers flexible working was associated with a more equitable division of housework and childcare. We found mothers were more likely to be the ones carrying out more if not all of five of the six categories of housework and care we examined – namely, cooking, cleaning, routine and non-routine childcare, and the education of children/home-schooling, both before and during the lockdown. This was not the case for the DIY tasks. A multivariate regression analysis showed that when fathers worked from home or using flexitime during the lockdown, a more equal division was found for tasks such as cleaning, routine childcare, and to some extent home schooling. Furthermore, fathers who worked flexibly were more likely to report that they had increased the amount of time they spent on housework and care. Mothers also reported that fathers who worked from home increased the time they spent on routine childcare. Overall, the study shows how flexible working, including

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working from home among men, especially done on a mass scale where there are no negative assumptions or stigma behind its use, may lead to a more equitable distribution of housework and childcare. Policy makers should encourage more men to work from home in order to support families and women's labour market participation during and after the COVID-19 pandemic.

Key words: COVID-19 pandemic, flexible working, division of housework, childcare, work from home

Introduction

The outcomes of the COVID-19 pandemic have raised some serious concerns regarding the burden of housework and childcare, home-schooling put on families, and the impact it has on parents' especially mothers' labour market participation (Collins, Landivar, Ruppanner, & Scarborough, 2020; Petts & Carlson, 2020). A recent report from Mc Kinsey notes that one out of four mothers are thinking of down-shifting their job roles or leaving the labour market altogether due to the stress caused from the increased double, if not triple burden of childcare/home-schooling, housework and paid work (McKinsey, 2020). The question we ask in this paper is whether fathers' flexible working may help address this problem, by allowing for a more equitable division of housework and childcare among heterosexual dual-earning couples with children. Previous studies have shown that although women increase their time spent on housework and childcare when working flexibly and working from home (Hilbrecht, Shaw, Johnson, & Andrey, 2008; Sullivan & Lewis, 2001), men do not (Kim, 2020; Kurowska, 2020) and may end up working longer overtime instead (Glass & Noonan, 2016; Lott, 2019; Lott & Chung, 2016). One key reason why men do not take up flexible working arrangements for family purposes is due to the dual stigma they face (Rudman & Mescher, 2013). Workers using flexible working arrangements for care and family purposes may face the so-called 'flexibility stigma' (Williams, Blair-Loy, & Berdahl, 2013), namely their employers and co-workers believing that they are less productive or committed to the workplace compared to those who do not take up such arrangements. Scholars also argue that men can face a further 'femininity stigma' (Rudman & Mescher, 2013) because the use of flexible working arrangements for care purposes goes against the masculine breadwinner image prevalent in our societies. This is why flexible working is perceived primarily as an option for women to balance work with family demands (Nash & Churchill, 2020).

The COVID-19 pandemic and the lockdowns that ensued provides us with a unique opportunity to test whether men's flexible working, or more specifically working from home and flexitime, can

result in a more equitable division of labour among heterosexual couples. Due to government led lockdown measures, working from home was enforced by the government and subsequently employers, potentially removing the negative perceptions against those working flexibly. Similarly, flexitime was introduced to ensure staggered work hours, to prevent further spread of the disease during congested commutes in public transportation and in closed office spaces. Furthermore, given that up to half of the workforce was working from home during the pandemic (ONS, 2020b), flexible workers are less likely to have been singled out and penalised during this time. We use unique data gathered during the peak of the first lockdown in the UK (22nd of May – 15th of June of 2020), Working from home during the COVID-19 Lockdown (COVIDwfh) data (Chung, Seo, Forbes, & Birkett, 2020) to see how working from home and flexitime impacted the division of housework and childcare done by dual earner heterosexual couples with children under the age of 18.

Background

Flexible working in the UK

Flexible working can entail employee's control over *when* they work or *where* they work (Allen, Johnson, Kiburz, & Shockley, 2013; Kelly, Moen, & Tranby, 2011). More specifically, flexitime/schedule control entails worker's ability to change the timing of their work (that is, to alternate the starting and ending times), and/or to fluctuate the numbers of hours worked per day or week. Teleworking allows workers to work outside of their normal work premises, e.g., working from home. Although flexible working can also include workers having control over *how much* they work – e.g., part-time work, for the purposes of this paper when we refer to flexible working, this entails flexitime/schedule control and teleworking/home working only.

The UK provides a unique opportunity to assess different types of flexible working arrangements because flexible working for family-friendly purposes is installed in the labour law. This right, first provided to parents of young and disabled children in 2003, was extended in 2007 to carers of

adults, and parents of children up to 17, and then to all workers in 2014. The expansion to all workers was intended to combat the cultural belief that flexible working is mostly for the benefit of mothers and carers. The burden of the request lies on the worker, and employers can reject requests on various business grounds (ACAS, 2016). The right to request flexible working has been under review for the last two years (2019-20) with some reports that it is planned to be strengthened (Hope, 2020).

According to UK government official statistics Annual Survey of Population, in 2019, prior to the COVID-19 outbreak, 5.2% of those employed reported that they mainly work from home, a further 12.3% reported having worked from home in the week prior to the survey, 27% responded that they have ever worked at home (ONS, 2020a). This survey does not however distinguish between those who work their normal hours at home from those who do additional hours of work at home. The British Social Attitudes Survey of 2018 asked respondents if they “worked from home on a regular basis” as part of their normal working hours, of which only 11% responded that they have (Curtice, Clery, Perry, Phillips, & Rahim, 2019). According to the European Working Conditions Survey of 2015, approximately 30% of workers in the UK said they had access to flexible schedules (Chung & Van der Lippe, 2020).

There has not been a huge change in the number of workers taking up flexitime or working from home arrangements over the past decade despite the changes in the legislation (Curtice et al., 2019). One reason for this may be the prevalence of flexibility stigma in the UK (Chung, 2020). In the 2018 British Social Attitude Survey, 22% of workers felt that their employers will/have viewed them negatively as a worker due to flexible working, and 29% of workers agreed that flexible working will have/has had a negative impact on their career (Curtice et al., 2019). This level of flexibility stigma is not surprising given the long hours work culture prevalent in the UK. For example, based on the EU LFS data, in 2017 the UK has one of the highest average working hours for full-time workers at 42.1 hours compared to the 40.2 hours for the EU28. Additionally, according the Work Employers Relations Survey of 2011, more than 1/3 of the workforce, and

half of managers and professionals agree that “People in this workplace who want to progress usually have to put in long hours” (Chung, 2018). Such ideal worker culture (Acker, 1990; Williams, 1999) where workers are expected to privilege work, work long hours and have no other responsibilities outside of work, is where stigma against flexible working and workers balancing work with care roles are prevalent (Berdahl, Cooper, Glick, Livingston, & Williams, 2018; Williams et al., 2013). However, studies have also shown that when flexible working becomes more normalized, it is less likely to become stigmatized and result in better outcomes for workers’ work-life balance (Moen et al., 2016; van der Lippe & Lippényi, 2020). In fact, recent surveys show evidence to indicate that the mass scale home working that took place during the lockdown period may have helped reduce flexibility stigma in the UK (Chung et al., 2020; Forbes, Birkett, Evans, Chung, & Whiteman, 2020).

Definition and determinants of division of housework

Defining housework and childcare

Housework is the work needed to maintain a household, and can be distinguished into different types (Coltrane, 2000). Routine housework entails work that needs to be done on a day-to-day basis – such as cooking, washing dishes, cleaning, laundry – and are also considered to be mundane, repetitive and onerous. Non-routine housework can include house repairs, garden work, and paying bills. There is a bit of flexibility in when these tasks need to be done, they are more discretionary, and considered more enjoyable than routine housework tasks (Coltrane, 2000). Childcare can also be distinguished into routine versus non-routine care (Craig & Mullan, 2011; Craig & Powell, 2011). The formal entails more the physical aspects of generally looking after children, such as feeding, cleaning, regular bedtime activities, taking children to school, whilst the latter non-routine or enrichment/educational care entails the caring activities that are related to talking and play centred activities, reading to children, telling stories etc. They are considered enrichment care because they augment a child’s experiences for educational purposes. Mothers

carry out more childcare, especially routine/physical care of children, while fathers do less and when they do they are more likely to take part in non-routine/enrichment care (Craig, 2006; Craig & Mullan, 2011; Craig & Powell, 2011). Routine housework and childcare is key in terms of gender equality in that it represents a larger part of housework and childcare, with less flexibility about when it can be done, which can provide a greater hindrance in terms of labour market participation. Thus, only when fathers take on some of these less flexible routine care and housework activities can mothers be relieved of some of the pressures arising from balancing care with work demands (Bianchi, Sayer, Milkie, & Robinson, 2012; Coltrane, 2000; Presser, 1994). Finally, one specific element of childcare that is of importance during the first lockdown period was educating children. As schools shut, parents were tasked with home-schooling their children, which was reported to be on average an additional 5 hours a day for primary and secondary school children (Andrew, Cattani, Costa-Dias, et al., 2020). This added extra time and mental load of care onto parents, and studies have shown that this was mostly taken on by mothers (Anders, Macmillan, Sturgis, & Wyness, 2020; Hipp, Bünning, Munnes, & Sauermann, 2020; Petts & Carlson, 2020).

Determinants of who does what and how much

There are three major theoretical perspectives that can explain the division of housework and childcare between couples, namely (1) the time availability, (2) the relative resources and (3) the gender or “doing gender” perspectives (Bianchi, Milkie, Sayer, & Robinson, 2000; Hook, 2010). The time availability perspective argues that the division of housework is rationally distributed depending on the amount of time each member of the household has to do them. In other words, those who work long hours do less housework purely based on the idea that they have less time to do it. Relative resources perspective can be understood in two ways; firstly, the theory argues that the division of housework is determined by the relative resources each partner brings to the relationship – i.e., those with higher education/income/wealth do less housework compared to those with lower education/lower pay/wealth due to the differences in the power relations of each

spouse with different levels of resources (Brines, 1993). Another way of understanding the relative resources theory is through the specialization theory (Becker & Becker, 2009), where it is assumed that couples divide housework and childcare to maximize efficiency – i.e., those who are more likely to gain higher market income becomes mostly responsible for breadwinning, while those who are better able to do a better job caring for children and carrying out housework are more likely to carry do it regardless of gender. Finally, the gender perspective is critical of both of these perspectives, and argues that gender norms and gender roles accepted in society shapes the way childcare and housework is carried out. In other words, women do more housework and childcare because women are seen to be responsible for these tasks (Taylor & Scott, 2018), and by doing so they are able to “do gender” (West & Zimmerman, 1987) – i.e., perform their assigned gender role. Evidence of this can be found in studies that show that even when women earn more money, or work longer hours, they still end up doing more housework than their male partners (Brines, 1993, 1994; Van der Lippe, De Ruijter, De Ruijter, & Raub, 2010; van der Lippe, Treas, & Norbutas, 2018). Furthermore, previous studies have shown that gender role attitudes of individuals and their partners are of importance when determining who does which and how much childcare and housework – with those with more egalitarian gender role attitudes more likely to share unpaid labour (Schober, 2013).

Flexible working and the division of housework and childcare

Worker’s control over when and where they work can also shape the amount of housework and childcare they carry out (Craig & Powell, 2011; Noonan, Estes, & Glass, 2007). Flexitime and working from home provide workers with the flexibility and control over the temporal and physical boundaries between their work and home domains, allowing workers to adapt work to fit around family demands (Clark, 2000). Flexitime can allow work schedules to be fitted around family schedules, and may also allow the use of tag-team parenting to extend family time, allowing parents to care for children without reducing their working hours (Chung & Van der Horst, 2018; Presser, 1988). Flexitime can also allow workers to better carry out certain tasks that are time specific – such

as grocery shopping or cooking. Working from home, on the other hand, allow a certain level of blending of the two spheres, where work and housework or care can be done at the same time. What is more, workers with long commutes will have more time for housework/care and/or work when they do not need to do the commute (Peters, Den Dulk, & van der Lippe, 2009). In this sense, working from home is likely to be linked to the increase in both housework and childcare involvement.

Previous studies on flexible working prior to the lockdown have shown that flexible working is associated with higher levels of engagement in housework and childcare, yet with clear variation between men and women (Chung & Van der Lippe, 2020; Craig & Powell, 2012; Noonan et al., 2007). Studies have shown that those who work from home may be expected to do more housework (Allen, Golden, & Shockley, 2015; Hammer, Neal, Newsom, Brockwood, & Colton, 2005). Since women are seen to be responsible for childcare and housework (Taylor & Scott, 2018), mothers may be pressured to carry out both gainful employment and unpaid work through homeworking (Radcliffe & Cassell, 2014; Sullivan & Lewis, 2001). In fact, a large number of studies have shown that working from home is associated with an increase in the amount of childcare and housework mothers carry out, while the same patterns are not observed for fathers (Hilbrecht et al., 2008; Kim, 2020; Kurowska, 2020; Lott, 2019). However, other studies have refuted this claim, showing fathers working from home does increase childcare involvement (D. L. Carlson, R. J. Petts, & J. Pepin, 2020b).

Flexible working or the blurring of boundaries between work and family life have been shown to result in the expansion of working hours, especially for men (Chung & Van der Horst, 2020; Lott, 2019; Lott & Chung, 2016). One possible reason for this could be to compensate for the negative stigma surrounding flexible working (Chung & Van der Horst, 2020). Although both women and men may feel the same level of pressure to work longer when working flexibly, women, especially mothers may lack the capacity to extend their working hours due to their commitments at home (Lott & Chung, 2016). As such, we could expect only mothers to have increased their housework

and care during lockdown – possibly reinforcing the traditional division of housework/care between heterosexual couples. However, given the unusual context and way in which working from home took place during the COVID-19 lockdown period, we can expect the outcomes to be different.

COVID-19 context in the UK

The UK has had one of the highest number of cases (24thousand/million population) and deaths per capita (877/million) amongst the larger industrialized countries (worldometer.info, 3rd Dec 2020). The UK government announced a full scale lockdown measures as of 23rd of March 2020. Lockdown measures included asking all those who could work from home to work from home, and the public was instructed that they must stay at home with the exception of essential travel for food and medical issues. All non-essential retail shops and hospitality outlets (e.g. pubs, restaurants) were also shut during this period. This first lockdown measure were in place till the 11th of May when the Prime Minister announced that those who cannot work from home “should actively be encouraged to go to work”. On the 15th of June, non-essential retail shops were permitted to re-open with the exception of restaurants, pubs and other shops that large crowds can gather. With the lockdown the government announced full closures of schools and other childcare facilities as of the 20th of March, with the exception of childcare facilities for key workers such as those working in the health and social care sectors, retail and transport, and essential government workers. From the 1st of June, schools were reopened but limited to three year groups; Reception, Year 1 and Year 6 and with limited capacity. Nurseries and other childcare facilities for preschool children were allowed to open from this time.

Division of housework and childcare during COVID-19

In our study, we are examining the division of housework and childcare between heterosexual dual-earner couples during the COVID-19 lockdown period, and the changes that occurred during this period compared to before lockdown. We anticipate several specific contexts that may have influenced the division of labour during this period. Firstly, the sharp rise in unemployment was not equally distributed across sectors. Certain sectors, such as retail and hospitality where

women, especially young women, are disproportionate represented, remained shut throughout the lockdown period (Joyce & Xu, 2020). Additionally, women were more likely to be furloughed or lost their job during lockdown (Andrew, Cattan, Dias, et al., 2020). At the same time, women were more likely to be key workers, with 26% of women in these key worker/critical occupations (Farquharson, Rasul, & Sibieta, 2020).

Flexible working during lockdown

First and foremost, the main difference between working from home for parents during the COVID-19 lockdown period was that school and childcare facilities were closed for the majority of children (especially during the period of our data collection). This made the blending of work and childcare almost inevitable for parents, especially those who are contracted to work full-time or long part-time hours. Several studies have shown how parents' working hours have been reduced, and parents, especially mothers, have had to multi-task care/housework and work during this period (Andrew, Cattan, Dias, et al., 2020). Working from home exclusively also meant that workers had more time available to them due to not having to commute to work. Workers in the UK commute on average 65 minutes a day, with those working in London spending on average 84 minutes a day commuting (Llyods Bank, 2019). There is a gender gap in commuting times especially after childbirth, with fathers increasing their commuting time while mothers reduce it (Joyce & Keiller, 2018). Given that fathers are likely to have saved more time from not having to commute when working from home exclusively, this could have led to an increased involvement in childcare and housework from fathers. What is more, working from home was a government enforced and employer led decision, not a request from workers. Thus, we saw a significant reduction in the flexibility stigma. Among those working from home during the lockdown, 90% felt that their managers were supportive of working from home arrangements and only 10% of respondents felt that working from home can lead to negative career outcomes (Chung et al., 2020). Similarly we also saw a shift in managers' perception of flexible workers' productivity due to mass scale home working during the COVID-

19 pandemic (Forbes et al., 2020). This shift in culture may have allowed workers, especially fathers, to use flexible working for care purposes more freely compared to previous times.

Other controls

In addition to hours worked, education level for both parents, the relative income level of each parent, their gender role attitudes, and flexible working practices, there are other factors that influence how couples divide childcare and housework (e.g., Bianchi et al., 2012; Craig & Mullan, 2011; Schober, 2013). The age and number of children within the household are key factors, having more and younger children in the household increases time spent on childcare and housework. We also include ethnicity, which has been shown to shape distribution of housework (Greenstein, 2000; Kan & Laurie, 2018). Finally, we include whether there is another adult living in the household, since this can help relieve the housework/childcare burden on parents.

Data & Methods

Data

To examine whether flexible working during the COVID-19 lockdown has shaped the division of housework and childcare, we use data from the ‘Working from home during the COVID-19 lockdown’ project (covidwfh) which took place within the United Kingdom (UK). This data aimed to capture paid and unpaid working practices of dual-earner couples with younger children (under 18). We focus on this population because the nature of flexible working and the amount of housework that needs to be done is significantly different for this group of workers compared to others (Craig & Mullan, 2011). We first gathered data using the online survey panel Prolific academic to gain access to 560 respondents. This data was supplemented with data collected through social media channels such as Twitter, Facebook, and targeted partner organisations that distributed the survey through their internal links/mailling list gaining another 324 cases. Limiting

the sample to heterosexual² cohabitating parents of children under 18, where both partners were working before the COVID-19 pandemic resulted in a total of 692 cases. Since the data includes detailed information about both the respondents and their partners, alongside information about the division of housework, childcare and income between the couple, we are able to look at how 692 couples have divided unpaid work during the first COVID-19 lockdown in the UK.

Dependent variables

The dependent variable used for this paper is division of housework and childcare between heterosexual couples. In the survey we asked participants how they are, or have been dividing housework and childcare tasks with their partners before and since the COVID-19 lockdown (see also, D. L. Carlson, R. Petts, & J. Pepin, 2020a). Based on the literature, we distinguished between six categories of housework/childcare, namely, “cooking”, “house cleaning/laundry”, “DIY(home, garden, car) maintenance, transport”, “generally looking after child(ren)”, “playing or entertaining child(ren)”, and “educating your child(ren)/supporting with homework (including home learning)”. Respondents could answer “I do (did) it all”, “I do (did) more of it”, “we share(d) it equally”, “my partner does (did) more of it”, and “my partner does(did) it all”. From this we derived a variable of *division of housework*— where the values indicate (1)male respondents do all of it, (2)male partner does more of it, (3)shared equally, (4)female partner does more of it (5) and female partner does all of it, derived for each of the six areas. We derive another variable which looks at *changes in the division of housework* by deducting the number indicating the division of housework/childcare from before the COVID-19 lockdown from the number indicating the division since the lockdown. We top and bottom code this from -2 to 2, negative numbers indicating men are doing more during lockdown than before, and positive numbers indicating women are doing more than before with 0 indicating no changes.

² Due to the nature of the research question and sample sizes we were unable to examine homosexual couples or couples where one or more partner does not identify as either male or female.

We further asked respondents “SINCE the Coronavirus lockdown, has your time on the following tasks changed?”. The same was asked about their partners’ time, distinguished between the six different areas. Respondents could answer “I am (they are) doing much less”, “I am (they are) doing somewhat less”, “No change”, “I am (they are) doing somewhat more”, and “I am (they are) doing much more”. We examine men and women’s perception of their own and their partners’ increase in the amount of time in a dichotomous way (1= I am(they are) doing more or much more, 0= I am (they are) doing the same or less/much less).

Independent variables

Our key independent variable is whether or not the respondent and their partner has worked at home during (and before) the pandemic. Given our theoretical set up, we distinguish those who have worked (almost) exclusively at home, from those who were mostly going into work during this period (including those who may work up to a couple of days at home), and to those who were not working during the period of data collection due to furlough, leave or for other reasons. For working from home before the pandemic, we distinguish between those who have regularly worked from home (at least once a week) to those who did not. We also include the use of flexitime (before and during the lockdown) of self and partner in our model. In addition, we include the actual working hours (in categories, less than 15 hours, 15-23 hours, 24-29, 30-34, 35-39, 40-44, 45-49, 50 hours or more); relative income as a continuous scale, i.e., male earns much more or all of the income, male earns somewhat more, about the same (reference), female earns somewhat more, and female earns much more or all of the income; education (tertiary or above=1, vs below tertiary education(ref)); gender role attitude, which is a mean value of the six items such as “preschool child suffers when mothers work” (the Cronbach alpha is 0.69); total number of children in the household; dummy for having a child under 5, and a dummy for having a child between 5 and 11; ethnic minority status (reference=white); and another adult living in the household. We examine the data as to capture what the couple was doing, recoded to indicate whether it refers to the female or male partner – e.g., female partner works from home, male

partner works from home. Again due to sample sizes and the theoretical set up, we were unable to analysis homosexual and couples where one or more partner identifies as gender non-binary in our paper.

Models

We first examine how flexible working – working from home and flexitime - is associated with the division of housework before and during the COVID-19 lockdown across all six areas separately, having controlled for a number of factors. Next we examine how changes in flexible working patterns relate to the changes in the division of housework and childcare. Changes in the flexible working is distinguish using four groups; (1) those who had not worked flexibly previously but did during lockdown, (2) those who had worked flexibly before and continued to do so during lockdown, (3) those who had worked flexibly prior to lockdown but not during lockdown and the reference group of those who have not worked flexibly before or during lockdown. Subsequently, we examine how flexible working can determine which fathers have done more or much more housework and childcare during lockdown compared to before lockdown. This is examined two ways – by looking at how fathers felt about their own behaviours and how mothers felt about father's behaviours. Finally, we also looked at how fathers' flexible working may have influenced the likelihood of mothers having to do (much) more housework/childcare mothers during the lockdown. Multivariate linear regression are used for the first two models and logistic regression models for the latter two, fitted in STATA 15.1.

Results

Descriptive

Figure 1 examines the flexible working patterns of parents before and during the lockdown. 50% of the fathers in our survey worked from home exclusively or almost exclusively during the lockdown, while only 27% worked from home regularly (at least once a week) before the lockdown. For mothers, although only 24% worked from home regularly before the lockdown,

this number almost tripled to 62% of women worked from home exclusively or almost exclusively during the lockdown. This proportion is slightly higher than official statistics (e.g., ONS, 2020b) indicating our survey may be skewed towards white collar office workers who were more likely to have worked from home during the pandemic. In terms of flexitime, we see that 51% of fathers used flexitime during lockdown a slight increase from 45% before lockdown, and for mothers 59% indicated they used flexitime during the lockdown an increase from 45% before lockdown.

Figure 1. Men and Women working from home and using flexitime before and during lockdown

Figure 2 examines the division of housework and childcare between couples before and during the COVID-19 lockdown, divided into six categories. As we can see, mothers generally carried out more and often all of the housework and childcare tasks examined in our survey both before and during the COVID-19 lockdown. The exception to this is DIY (repair and gardening) which is traditionally considered to be a more masculine or gender neutral task (Coltrane, 2000). In all six categories, we see a general decline in the proportion of respondents who note that the female partner is responsible for these tasks. For example, while 70% of respondents said that mothers did more, or all of the cooking before lockdown, 62% said this was the case during lockdown. Similarly, 74% said mothers were doing more, or all of the cleaning and laundry in the household

before the lockdown, while only 64% of respondents said this was the case during the lockdown. Just over half of respondents (56% and 54%) saying that mothers were doing more if not all of the routine and non-routine childcare, a reduction from 64% and 58% respectively. This change is not as clear in the case of education/home schooling. 62% of respondents said mothers were largely responsible for home-schooling/educating children, similar to the 63% noting this was the case prior to the lockdown. Actually, we see an slight increase in the number of respondents who say women are solely responsible for home-schooling during the lockdown (22% compared to 17% before the lockdown).

Figure 2. The division of housework and childcare among couples before and during the COVID-19 lockdown

Although the division of housework and childcare is important, we know that the amount of housework and childcare that parents had to carry out during the lockdown increased due school and childcare closures. Despite the fact that many respondents felt that housework and childcare have been shared more equitably among parents during lockdown compared to prior to the

lockdown, this did not mean that women were able to do less than before. As Figure 3 shows, a large proportion of mothers felt that they were doing more or much more housework and childcare during the lockdown compared to before. This was especially the case for childcare, especially routine childcare and home-schooling/education activities, where 46% and 55% of women respectively said they were doing much more compared to before lockdown. School and childcare facilities closures during this period meant that there was inevitably more routine childcare and home-schooling to carry out for most parents, and despite fathers doing a larger share than before many mothers were left having to do more childcare and housework than before the pandemic.

Figure 3. The proportion of participants noting that they do more or much more housework and childcare after the lockdown compared to before by sex

Figure 4 explores respondents’ perception of the additional housework and childcare their partners were carrying out during the lockdown period. A large proportion of respondents noted that their partners were doing more housework and childcare during the lockdown period compared to before, although this proportion is slightly lower than what respondents say about their own

increase. The largest increase can be seen in childcare activities, mirroring what we’ve seen in Figure 3.

Figure 4. The proportion of participants noting that their partners do more or much more housework and childcare after the lockdown compared to before by sex

Multivariate analyses

Division of housework and childcare during lockdown

Table 1 examines the division of housework between heterosexual dual-earning parents during the COVID-19 lockdown to see how flexible working may be associated with this division. Even having controlled for other factors, we can see that with the exception of DIY tasks, on average women are the ones responsible for housework and childcare. Compared to households where fathers were going into work, those where fathers were working from home were dividing housework and childcare tasks more equally and mothers were less likely to be wholly responsible for the tasks. This was especially the case for routine childcare and cleaning and laundry, but there is some evidence that when fathers worked from home, mothers were less likely to be the ones

mostly carrying out children's home-schooling (although only significant at the 10% level). When fathers worked flexitime during the lockdown, couples were more likely to have shared the household/childcare tasks more equally. The association was statistically significant for cooking, routine and non-routine childcare, and again partially for home-schooling (at the 10% level). Mothers' flexible working also influenced how couples divided housework and childcare. When mothers worked from home, compared to households where they went into work, they were more likely to be doing most if not all of the routine childcare, and to some extent cooking/cleaning and home-schooling, although they were less likely to be mostly responsible for DIY tasks. Women using flexitime seem to be taking on more cooking/cleaning roles but only significant at the 10% level.

[Table 1 here]

Next, we examined whether the changes in the flexible working pattern may be associated with the changes in the division of housework (Table 2). In other words, we wanted to see whether changes in flexible working practices during the lockdown period, especially of fathers, led to a more equal division of household labour during this period. We can see that changes in men's homeworking patterns do not seem to explain much of the change in the division of housework and childcare. On the other hand, men who were already using flexitime before lockdown, and continued to do so have taken on more cooking and non-routine childcare. This may indicate that the type of fathers who used flexitime were more likely to share housework and childcare in the first place, and when more work was required they took on the additional work involved.

However, examining the patterns before the lockdown, we do not find an association between flexible working patterns of men and how couples divided housework and childcare (see online appendix tables 12-14). Mothers who were already working from home before the lockdown and continued to do so seem to have taken on an even a larger share of the cleaning, routine and somewhat non-routine childcare activities during lockdown. Women who did not work from home frequently before the lockdown but have done so during the lockdown seem to also have increased

their share in non-routine childcare during the lockdown. This confirms the gendered nature of flexible working thesis put forward by many previous scholars (Chung & Van der Lippe, 2020; Sullivan & Lewis, 2001), who note that women's' home-working may exacerbate the unequal division of unpaid labour done in the household. On the other hand, we see that in couples where the mother previously used flexitime and continue to do so, fathers were more likely to have taken on more routine childcare. This could suggest that for some, flexitime allows for tag-team parenting, i.e. where parents share childcare without relying on external care providers (Presser, 1988).

[Table 2 here]

Increase in childcare/housework during lockdown

Next, we examine whether men's flexible working patterns were associated with men doing more housework and childcare during the lockdown period compared to before lockdown. We first look at men's own perception of their increase in housework and childcare in Table 3. We can see a clear pattern here where fathers who worked from home were about three and a half times more likely, compared to those who were going into work, to say that they were doing more routine childcare and education of children/home-schooling during lockdown than before lockdown. Homeworking dads were also about 2-3 times more likely to say that they are doing more cooking and non-routine childcare, although only significant at the 10% level. However, dads working from home were less likely than men who were going into work to say they are spending more time on DIY housework. On the other hand, men using flexitime during lockdown were more likely to be doing more of DIY tasks during the lockdown period compared to before, and somewhat more cooking (10% significance level). Interestingly, male partners of mothers working flexitime were also more likely to say that they carried out more routine and non-routine childcare, and home-schooling/educating children. Again, it seems like mothers' flexitime may be a way in which parents adapted to the lockdown regime by using different working schedules to better divide parenting tasks. It should be noted that unsurprisingly, men who were not working

(or in furlough) were the ones that were most likely to say they have increased their time on routine childcare- about 13 times more likely compared to men who were going in to work.

[Table 3 here]

Although it is useful to see fathers' own perceived increase in involvement in housework and childcare, this may not necessarily reflect reality nor how their female partners feel. Previous studies have shown that men are likely to feel that they are sharing housework and care relatively equally, while their female partners are less likely to feel the same way (Milkie, Bianchi, Mattingly, & Robinson, 2002; Taylor & Scott, 2018). Therefore, we examined how mothers felt about their partners' involvement in housework and care during the lockdown period in comparison to before, and how fathers flexible working patterns may have influenced this (Table 4). Mothers in households where fathers were working from home were more likely to say their partners are doing more routine childcare compared to before the lockdown, but no clear patterns are observed for other housework and childcare tasks. Mothers whose partners were not working during the lockdown, again unsurprisingly, were much more likely to say that their partners were doing more of almost all of the categories of housework and childcare, but with the exception of cooking and home-schooling. Mothers whose partners were working flexitime were also more likely to say that fathers were doing more of all aspects of childcare, namely routine, non-routine and even home-schooling. Interestingly, unlike in the fathers' data, mothers' own flexitime did not affect how mothers felt about fathers' increased engagement in housework and care activities during the lockdown period. When mothers were not working, fathers were less likely to be doing more routine childcare, and when mothers were working from home, fathers were more likely to be doing more non-routine childcare.

[Table 4 here]

Finally, we investigated whether fathers' flexible working made mothers were less likely to feel that they were doing more or much more of housework and childcare during the lockdown period compared to before. As Appendix Table 9-11 shows, fathers working from home did not impact

mothers' likelihood of feeling that they are doing more or much more housework and childcare. There is some evidence that when fathers were not working, mothers were less likely to feel that they are doing more housework and childcare. Contradicting some of our earlier results, when fathers worked flexitime, the likelihood of mothers saying they are doing much more of routine and non-routine childcare increased. What was clearer was that when mothers themselves worked from home, they were more likely to say that they did much more routine and non-routine childcare as well as cooking, which again demonstrates that some gendered patterns of flexible working may still be applicable during the COVID-19 lockdown periods.

CONCLUSION AND DISCUSSION

The COVID-19 pandemic has raised some serious concerns regarding the increased inequalities between men and women due to lockdown measures that were in place to contain the virus and the increased demand for childcare and housework that followed (McKinsey, 2020; Murray, 2020). This study aimed to examine whether flexible working patterns of men may have helped to alleviate the burden of additional housework and childcare for women during this period and help couples divide these tasks more equally. This was done using a unique data gathered in the UK during the peak of the first lockdown, mid-May to mid-June of 2020, focusing on dual-earning couples with children under the age of 18. We examined how couples shared six different categories of housework and childcare, namely cooking, cleaning, DIY, routine, non-routine/enrichment childcare, and home-schooling/education prior to and during the COVID-19 lockdown, and how much more of these activities they were doing during the lockdown period compared to before.

We found evidence to show that when fathers worked flexibly – i.e., worked from home or used flexitime during lockdown, couples were more likely to divide housework and childcare more equally relieving some of the additional burden for women. For example, men who worked from home were sharing more of the routine childcare, cleaning and education/home schooling of

children, all of which are tasks that fathers generally did not take part in (Wishart, Dunatchik, Mayer, & Speight, 2019) yet are crucial in ensuring women's labour market participation. What is more, fathers who were working flexibly during the lockdown period were more likely to say that they had increased their engagement in housework and childcare compared to prior to the lockdown period. This was mirrored by the responses from the mothers in our survey, who noted that fathers were doing more housework and childcare when they worked from home or used flexitime.

Although our focus was more on father's flexible working, we also examined how flexible working of mothers may shape the division and amount of housework and care done by mothers. Results show that mothers who were working from home during the lockdown period were more likely to say they were carrying out a larger share of housework and childcare, and were doing more of these tasks compared to pre-lockdown. We also found that it was women who were already working from home and continued to do so during the lockdown period have increased their share of cleaning, routine childcare and somewhat non-routine childcare during the lockdown period. This confirms previous studies on the gendered nature of flexible working, possibly leading to a more traditionalised division of labour (Chung & Van der Lippe, 2020; Kim, 2020; Kurowska, 2020; Sullivan & Lewis, 2001). However, the same cannot be said for women's flexitime. Mothers' flexitime use was linked to increased fathers' involvement in housework and childcare. This result can be understood better when we consider that flexitime may be used as a strategy to maintain mothers' working statuses post childhood (Chung & Van der Horst, 2018) through increasing fathers' engagement in housework and childcare (Presser, 1988) via methods such as tag-team parenting. Parents may have used flexitime in a similar manner during lockdown to adapt to school and care facilities closure whilst ensuring that both parents were able to work. There are some limitations to this study. Firstly, due to our sampling procedures we cannot guarantee that the data fully represents all working parents across the UK. However, given that we do account for a large number of key factors in our model, our analysis does provide us with a

good indication of the experiences of families in the UK and provides evidence to draw key policy conclusions from. Secondly, our survey asked individuals to provide retrospective data of their situation prior to the lockdown three months prior to our data collection period, which may not entirely accurate. However, the survey was designed to ask respondents broad measures of the division and levels of housework and childcare during lockdown compared to pre-lockdown, with a specified time frame. Studies have shown that in such cases response bias issues may be minimal (Hipp et al., 2020).

Regardless of these limitations, this paper has provided some key evidence crucial for policy makers and academics. First of all, although men generally increased their share of housework and care during the COVID-19 lockdown periods, women continued to do the majority of the (additional) care and housework during this period, confirming what has been found many studies of other countries (Craig & Churchill, 2020; Hipp & Bünning, 2020; Petts & Carlson, 2020; Yerkes et al., 2020). This study adds to existing evidence that flexible working of men may help reduce the unequal division of housework and care among heterosexual couples (see, Carlson et al., 2020b). Our study shows that men who were able to work flexibly were better able to share some of that additional burden of housework and childcare, allowing for a better distribution of the roles within heterosexual coupled families. What is more, the division was especially visible among the more routine housework and care tasks, which are crucial in ensuring women's participation in the labour market. There has been some indication that women especially mothers may be dropping out of the labour market due to the additional housework, childcare, home-schooling put on them during the COVID-19 pandemic (Collins et al., 2020; Petts & Carlson, 2020). This study provides evidence to show that supporting more men to work from home and take up flexitime will be a crucial factor in ensuring that the pandemic does not end up exacerbating the existing gender inequalities in the labour market.

Tables

Table 1. Explaining the division of housework and childcare during the COVID-19 lockdown for heterosexual dual earning parents

		cooking	Cleaning	DIY	Routine childcare	Non-routine Childcare	Education	Total amount
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
(Ref: male)	Female	0.891*** (0.092)	0.746*** (0.079)	1.299*** (0.106)	0.622*** (0.069)	0.584*** (0.068)	0.758*** (0.086)	0.813*** (0.480)
(Ref: Female going into work)								
	Female working from home sc	0.092 (0.104)	0.149† (0.089)	-0.254* (0.119)	0.169* (0.078)	0.123 (0.077)	0.161† (0.095)	0.071 (0.054)
	Female not working sc	0.211 (0.150)	0.099 (0.128)	-0.0001 (0.171)	0.203† (0.113)	0.078 (0.111)	0.140 (0.137)	0.122 (0.078)
(Ref: Male going into work)								
	Male working from home sc	-0.051 (0.096)	-0.176* (0.081)	0.097 (0.109)	-0.191** (0.071)	-0.091 (0.071)	-0.148† (0.088)	-0.088† (0.050)
	Male not working sc	-0.609** (0.177)	0.035 (0.151)	0.059 (0.201)	-0.065 (0.133)	-0.035 (0.130)	0.062 (0.163)	-0.093 (0.092)
(Ref: Female not using flexitime)								
	Female working flexitime sc	-0.041 (0.095)	0.135† (0.081)	0.127 (0.108)	-0.041 (0.071)	-0.016 (0.070)	0.020 (0.087)	0.030 (0.049)
(Ref: Male not using flexitime)								
	Male working flexitime sc	-0.243** (0.089)	-0.050 (0.076)	-0.027 (0.102)	-0.150* (0.067)	-0.188** (0.066)	-0.143† (0.082)	-0.137** (0.046)
constant		3.937*** (0.395)	3.449*** (0.337)	1.263** (0.449)	3.004*** (0.296)	3.323*** (0.291)	3.377*** (0.362)	3.066*** (0.205)
N		624	623	620	620	617	570	624
R²		20.6%	23.6%	24.4%	25.8%	21.0%	26.0%	43.1%

Note. (5=female partner does all, 4=female partner does more, 3=equally shared, 2=male partner does more, 1=male partner does all). Standard Errors in parentheses. “sc” stands for “since COVID-19 lockdown” and “bc” stands for “before COVID-19 lockdown.” Full model can be found in Appendix Table 2. *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$, †= $p < 0.1$

Model controls for a number of factors including working hours, relative income, education, gender role attitudes, number and age of children, ethnicity, other adults in the household. The full model can be found in the online appendix table 2.

Table 2. Explaining the changes in the division of housework and childcare during the COVID-19 lockdown (compared to before the lockdown) for heterosexual dual earning parents

Changes in housework/childcare		Cooking	Cleaning	DIY	Routine childcare	Non-routine childcare	Education
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
(Ref: male)	Female	0.164* (0.069)	0.112† (0.066)	-0.026 (0.065)	0.193** (0.069)	0.148* (0.067)	0.229** (0.079)
(Ref: Female have not worked from home)							
	Female changed to homeworking sc	0.114 (0.075)	0.062 (0.071)	-0.076 (0.070)	0.120 (0.075)	0.121† (0.073)	0.075 (0.084)
	Female always homeworking	0.090 (0.099)	0.198* (0.095)	0.014 (0.093)	0.227* (0.099)	0.186† (0.097)	0.054 (0.114)
	Female changed to not homeworking sc	0.206 (0.214)	0.228 (0.203)	-0.169 (0.201)	0.006 (0.214)	-0.133 (0.207)	0.147 (0.231)
(Ref: Male have not worked from home)							
	Male changed to homeworking sc	-0.122 (0.075)	-0.058 (0.071)	-0.068 (0.071)	-0.117 (0.075)	-0.007 (0.073)	0.025 (0.086)
	Male always homeworking	-0.022 (0.087)	-0.031 (0.083)	-0.146† (0.082)	-0.053 (0.087)	0.071 (0.085)	-0.087 (0.100)
	Male changed to not homeworking sc	0	0	0	0	0	0
(Ref: Female have not used flexitime)							
	Female changed to flexitime sc	-0.114 (0.082)	0.017 (0.078)	0.078 (0.078)	-0.106 (0.083)	-0.008 (0.080)	-0.027 (0.093)
	Female always flexitime	-0.047 (0.080)	-0.013 (0.076)	0.058 (0.075)	-0.175* (0.080)	-0.093 (0.077)	-0.038 (0.091)
	Female changed to no flexitime sc	0.001 (0.134)	-0.027 (0.129)	0.037 (0.126)	-0.085 (0.134)	0.227† (0.130)	0.162 (0.146)
(Ref: Male have not used flexitime)							

	Male changed to flexitime sc	0.027 (0.085)	-0.090 (0.081)	-0.032 (0.080)	-0.039 (0.086)	-0.088 (0.083)	-0.007 (0.097)
	Male always flexitime	-0.175* (0.074)	-0.044 (0.070)	-0.010 (0.069)	-0.063 (0.074)	-0.189** (0.071)	0.022 (0.084)
	Male changed to no flexitime sc	0.016 (0.114)	-0.160 (0.107)	0.012 (0.108)	-0.004 (0.113)	-0.182† (0.110)	0.117 (0.128)
constant		0.002 (0.242)	-0.130 (0.230)	-0.200 (0.226)	-0.266 (0.242)	-0.166 (0.235)	-0.169 (0.273)
N		588	581	582	584	582	525
R ²		8.7%	8.1%	4.3%	9.3%	6.8%	7.4%

Note. Changes in the division of housework ranging from -2 to 2. Here, the number indicating the previous division of housework (5=female does all, 1=male does all) is deducted from the current division of housework. Thus here, higher positive numbers indicate women taking on more after the lockdown, and lower negative numbers indicate men taking on more after the lockdown. Standard Errors in parentheses. “sc” stands for “since COVID-19 lockdown” and “bc” stands for “before COVID-19 lockdown.” “male changed to not homeworking sc” is omitted from the analysis due to collinearity. Full model in Appendix Table 3. *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$, † = $p < 0.1$

Table 3. Fathers’ perception of themselves doing more housework and childcare during the COVID-19 lockdown (compared to before the lockdown) – Odds ratios

Male about themselves dichotomous	Cooking	Cleaning	DIY	Routine childcare	Non-routine childcare	Education
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
(Ref: Females goes into work sc)						
Female working from home sc	0.705 (0.262, 1.902)	0.749 (0.281, 1.995)	1.093 (0.422, 2.833)	0.492 (0.162, 1.496)	0.819 (0.274, 2.448)	0.947 (0.258, 3.478)
Female not working sc	2.082 (0.480, 9.028)	1.271 (0.292, 5.533)	0.689 (0.157, 3.029)	1.093 (0.237, 5.043)	2.118 (0.449, 9.993)	0.308 (0.049, 1.940)
(Ref: Males goes into work sc)						
Male working from home sc	2.369† (0.876, 6.404)	1.851 (0.689, 4.974)	0.389† (0.145, 1.045)	3.466* (1.180, 10.183)	2.737† (0.952, 7.869)	3.613* (1.045, 12.488)
Male not working sc	5.432 (0.592, 49.802)	3.962 (0.422, 37.232)	0.446 (0.050, 3.999)	12.873* (1.114, 148.786)	4.234 (0.396, 45.309)	0.660 (0.038, 11.552)
(Ref: Female does not work flexitime sc)						
Female working flexitime sc	1.162 (0.482, 2.804)	0.829 (0.347, 1.979)	1.166 (0.497, 2.735)	3.453* (1.268, 9.405)	3.018* (1.119, 8.140)	3.721* (1.236, 11.205)
(Ref: Male does not work flexitime sc)						
Male working flexitime sc	2.434† (0.954, 6.209)	1.913 (0.750, 4.876)	2.738* (1.050, 7.138)	1.963 (0.753, 5.118)	1.845 (0.698, 4.878)	0.949 (0.304, 2.960)
constant	0.002** (0.000, 0.155)	0.004* (0.000, 0.322)	2.604 (0.038, 180.380)	0.032 (0.000, 3.518)	0.021 (0.000, 2.413)	0.007 (0.000, 2.684)
N	150	150	148	149	148	133
Pseudo R ²	9.7%	9.7%	8.8%	19.1%	19.4%	32.0%

Note. 1=I do more or much more, 0= about the same or I do less/much less. Odds Ratio provided, and the 95% confidence interval in the parentheses. “sc” stands for “since COVID-19 lockdown” and “bc” stands for “before COVID-19 lockdown.” Odds Ratio is provided. Full model in Appendix Table 6. *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$, † = $p < 0.1$

Table 4. Mothers’ perception of their partners doing more housework and childcare during the COVID-19 lockdown (compared to before the lockdown) - odds ratios

Female about their partners dichotomous	Cooking	Cleaning	DIY	Routine childcare	Non-routine childcare	Education
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
(Ref: Females goes into work sc)						
Female working from home sc	1.004 (0.526, 1.915)	1.163 (0.600, 2.252)	0.900 (0.500, 1.621)	1.142 (0.600, 2.173)	1.923* (1.013, 3.648)	1.289 (0.690, 2.409)
Female not working sc	1.008 (0.408, 2.489)	0.511 (0.196, 1.329)	0.806 (0.350, 1.855)	0.249** (0.099, 0.625)	0.607 (0.247, 1.493)	0.620 (0.252, 1.522)
(Ref: Males goes into work sc)						
Male working from home sc	1.617 (0.911, 2.871)	1.591 (0.872, 2.901)	1.077 (0.642, 1.806)	1.927* (1.119, 3.318)	1.476 (0.854, 2.553)	1.163 (0.668, 2.026)
Male not working sc	1.231 (0.458, 3.310)	4.016** (1.430, 11.283)	3.267* (1.285, 8.307)	4.378** (1.547, 12.391)	4.040** (1.414, 11.540)	1.348 (0.494, 3.675)

(Ref: Females goes into work sc)						
Female working flexitime sc	0.771 (0.442, 1.345)	0.739 (0.420, 1.298)	1.031 (0.606, 1.754)	0.845 (0.475, 1.501)	0.846 (0.473, 1.513)	0.828 (0.472, 1.453)
(Ref: Males goes into work sc)						
Male working flexitime sc	1.340 (0.778, 2.309)	1.583 (0.895, 2.800)	1.378 (0.844, 2.249)	3.073*** (1.841, 5.129)	3.225*** (1.929, 5.391)	2.519** (1.494, 4.248)
constant	0.063* (0.006, 0.678)	0.024** (0.002, 0.272)	0.181 (0.021, 1.600)	0.198 (0.019, 2.078)	0.076* (0.007, 0.808)	0.156 (0.017, 1.470)
N	472	470	471	471	470	441
Pseudo R²	9.8%	9.5%	7.3%	20.5%	19.5%	14.3%

Note. Note. 1=He does more or much more, 0= He does about the same or less/much less. Odds Ratio provided, and the 95% confidence interval in the parentheses. “sc” stands for “since COVID-19 lockdown” and “bc” stands for “before COVID-19 lockdown.” Full model in Appendix Table 7. *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$, † = $p < 0.1$

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