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A Missed Opportunity for Men? Partnered and Employed Individuals' Involvement with Housework during the COVID-19 Lockdown in the UK

İbrahim Sönmez

Political and Social Sciences Department, Universitat Pompeu Fabra, Ramon Trias Fargas, 25-27, 08005 Barcelona, Spain; ibrahim.sonmez@upf.edu

Abstract: Given the outbreak of the coronavirus, SARS-CoV-2 (COVID-19), pandemic during March 2020, lockdown measures taken by governments have forced many families, especially those who have children, to re-arrange domestic and market work division. In this study, I investigate the factors associated with partnered and employed individuals' involvement with housework during the COVID-19 lockdown in the United Kingdom. Drawing evidence from the first wave of the Covid-19 Survey from the Five National Longitudinal Studies dataset with using OLS regressions, this study found that daily working hours, socioeconomic status, and partner's key worker status are important indicators of daily time spent on housework. Furthermore, interaction analysis showed that women living with a key worker partner not only did more housework than women whose partner was working in a regular job, but they also did more housework than men living with a key worker partner during the lockdown. Policy implications of regulating maximum daily working hours and key worker status are discussed in the context of re-arranging paid and unpaid work between couples during the first lockdown in the United Kingdom.



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1. Introduction

The rapid spread of the novel coronavirus, SARS-CoV-2 (COVID-19), during March 2020 has led many countries to employ social distancing measures which have influenced almost all aspects of family life (Hank and Steinbach 2020). One of the most dramatic changes that the COVID-19 pandemic has brought is the alteration of working conditions, in other words, a shift to working from home, for those who still remained employed. Furthermore, the measurements implemented to control the spread of the pandemic also led to the closure of schools, care centres, and non-essential work places. These new circumstances have forced many families, especially those who have children, to re-arrange domestic and market work division.

This paper examines the factors associated with partnered and employed individuals' involvement in housework during the COVID-19 lockdown in the United Kingdom. Recent studies from different countries have shown that the outbreak of the pandemic served as an opportunity to re-negotiate for a more egalitarian division of domestic and market work for heterosexual couples (Carlson et al. 2020; Seiz 2020; Chung et al. 2020; Hank and Steinbach 2020). Nevertheless, these studies also noted that the majority of domestic tasks still fall on women during the time spend at home due to the lockdown. For that reason, I am interested in further exploring the effects of the labour market, relationship, family, and household factors on the individuals' involvement in housework during the lockdown.

One of the main theoretical explanations for the division of household labour between partners was introduced through a time availability perspective, which argues that time devoted to housework by each partner relates to their time spent in paid work and the

family composition (Bianchi et al. 2012; England and Farkas 1986). Rationally, if this explanation holds, lockdown measures may function as an equaliser for each partner's involvement in housework if both have transitioned to working from home (Seiz 2020). However, the time availability perspective is challenged when we consider women's comparative disadvantage in the labour market (Bianchi et al. 2000) and how it reflects in Becker's (1981) microeconomic theory of efficient division of paid and unpaid work. Similarly, the extent to which certain household tasks remain sex-typed (Shelton 1990), such as 'dirty' tasks (i.e., washing the dishes) remain as 'female tasks,' while interactive activities with children remain sex-neutral, may determine how the division of paid and unpaid work has been re-negotiated during lockdown. Thus, I want to investigate whether factors associated with the 'time availability' theory, such as daily working hours of the respondent and the partner, are linked with individuals' involvement in housework during the lockdown, for both men and women. The first question I ask in the present study is: how do time availability factors of the respondent and their partner (daily working hours, working from home, partner's employment status) influenced time spent on housework during the lockdown?

Furthermore, in an announcement made by the British Government on January 21, 2020, key worker status was introduced as those working in hospitals, social care, the courts, government, and roles essential to supporting law and order. During the lockdown, introduced on March 20th, key workers were exempt from telehomeworking (Chung et al. 2020) and were required to work from their usual workplace. From the reports by the Institute for Fiscal Studies, we know that women are more likely to be keyworkers than men, when compared to regular occupations (Farquharson et al. 2020). Considering the abovementioned time availability perspective and the key worker status during the lockdown in the UK, I examine the role of being a key worker and having a partner who is a key worker on the time spent on housework. Therefore, I raise the following research question, how is key worker status associated with time spent on housework during the lockdown?

For this study, I use the first wave of the COVID-19 Survey in Five National Longitudinal Studies, conducted by The Centre for Longitudinal Studies (CLS) and the MRC Unit for Lifelong Health and Ageing (LHA) in the United Kingdom. This is a web-survey conducted with respondents of UK national longitudinal surveys about their health, wellbeing, family and relationships, work, education, and finances during the lockdown (Brown et al. 2020). In the next section, I briefly introduce the underlying theories of the present study's research questions and a literature review. Further, I explain the dataset and research methodology employed in greater detail. Finally, I present descriptive and OLS regression results, discussion, and conclusion with limitations and future directions.

2. Background: Determinants of Involvement in and Sharing of Household Chores

For the last several decades, three major theoretical explanations have been considered for the domestic labour allocation within heterosexual couples, namely, (1) time availability, (2) relative resources of partners, and (3) gender perspective (Bianchi et al. 2000). First, the time availability perspective considers the relative time each individual has besides working hours, therefore suggesting a rational distribution of housework based on the relative time availability of partners (Chung et al. 2020). The time availability perspective may actually be useful for explaining the renegotiation of paid and unpaid work during lockdown as many have been forced to work from home (extended time spent at home) and many have had to work as a key worker (reduced time spend at home). Second, the relative resources perspective is largely derived from the relative assets each partner may bring into the relationship, i.e., income, which creates a power relation to determine upon whom domestic labour falls. The partner with greater potential in the labour market assumes breadwinning while the other takes on domestic work, regardless of gender. Finally, the 'doing gender' theory argues that the mechanism which allocates domestic work is much more than the time availability and relative resources of partners (Bianchi et al. 2000). The

doing gender theory is concerned with the 'performance' of gender (West and Zimmerman 1987) through completing certain tasks that are assigned to gender roles, such as keeping the house clean. Therefore, this theory explains the division of paid and unpaid work as an expression of gender relations within households (Bianchi et al. 2000).

Given the lockdown measures and drastic transitions to combining work and family life at home, dual-earner couples have been forced to re-negotiate the division of paid and unpaid work. Women in dual-earner heterosexual couples often bear the 'burden of time crunch' (Crouter et al. 1987, p. 431; Rapoport and Rapoport 1976) between time spent on paid and unpaid work, due to the presumption that women are primarily responsible for domestic work within heterosexual couples (Bianchi et al. 2000). However, this idea was challenged to a certain degree when dual-earner couples transitioned to working from home during the lockdown. From the general literature, we are informed that working from home enables a joint space and time for work and domestic work, allowing "a certain level of blending of the two spheres" (Chung et al. 2020). Therefore, working from home increases work–family interference (Noonan and Glass 2012) and at the same time reduces work–home conflict as it possibly increases time available to spend on housework (Peters et al. 2009). In line with these expectations and the time availability perspective, one would expect a more egalitarian share of paid and unpaid work between couples during the lockdown. These abovementioned theoretical explanations, however, are vastly applied to explain domestic labour allocation between heterosexual couples. In the present study, I use these explanations to formulate hypotheses for domestic labour allocation of male and female respondents who are partnered and employed, without assuming the partnership type (i.e., heterosexual) of the respondents (see data and discussion section for further explanation).

Since the early days of the pandemic, a handful of studies investigated gendered division of housework, childcare, and paid work during lockdowns in different contexts. For instance, using the "working from home during the COVID-19 lockdown project" data, Chung et al. (2020) investigated how working from home influenced the division of childcare and domestic work among dual-earner couples in the UK. Chung et al. (2020) found that when flexible working was provided to fathers during the lockdown, they reported that their involvement in domestic work and childcare increased compared to prior to lockdown. Nevertheless, respondents reported that a larger share of domestic work and childcare still fell onto woman, especially on those who were provided with flexible working.

Similar evidence was found in the US context, with Carlson et al. (2020) showing that both partners involvement in domestic tasks increased due to increased time spent at home during lockdown for different sex couples. Carlson et al. (2020) presented a more egalitarian shift in the distribution of domestic tasks, but women, especially mothers, who were already doing more domestic work reported an increase in domestic responsibilities.

Investigating intrahousehold division of labour in Spain during lockdown, Seiz (2020) found that heterosexual couples who have the privilege to decide on the division of paid and unpaid labour (i.e., dual-earners who both work from home) deviated from the traditional gendered division. Although mothers "shoulder more unpaid work than fathers" (Seiz 2020), working remotely seems to encourage mothers to spend more time in domestic work and childcare without being forced to limit dedication to work and likewise encouraged fathers to allocate more time for domestic work during lockdown. Spain being a country that was hit by an early lockdown, Farré et al. (2020) also note that while men increased their involvement in the housework, women who did most of the unpaid labour before the outbreak of the pandemic continued to do so.

These studies provide important insight into how gendered division of domestic and market work was organized within heterosexual couples during the height of the pandemic. One main piece of evidence emerging is that there has been a shift to a more egalitarian division of domestic and market work, with an increased involvement of male partners in domestic tasks (mostly in interaction with children), when working from home (Chung

et al. 2020; Carlson et al. 2020; Hank and Steinbach 2020). These findings are in line with time availability perspectives. Considering the time availability perspective and provided evidence, I predict the following hypotheses.

Hypothesis 1 (H1). *For both men and women, daily working hours will be significantly associated with time spent on housework.*

Hypothesis 2 (H2). *For both men and women, working from home will be significantly associated with time spent on housework.*

Hypothesis 3 (H3). *For both men and women, partner's daily working hours will be significantly associated with time spent on housework.*

Hypothesis 4 (H4). *For both men and women, partner's employment status will be significantly associated with time spent on housework.*

As mentioned before, individuals with key worker status in the UK were exempt from the strict lockdown measures and therefore continued to work from their usual workplace, sometimes under dangerous conditions due to the risk of infection of COVID-19. From the UK government's guidance, key workers are those who provide essential services, namely, those who belong to health, social care, and public order and defence sectors (Sibieta et al. 2020). One major consequence of this status is creating or exacerbating the inequality in time availability at home between partners if one continues to work as a key worker while the other shifts to working from home.

In the UK, women make up 60% of total key workers (Farquharson et al. 2020). If women are more likely to be key workers and are presumed as primarily responsible for domestic tasks, it is important to question how this dynamic has evolved (or has not) during the lockdown. Under the time availability perspective, we would expect that key worker status reduces the time spent on housework for both men and women. Similarly, we would expect an increased time spent by individuals whose partner is a key worker, since their relative available time increased when compared to their partners. I test the following two hypotheses under the time availability perspectives.

Hypothesis 5a (H5a). *For both men and women, being a key worker reduces the daily time spent on housework (time availability hypothesis).*

Hypothesis 5b (H5b). *For both men and women, daily time spent on housework will increase if their partner is a key worker (time availability hypothesis).*

On the other hand, from the gender perspective and evidence from abovementioned studies, we would expect that women with key worker partners still devote more time to housework during the lockdown compared to men whose partner is a key worker. In this study, finally, I test the following hypothesis by looking at the interactions between gender and partner's key worker status.

Hypothesis 6 (H6). *Women are more likely to spend more time on housework if their partner is a key worker when compared to men whose partner is a key worker (doing gender hypothesis).*

3. Data and Methodology

This study used the COVID-19 Survey in Five National Longitudinal Studies Wave 1, conducted by The Centre for Longitudinal Studies (CLS) and the MRC Unit for Lifelong Health and Ageing (LHA) in the United Kingdom (University College London et al. 2020). Participants of the COVID-19 survey are participants who previously took part in five national studies in the UK, these five studies being the Millennium Cohort Study (born 2000–2002); both cohort members and parents (MCS), Next Steps (born 1989–1990) (NS), 1970 British

Cohort Study (BCS70), 1958 National Child Development Study (NCDS), and MRC National Survey of Health and Development (NSHD, 1946 British birth cohort). The participants of these five studies were contacted via the web, and a total of 18,042 respondents completed the interview, with a 35.7% total response rate (Brown et al. 2020). The aim of this survey was to capture participants' health, wellbeing, family and relationships, work, education, and finances just before the outbreak of the COVID-19 pandemic in March 2020 up until the time they responded to the survey in May 2020, during the first lockdown (Brown et al. 2020). In this study's sample, I only include men and women who were employed and working or were self-employed and working, and who cohabited with a partner (either male or female; I do not have information on partner's sex, see discussion section), to be able to equalise the conditions across male and female samples. The summary of the dependent variable and independent variables can be found in Table 1.

The dependent variable used for the statistical analysis was the daily time spent on household tasks. The respondents were asked to fill in the hours they typically spend on a weekday since the COVID-19 outbreak began and asked to round their answers to the nearest hour. The answers of respondents for the activity housework (e.g., cleaning, laundry, cooking, DIY; shopping was excluded in the definition of this variable in the questionnaire) were used as the dependent variable. The possible values ranged from 0 to 24. I checked the outliers and there were 154 respondents in the 1st and 99th percentile and I coded them as missing. The final version of this variable ranged from 0 to 20.

Independent variables included in the analysis were the following: socio-economic status (SES) of the respondent, socio-economic status of the respondents' partner (partner's SES), daily working hours, daily working hours of the respondents' partner, whether the respondent or their partner is a keyworker, partner's employment status, general health, relationship satisfaction, daily hours spent on home schooling children, interactive activities with children, number of children in the household, number of persons in the household, respondents' region, and cohort groups.

Respondents' and their partners' daily working hours were derived from their responses to the question, "how many hours per week do you (does your partner) usually work now, not including meal breaks but including overtime?" and the responses were divided by seven, in order to include their working hours per day. Outliers of these variables were coded as missing. Another important independent variable in the present study was whether the respondent's partner was a key worker. Given our theoretical considerations, if the respondent was working from home and their partner was still forced to work in their usual workplace, or either one of them was a key worker, there may be asymmetrical changes in shouldering household work based on the time availability theory. Thus, I was interested to know more about how this would affect the hours respondents spend on housework. These variables respondent working from home, respondent is a key worker, and respondent's partner is a key worker were included as dummy variables.

Respondents' and their partners' socioeconomic status before the COVID-19 pandemic started were included as independent variables. Socioeconomic status was recorded into seven values by the survey designers (Brown et al. 2020) based on SOC2010 classification (Office for National Statistics 2010). These seven categories include higher managerial and administrative occupations; lower managerial, administrative and higher supervisor occupations; intermediate occupations; small employers and own account workers; lower supervisory and technical occupations; semi-routine occupations; and routine occupations. I reverse coded these variables; a value of 7 indicates higher managerial and administrative occupations, and a value of 1 indicates routine occupations.

Time spent with children for home schooling and interactive activities by each respondent were also included. Similar to the dependent variable, respondents were asked how many hours on a typical day they spend on home schooling children or are involved in interactive activities with them. I included a dummy variable indicating if there were children in the household. For households with children, the number of children was included by their age group. I included number of children between the ages of 0–4,

5–15, and 16–18. The total number of people residing in the household was included as a 4-category variable, with the value 4 indicating four or more people in the household.

Table 1. Summary Statistics of Variables.

| | N | Frequency/ Mean Men | Frequency/ Mean Women | Minimum | Maximum |
|--|------|---------------------------|-----------------------------|---------|---------|
| Daily Time Spent on Housework | 5446 | 1.56 | 2.86 | 0 | 20 |
| Working Hours | 5452 | 5.37 | 4.17 | 0 | 10 |
| Key Worker | 5476 | - | - | 0 | 1 |
| Telehomeworking | 5502 | - | - | 0 | 1 |
| Socioeconomic Status | 5281 | - | - | 1 | 7 |
| Routine | | 38.18 | 18.35 | | |
| Semi-routine | | 29.94 | 38.10 | | |
| Lower supervisory | | 9.65 | 25.99 | | |
| Small employers | | 5.18 | 2.06 | | |
| Intermediate | | 6.49 | 1.78 | | |
| Lower managerial | | 5.34 | 11.72 | | |
| Higher managerial | | 5.26 | 1.99 | | |
| Partner's Daily Working Hours | 5469 | 2.59 | 3.49 | 0 | 9 |
| Partner's Employment Statatus | 5502 | - | - | 0 | 1 |
| Partner Key Worker | 3503 | - | - | 0 | 1 |
| Partner's Socioeconomic Status | 4398 | - | - | 1 | 7 |
| Routine | | 4.29 | 9.57 | | |
| Semi-routine | | 12.93 | 8.40 | | |
| Lower supervisory | | 1.41 | 8.52 | | |
| Small employers | | 2.83 | 9.13 | | |
| Intermediate | | 25.95 | 11.06 | | |
| Lower managerial | | 35.27 | 25.77 | | |
| Higher managerial | | 17.31 | 27.54 | | |
| Interactive Activities With Children | 5474 | 0.55 | 0.88 | 0 | 24 |
| 0 Children | 5502 | - | - | 0 | 1 |
| Number of Children (Ages 0–4) | 5502 | - | - | 0 | 2 |
| 0 | | 95.24 | 95.81 | | |
| 1 | | 2.38 | 2.92 | | |
| 2+ | | 2.38 | 1.27 | | |
| Number of Children (Ages 5–15) | 5502 | - | - | 0 | 2 |
| 0 | | 72.34 | 75.29 | | |
| 1 | | 7.74 | 7.44 | | |
| 2+ | | 19.92 | 17.27 | | |
| Number of Children (Ages 16–18) | 5502 | - | - | 0 | 2 |
| 0 | | 74.48 | 71.83 | | |
| 1 | | 10.20 | 12.07 | | |
| 2+ | | 15.32 | 16.10 | | |
| Homeschooling Children | 5474 | 0.30 | 0.63 | 0 | 24 |
| Number of People Living in the Household | 5502 | - | - | 2 | 4 |
| General Health | 5310 | 3.68 | 3.49 | 1 | 4 |
| Relationship Satisfaction | 5494 | 6.10 | 6.06 | 1 | 7 |

Table 1. Cont.

| | N | Frequency/ Mean Men | Frequency/ Mean Women | Minimum | Maximum |
|---------------------|------|---------------------------|-----------------------------|---------|---------|
| Living in London | 5502 | - | - | 0 | 1 |
| Yes | | | | | |
| No | | | | | |
| Cohort | 5502 | - | - | 1 | 4 |
| NCDS ¹ | | 27.26 | 17.54 | | |
| BCS70 ² | | 38.21 | 37.29 | | |
| Next Steps | | 10.95 | 0.47 | | |
| MCS CM ³ | | 0.12 | 30.08 | | |

¹ National Child Development Study. ² British Cohort Study. ³ Millennium Cohort Study Cohort Members.

The general health of the respondents was also included as it may restrict their capability of doing paid or unpaid labour. Respondents' general health was assessed with a self-perceived health questionnaire on mental health, using a 4-question scale based on the General Health Questionnaire (Goldenberg and Williams 1988). These questions included the frequency of respondents feeling down, depressed, and hopeless; having little interest or pleasure in doing things; not being able to stop or control worrying; feeling anxious, nervous, or on edge, in the previous two weeks. The possible answers to these four questions were rated on a four-point scale indicating whether the symptoms of poor mental health were present. These answers were scaled into a variable and included as a categorical variable with values 1 to 4, with 1 indicating poor perceived mental health. Cronbach's alpha for this scale was 0.98.

Relationship satisfaction of the respondent was included as well. Respondents were asked; "on a scale from 1 to 7, where '1' means that you are 'very unhappy' and '7' means that you are 'very happy', how happy is your relationship with your partner at the moment, all things considered?" This variable was included as a 7-category variable. Due to possible endogeneity of the relationship satisfaction with an individual's involvement in housework, I have checked the correlation between this variable and the other variables and it did not exceed 0.09 (except for general health, which was, 0.24).

Finally, respondents' region and cohort groups were included as controls. Metropolitan areas such as London were hit harder by the effects of the pandemic, and those who worked in London were more in favour of working from home during the lockdown (Forbes et al. 2020). I included the region of the respondent as a dummy variable and separated those who live in London and those who live in the rest of the UK. The cohort group of the respondent was an important control to be able to capture the differences across cohorts. Due to the nature of the dataset, which includes respondents who previously took part in five different national longitudinal studies, each cohort represented a different age group. I was unable to include respondents from the MRC National Survey of Health and Development since the data from this cohort are not publicly available. Similarly, I excluded the Millennium Cohort Study Parents Cohort from this study's sample because I was unable to weigh their responses. Present study's final sample included respondents who previously took part in the following surveys (presented with their respective age in 2020); the British Cohort Study (50 years old), National Child Development Survey (62 years old), Millennium Cohort Study (20 years old), and Next Steps (30 years old). I used the cohort variable as a control of age group and also for clustering the regression analyses.

4. Results

Figure 1 shows the daily hours spent on different activities by partnered and employed men and women during the lockdown in the UK. During the lockdown, both men and women in this sample reported to mostly devote their time to paid work. The average

daily hours spent on paid work was about 8 hours. When I compared men and women in terms of housework, Figure 1 shows that women reportedly devoted more time to housework compared to men, with an average of 2.86 and 1.5 hours, respectively. For both home-schooling children and interactive activities with them, women reported spending more time daily than men, with the difference being relatively small.

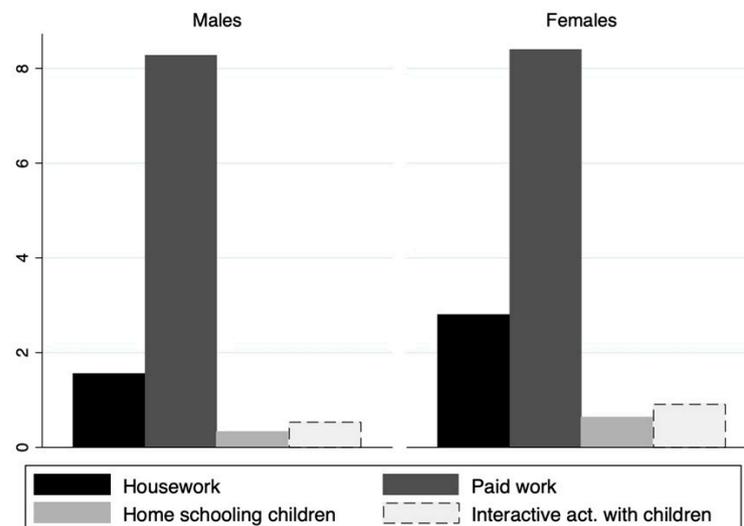


Figure 1. Daily time spent on activities by partnered and employed men and women during the lockdown in the UK (N = 2099).

Table 2 shows the relationship between the daily time spent on housework by men and women in the study sample and the independent variables. All models controlled for respondents' region and cohort group, and each model was estimated by clustering respondents to their cohort group. I weighed each model with the derived design, and non-response weights and the effectiveness of these weights were proven for COVID-19 survey respondents (see Brown et al. (2020) for more information on the calculations of the survey weights).

In Models 1 and 4, I included respondents' and their partners' labour market variables; in Models 2 and 5, I further included variables related to household and children; and in Models 3 and 6, I introduced general health and relationship satisfaction variables.

Since the significance and effect sizes of variables in Models 1, 2, and 4, 5 only changed moderately when all of the control variables were included, I considered Models 3 and 6 only.

In Models 3 and 6, the daily working hours of men and women (respectively) was a significant factor associated with daily time spent on housework even when I controlled for household characteristics and health and relationship satisfaction. This result confirms the study Hypothesis 1 stating that daily working hours is an important indicator of daily time spent on housework and is in coherence with the time availability theories. Next, Models 3 and 6 indicate that telehomeworking was not a significant indicator of daily time spent on housework, for both men and women. Therefore, I found no evidence for Hypothesis 2.

Model 6 showed that when women were involved in more interactive activities with children and home school them, their daily time spent on housework increased. For men, as Model 3 shows, only home-schooling children seemed to increase their involvement in housework. Furthermore, men who were not fathers also reported a decreased involvement in daily time spent on housework. For both men and women, I found that the higher the number of children between the ages of 0 and 4, and 5 and 15, the less daily time spent on housework.

In Models 3 and 6, I introduced general health and relationship satisfaction of the respondents. For men, reporting better general health was associated with increased time

spent on housework. Relationship satisfaction was an insignificant indicator for both men and women.

Table 2. Determinants of Daily Time Spent on Housework: OLS Regression Results for Men and Women.

| | Males | Males | Males | Females | Females | Females |
|---|-------------------------|-----------------------|--------------------------|-------------------------|-----------------------|--------------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | Labour Market Variables | +Household Variables | +Health & Rel. Variables | Labour Market Variables | + Household Variables | +Health & Rel. Variables |
| Daily W.H. ¹ | −0.350 ** (0.068) | −0.346 ** (0.084) | −0.348 ** (0.088) | −0.477 ** (0.119) | −0.395 ** (0.084) | −0.409 ** (0.082) |
| Keyworker | −0.584 ** (0.125) | −0.658 ** (0.158) | −0.680 ** (0.155) | 0.392 (0.205) | 0.195 (0.173) | 0.243 (0.166) |
| Telehome W. ² | −0.625 (0.407) | −0.679 (0.459) | −0.664 (0.378) | 0.127 (0.462) | −0.222 (0.337) | −0.168 (0.348) |
| SES ³ | 0.061 * (0.026) | 0.055 * (0.023) | 0.066 * (0.026) | 0.159 (0.118) | 0.165 (0.113) | 0.134 (0.125) |
| Partner's W.H. ⁴ | 0.060 (0.126) | 0.066 (0.134) | 0.068 (0.146) | 0.250 ** (0.064) | 0.228 ** (0.044) | 0.234 ** (0.045) |
| Partner Empl. ⁵ | −0.187 (0.098) | −0.145 *** (0.016) | −0.104 * (0.033) | −1.047 (0.654) | −0.732 (0.438) | −0.752 (0.446) |
| Partner KW. ⁶ | 0.120 (0.302) | 0.122 (0.272) | 0.134 (0.287) | 0.468 * (0.169) | 0.580 ** (0.150) | 0.516 ** (0.110) |
| Partner SES ⁷ | 0.108 *** (0.016) | 0.076 ** (0.019) | 0.081 ** (0.019) | −0.115 (0.125) | −0.085 (0.045) | −0.103 (0.065) |
| Int. Act. Child. ⁸ | | 0.286 (0.127) | 0.276 (0.137) | | 0.301 *** (0.050) | 0.318 ** (0.064) |
| Childless | | −0.355 *** (0.059) | −0.320 *** (0.055) | | 0.393 (1.114) | 0.235 (1.209) |
| Number of children between the ages of: | | | | | | |
| 0–4 | | −0.451 * (0.158) | −0.457 ** (0.140) | | −0.874 * (0.309) | −0.820 * (0.335) |
| 5–15 | | −0.144 * (0.058) | −0.141 * (0.049) | | −0.403 ** (0.070) | −0.404 ** (0.070) |
| 16–18 | | 0.061 (0.087) | 0.060 (0.095) | | 0.483 ** (0.116) | 0.463 ** (0.134) |
| Home School. ⁹ | | 0.167 ** (0.039) | 0.186 ** (0.049) | | 0.351 ** (0.101) | 0.323 * (0.108) |
| No. Ppl. HH. ¹⁰ | | −0.208 * (0.079) | −0.224 * (0.076) | | −0.254 (0.174) | −0.247 (0.176) |
| General Health | | | 0.189 ** (0.051) | | | −0.088 (0.215) |
| Rel. Stat. ¹¹ | | | −0.014 (0.057) | | | −0.045 (0.104) |
| London | 0.049 (0.374) | 0.044 (0.361) | 0.043 (0.344) | 1.498 (1.153) | 0.692 (0.666) | 0.633 (0.684) |
| Cohort | −0.147 (0.125) | −0.157 (0.145) | −0.173 (0.133) | −0.400 ** (0.083) | −0.546 ** (0.130) | −0.554 ** (0.170) |
| Obs. | 1005 | 1005 | 981 | 1150 | 1150 | 1118 |
| R-squared | 0.085 | 0.124 | 0.126 | 0.102 | 0.258 | 0.247 |

Standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. ¹ Daily working hours. ² Telehomeworking. ³ Socioeconomic status. ⁴ Partner's daily working hours. ⁵ Partner is employed. ⁶ Partner's key worker status. ⁷ Partner's socioeconomic status. ⁸ Interactive activities with children. ⁹ Homeschooling children. ¹⁰ Number of people living in the household. ¹¹ Relationship satisfaction.

Models 3 and 6 revealed major differences between the samples of men and women. I found that while a partner's working hours was not a significant factor for men's involvement in housework, women's daily time spent on housework further increased as their partner's working hours increased. Therefore, I found partial evidence for Hypothesis 3, stating that partner's daily working hours is a significant indicator of daily time spent on housework. This result is only applicable to women. Similarly, men reportedly were less involved in housework if their partner was employed, while partner's employed status was not a significant indicator of time spent on housework for women, thus I found partial evidence for Hypothesis 4.

Furthermore, another major difference between the samples of men and women was the effects of key worker status variables. In Models 3 and 6, I found that key worker men were involved less in housework while key worker status was not a significant indicator for women. On the other hand, women in this sample reported doing more housework if their partner was a key worker. These results provide partial evidence for Hypotheses 5a and 5b. I confirm that being a key worker during the lockdown in the UK reduced men's involvement in housework, and women whose partner was a key worker shouldered more of the housework.

With these results in mind, in another model (this model included all the variables from Models 3 and 6, and plus the interaction; not shown here, available upon request) I further explored the interaction between respondents' gender and their partner's key worker status in a combined sample of men and women. I present the marginal effects of this interaction in Table 3. As Table 3 shows, I found evidence for Hypothesis 6, stating that women are more likely to spend more time on housework if their partner is a key worker compared to men whose partner is a key worker (doing gender hypothesis). I found that women not only did more housework if their partner was a key worker, but also, they shouldered more housework than men who had a key worker partner.

Table 3. Marginal effects of The Interaction Effects of Gender of The Respondent and Their Partners' Key Worker Status.

| | |
|---------------------------|-------------------|
| Male*Partner Key Worker | 0.0577 (0.29) |
| Female*Partner Key Worker | 0.715 * (3.21) |
| Obs. | 2099 |

Standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

5. Discussion

Using the data from the COVID-19 Survey in Five National Longitudinal Studies Wave 1 (University College London et al. 2020), this study examined determinants associated with employed and partnered individuals' involvement in housework during lockdown across household characteristics in the United Kingdom. I found several indicators that are in coherence with previous studies and theoretical explanations of division of unpaid and paid work within couples.

Firstly, I anticipated that working hours of respondents would be negatively associated with the time spent on housework by the respondents. In line with the time availability theory, I found that men and women who worked longer hours reported less hours spent on housework during the lockdown. However, due to the nature of the data and sample, we cannot estimate the relative time spent on housework between partners. Therefore, I am just providing evidence on one part of the story, where I found that the working hours of respondents in this sample was negatively associated with daily hours spent on housework during the first COVID-19 lockdown in the UK.

Furthermore, I found that working from home is not a significant indicator of daily time spent on housework. However, working from home seems to increase the daily working hours (Noonan and Glass 2012; Eldridge and Pablonia 2010), and this is seen as a

working condition primarily for women instead of men (Nash and Churchill 2020). Studies on flexi work patterns found that some men are afraid to face 'femininity stigma' (Rudman and Mescher 2013) if they appear to be less agentic and dominant when provided with flexi working (Rudman and Mescher 2013). This could be why men end up working even more when provided with flexi working (Lott and Chung 2016). These predictions and outcomes, however, belong to a time before the COVID-19 pandemic, lockdown measures, and confinement to home. Studies on short-term economic consequences of COVID-19 found that mother's working hours are more susceptible to reduction when compared to father's in dual-earner heterosexual households (Collins et al. 2020). Therefore, if institutions continue to assume that work and home are different territories in which employees can easily switch between productive paid work and housework (Nash and Churchill 2020) during telehomeworking, increased daily working hours of individuals, especially of men, would lead their partners to shoulder more of the housework. If employers are not strict about maximum working hours per day of their employees, lockdown measures could be a missed opportunity for more egalitarian household arrangements.

On the contrary to many studies (Chung et al. 2020; Noonan and Glass 2012; Peters et al. 2009; Hank and Steinbach 2020), I did not find any relationship between working from home and the daily time spent on housework. A shift to working from home during confinement has not represented an opportunity for men to significantly increase their involvement in domestic chores. The 'doing gender' (West and Zimmerman 1987) theory's explanation of paid and unpaid work division appears to be valid for households with a key worker, to a certain extent. I found evidence that partnered key worker men reportedly did less housework than those who work in regular jobs, while women in regular jobs whose partner is a key worker devoted more daily hours to housework. Women living with a key worker partner not only did more housework than women whose partner worked in a regular job, but they also did more housework than men living with a key worker partner during the lockdown. Evidence from Germany has shown that essential workers worked more than workers in non-essential occupations during the lockdown (Hipp and Bünning 2021). Thus, unequal division of paid and unpaid work between partners may disadvantage women even more during the lockdown if their partner is a key worker. However, I cannot infer if this disadvantage is greater for women who are in a heterosexual partnership when compared to those who are in a same-sex partnership from these results since I do not have data on partner's sex. Future research should take into consideration the possible relationships among gender, partnership type, and key worker status.

Previous studies have shown that men with higher education levels generally do more housework (Coltrane 2000). I used socioeconomic status as a proxy of education and occupation level, and men with higher socioeconomic status did report more involvement in housework. Furthermore, during the lockdown in the UK, many parents of school-age children reported that they were struggling with home schooling children (Sevilla et al. 2020). It seems like men in this sample might be considering the time spent with children as a part of housework or being involved in home schooling children leads to more involvement in housework. Given that the men in this sample reported spending the lowest time on home schooling among other activities such as paid work, housework, and interactive activities with children (Figure 1), it is interesting to find this relationship. Further research should consider asking fathers about their perception on whether home schooling children is part of routine housework, even under such structural conditions forced by the pandemic prevention measures.

As Bianchi et al. (2012) noted, we are yet to discover which men, and under which conditions, involve themselves in domestic tasks. The present study highlights the unusual conditions enforced by governments due to the COVID-19 pandemic and found evidence that certain personal (and structural) characteristics influence employed and partnered individuals' involvement in housework under such conditions. I note that due to the structure of the survey and different cohorts included, this analysis is only representative of 30- and 50-year-old partnered individuals who live with children and 20- and 62-year-old

partnered individuals who do not live with children. Similarly, this study is not without limitations. Firstly, and most importantly, I do not have information on the partners' sex in the dataset. In 2018, the proportion of the UK population aged 16 years or older and identifying other than heterosexual was 5.4% (Office for National Statistics 2020). Based on this, although same-sex couples may form a small proportion in this sample, it is beyond the scope of this study to infer partnership types without available data. Second, I only looked at the factors associated with men and women's daily hours spent on housework. In other words, I did not look at the relative work both partners' put into housework since such information is not available in the dataset. Similarly, we know that men may overestimate their involvement in domestic tasks or women may underestimate it (Bernhardt et al. 2008), either because of the definition of the housework variable (i.e., shopping is excluded or non-routine and routine chores are mixed) or due to gender differences. Third, I do not have information on the time devoted to housework by respondents before the pandemic and subsequent lockdown. Therefore, I can only analyse the determinants of such an outcome under the conditions that the pandemic has created. Fourth, it is beyond the scope of this study to include respondents' attitude towards division of paid and unpaid work within households. I only looked at the labour market and household characteristics of the respondents. Finally, I was only able to investigate the short-term responses by respondents to the pandemic. With more data available in the future, we can examine how these determinants are affected by the new social and economic situations due to COVID-19. Likewise, I used respondent's own perception of their daily time spent on housework. Future studies are encouraged to conduct a comparison between respondent's perception and partner's perception on time spent on housework for more reliable results.

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