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### Opportunity or exploitation? A longitudinal dyadic analysis of flexible working arrangements and gender household labor inequality

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# Opportunity or Exploitation? A Longitudinal Dyadic Analysis of Flexible Working Arrangements and Gender Household Labor Inequality

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It has been extensively debated over whether the rise of flexible working arrangements (FWAs) may be an “opportunity” for a more egalitarian gender division of household labor or reinforce the “exploitation” of women in the traditional gender division. Drawing on a linked-lives perspective, this study contributes to the literature by using longitudinal couple-level dyadic data in the UK (2010–2020) to examine how couple-level arrangements of flexible working affect within-couple inequality in time and different types of household labor. The results show that among heterosexual couples, women’s use of FWAs significantly intensifies their disproportionate share of housework and maintains their heavy childcare burden regardless of whether their husbands use FWAs. In contrast, men’s use of FWAs does not change the unequal gendered division of housework and childcare, even when their wives do not use any FWAs. These patterns of intensified gender inequalities are more pronounced in routine housework tasks (e.g., cooking, washing, and cleaning), and among the reduced hours and teleworking arrangements. Overall, rather than providing an “opportunity” for a more egalitarian division of household labor, the use of FWAs maintains or even exacerbates the “exploitation” of women under the existing traditional gender norms.

## Introduction

Despite significant improvement in gender equality in the public sphere such as increased women’s education and labor force participation, limited changes have taken place in the private sphere, resulting in an uneven and stalled gender revolution (England 2010; Goldscheider, Bernhardt, and Lappegård 2015). The division of unpaid household labor remains gendered

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in many societies, with women still carrying out a disproportionate share of housework and childcare. Gender inequality in unpaid household labor not only affects individual life chances, such as labor market outcomes (Cunningham 2008), but also has broader societal consequences, such as lowest-low fertility (McDonald 2000).

The rise of flexible working arrangements (FWAs) in recent years, especially during the COVID-19, is likely to reshape couples' time use at home and influence gender inequality in household labor. FWAs are workplace options that offer employees more control over how much, when, or where they work to achieve better work-life balance (Chandola et al. 2019; Li and Wang 2022). Based on the definition, previous research has distinguished three common types of FWAs: reduced hours arrangements (RHAs), flexible schedule or flexible time arrangements (FTAs), and teleworking arrangements (TWAs; Li and Wang 2022). However, how these arrangements may affect the gender division of household labor remains unclear. While some argue that flexible working may be an "opportunity" for a more egalitarian division of housework and childcare (Arntz, Ben Yahmed, and Berlingieri 2020; Chung et al. 2021; Pedulla and Thébaud 2015), others suggest that it may reinforce the traditional gender division of labor and the "exploitation" of women in unpaid domestic labor (Hilbrecht et al. 2008; Kurowska 2020; Sullivan and Lewis 2001). Our study contributes to this discussion by adopting a couple-level perspective, examining how each partner's use of FWAs affects the within-couple division of various types of household labor in the UK and how the patterns vary across different types of FWAs. In doing so, we address the following limitations of prior research that may explain the inconsistent empirical results about the impact of flexible working on gender inequality in household labor.

First, most previous research adopts an individual-level perspective and often examines how an individual's use of FWAs affects their household labor. Very few exceptions focusing on couple-level dynamics (e.g., Dunatchik et al. 2021) are largely descriptive and based on self-reported spousal information. Our study emphasizes a couple-level perspective—how different configurations of FWAs use within couples affect within-couple inequality in household labor. The shift from an individual-level perspective to a couple-level perspective highlights the intricately linked lives of spouses (Elder 1998; Moen and Yan 2000). The household division of labor is likely to depend on the work arrangements of both spouses. Although many studies have examined how partners' employment status affects one's time in housework and childcare (Carlson, Petts, and Pepin 2021), much less is known about the effect of partners' FWAs. Furthermore, how FWAs affect gender inequality in housework and childcare may depend on whether one uses FWAs alone or together with one's partner. Using longitudinal couple-level dyadic data in the UK, we examine how the division of household labor varies by different configurations of FWAs use within the couple. Specifically, we compare couples where only the wife uses FWAs, where only the husband uses FWAs, where both spouses use FWAs, to where neither spouse uses FWAs. Thus, our study advances the existing literature by examining how couple-level arrangements of flexible working affect within-couple inequality in housework and childcare, thereby offering a novel understanding of the effects of FWAs on gender inequality in domestic labor.

Second, while a large body of previous research focuses on the effects of flexible working on housework time, this study provides further insights into how the patterns vary across different types of household labor and FWAs. The effect of each partner's use of FWAs may vary between routine and nonroutine housework, and childcare. Whereas men are often involved in nonroutine housework, women often engage in routine housework and childcare, which tend to be more time-constraining and less flexible (Carlson, Miller, and Sassler 2018; Noonan 2001; Starrels 1994). Given that the gender division of different types of household labor reflects the entrenched gendered expectations of femininity and masculinity (Thébaud 2010; Thébaud and Pedulla 2016), the effects of wives' and husbands' use of FWAs on the gender division of household labor are likely to differ for routine and nonroutine chores as well as childcare. Furthermore, the patterns may vary across different types of FWAs because of their varying impacts on time availability and the extent to which they blur the work-family border. By differentiating diverse types of

household labor and FWAs, our study facilitates a more nuanced understanding of how flexible working shapes gender inequalities in the household.

In the following sections, we first provide a brief introduction to FWAs in the UK. Next, we draw on relevant theories to discuss how couple-level FWAs affect within-couple inequality in domestic labor and how these effects may vary by different types of household labor. Then, we describe the data and methods and report the results. Finally, we discuss the conclusions and reflect on their implications for theories and policymaking.

## Theoretical Background

### FWAs: Opportunity or Exploitation?

FWAs are workplace options that entail employees' control over how much, when, or where they work, such as reduced hours, flexible schedules, teleworking, etc. (Chandola et al. 2019; Li and Wang 2022). While FWAs are traditionally more accessible in professional and managerial occupations (O'Brien et al. 2017), the last several decades have witnessed a growth of FWAs to address work–family conflicts in many developed countries, including the UK (Wang et al. 2022a, 2022b). In 2003, the UK government granted parents with children under the age of 6 or disabled children under 18 the right to request FWAs. The right was soon extended to all adults with caring responsibilities in 2007 and then to all adult employees who have been in continuous employment with their employer for over 26 weeks in 2014 (Chung and van der Horst 2018). During the COVID-19 pandemic, FWAs have been further expanded as a solution to allow organizations to continue operations and preserve jobs all over the world. Recently, there has been an increasing public clamor to normalize and legitimize the use (rather than the request) of FWAs in the future because they are believed to help address work–family conflicts and other challenging social problems such as gender inequality in domestic labor.

In the previous literature, there has been an extensive discussion about whether flexible working can be an “opportunity” for a more egalitarian gender division of household labor or reinforce the “exploitation” of women by increasing their domestic burden. On the one hand, some studies tend to support the “opportunity” model, suggesting that flexible working may reduce gender inequality in housework and childcare duties. For example, Pedulla and Thébaud (2015) find that if supportive work–family policies, such as flexible schedules or working from home, are available, people prefer a more egalitarian gender division of labor, regardless of gender and education levels. More recent research further suggests that flexible working is likely to reduce the gender inequality in housework and childcare by increasing men's participation in various household duties and reducing women's domestic burden (Arntz et al. 2020; Chung et al. 2021; Giovanis 2017).

On the other hand, another stream of research finds that FWAs may not necessarily lead to greater gender equality but could potentially “exploit” women by increasing their household labor burden. For example, Kurowska (2020) finds that while flexible working promotes gender equality in housework and childcare in a gender-egalitarian country such as Sweden, it reinforces the unequal gender division of unpaid household labor in a more gender traditional country such as Poland by increasing women's housework and childcare time and work–family conflicts. Similarly, using cross-sectional time use data, Carlson et al. (2021) show that working from home is associated with less routine housework time among men with partners not working full-time. Other studies show that flexible working, such as working from home, can increase housework time for women more than for men, thus exacerbating the unequal gender division of housework (Dunatchik et al. 2021; Lyttelton, Zang, and Musick 2022).

However, the existing studies are limited in three important aspects that may contribute to the inconsistent findings. First, prior research has paid little attention to how the effect of FWAs may depend on whether one uses FWAs alone or together with one's spouse. Second, previous research has rarely considered how couples' use of FWAs may have differential effects on specific types of household labor. Third, the effect of FWAs may vary across different types of FWAs, which has

also often been overlooked in existing studies. This study addresses these gaps in prior research and examines how different combinations of FWAs within couples affect the gender division of routine and nonroutine housework chores as well as childcare.

## Linked Lives: Flexible Working and Gender Household Labor Division Within Couples

The divergent empirical results discussed in the previous section reflect different theoretical perspectives about how flexible working may affect the gender division of household labor. Drawing on a linked lives perspective, this study aims to enrich the debate by investigating how couple-level arrangements of flexible working (i.e., self and spousal use of FWAs) may affect within-couple gender inequality in household labor. The linked lives perspective emphasizes the embeddedness of one's life within the lives of other family members and argues that the events and experiences of one family member could have immediate impacts on other family members and vice versa (Elder 1998; Wang and Li 2023). Such cross-over effects may be particularly pronounced between husbands and wives because couples share high intimacy and cooperate closely in household responsibilities. Thus, exploring the within-couple relationships between flexible working and gender household division of labor under the framework of "linked lives" could provide us with more nuanced insights into the theoretical and empirical debates.

On the one hand, a growing body of research argues that the existing traditional gender division of labor is formed largely in response to the institutional constraints in the workplace, such as long and inflexible working hours (Cha 2010; Pedulla and Thébaud 2015). In fact, the workplace institutions are dominated by a masculine culture and ideal worker norm, which favor male workers who can fully devote their time to work but disadvantage female workers who are socially expected to assume household responsibilities (Cha 2013; Gerson 2011). According to time availability theory, within a couple, spouses' allocation of time to household labor depends on the allocation of time to paid work (Coverman 1985). Thus, even when men and women prefer an egalitarian division of household labor, the gendered workplace institutions mean that they usually end up engaging in a traditional gender division of labor. However, with the rise of FWAs and potential changes in workplace institutions, time availability theory predicts that men's time availability for household labor would increase, which would reduce women's domestic burden, leading to more gender equality in the household (Carlson, Petts, and Pepin 2021; Coverman 1985).

Applying time availability theory to the linked lives of couples, we can make the following empirical predictions for different combinations of couples' use of FWAs. When husbands use FWAs alone, their relative time availability increases, and thus they are more likely to participate in household labor and could help reduce their wives' household labor burden. Therefore, we hypothesize that *among heterosexual couples, when husbands use FWAs alone, wives' relative domestic burden will significantly decrease, and husbands' relative domestic burden will significantly increase (Hypothesis 1A)*. In contrast, when wives use FWAs alone, their relative time availability increases, and thus they are more likely to participate in household labor and could help reduce their husbands' household labor burden. Therefore, we hypothesize that *among heterosexual couples, when wives use FWAs alone, wives' relative domestic burden will significantly increase, and husbands' relative domestic burden will significantly decrease (Hypothesis 1B)*. When both husbands and wives use FWAs, the time availability of both spouses increases compared with couples where no one uses FWAs. And we can still expect that husbands will participate more in household labor (although to a lesser extent than husbands using FWAs alone), which could in turn reduce their wives' burden in household labor. Thus, we hypothesize that *among heterosexual couples, when both wives and husbands use FWAs, wives' relative domestic burden will significantly decrease, and husbands' relative domestic burden will significantly increase (Hypothesis 1C)*.

On the other hand, work–family border theory casts doubt on the equal and undifferentiated impacts of FWAs on household labor across genders (Clark 2000). Although using FWAs can make the work–family borders (be they physical, temporal, or psychological) become flexible and permeable, the border permeability between work and family domains and its directions may not

be symmetrical across genders. Instead, it often involves the expansion of one domain and the contraction of the other, depending on which domain men and women identify the most or the degree of priority they put on each domain in their lives (Chung and van der Lippe 2020; Clark 2000). In the UK, the widely prevalent traditional gender role norm suggests that *ceteris paribus*, men are more likely to gain their social identity and approval from work, whereas women are more likely to gain social approval and identity from participation in family roles (McMunn et al. 2020; Wang 2019; Wang and Lu 2023). This suggests that women who mainly derive their identity from the family domain tend to use FWAs to do more housework and childcare, leading to the border permeability from family to work, whereas men who prioritize the work domain tend to use FWAs to do more work, leading to the border permeability from work to family. As will be discussed later, this may be particularly the case for RHAs and TWAs. As many reduced-hours employees spend their nonwork at home, both RHAs and TWAs are likely to blur all physical, temporal, and psychological borders between work and family domains, leading to stronger family-to-work permeability and heavier domestic burden for wives (Kossek and Lambert 2005).

Integrating the unequal and gendered work–family permeability (as predicted by work–family border theory) and the cross-over effects of spouses’ FWAs on each other’s domestic labor (as suggested by the linked lives perspective), we make the following empirical predictions for different combinations of couples’ use of FWAs. When only husbands use FWAs, they tend to use the spare time for performance-enhancing purposes or working more hours (work-to-family permeability; Lott and Chung 2016), leaving their (or their wives’) relative household labor contributions unchanged. Thus, we expect that *among heterosexual couples, when husbands use FWAs alone, wives’ or husbands’ relative domestic burden will not change (Hypothesis 2A)*. In contrast, wives’ use of FWAs will significantly increase their relative domestic burden (or reduce their husbands’ relative domestic burden) regardless of whether their husbands use FWAs (family-to-work permeability). Thus, we hypothesize that *among heterosexual couples, when wives use FWAs alone, wives’ relative domestic burden will significantly increase, and husbands’ relative domestic burden will significantly decrease (Hypothesis 2B); and when both wives and husbands use FWAs, wives’ relative domestic burden will significantly increase, and husbands’ relative domestic burden will significantly decrease (Hypothesis 2C)*.

## Different Types of Household Labor

This section draws on the perspectives of time availability and doing gender to provide theoretical accounts of how different combinations of couples’ use of FWAs may affect the gender division of routine and nonroutine housework as well as childcare. From the time availability perspective (Coverman 1985), work demands constrain one’s time available for housework, and the use of FWAs may reduce these time constraints. As routine housework tasks are less time-flexible, we would expect an increase in time availability through FWAs to have stronger impacts on more routine tasks than less routine tasks. However, as men and women often “do gender” (West and Zimmerman 1987) by performing gender-typical housework chores, how flexible working affects the gender division of routine and nonroutine housework may depend on which spouse uses FWAs.

Previous research has consistently shown a gender divide in routine and nonroutine tasks, which contributes to the gender inequality in total housework hours (Carlson, Miller, and Sassler 2018; Noonan 2001; Starrels 1994). Women traditionally perform more tasks inside the home, such as cooking, cleaning, and washing (often referred to as “female-typed” housework), which are less flexible, more routine, and typically performed daily and at specific times. In contrast, men traditionally perform more tasks outside the home, such as gardening and household repairs (often termed as “male-typed” housework), which are less routine and performed infrequently and over the weekends.

The gender divide in specific housework tasks is a way of “doing gender” (West and Zimmerman 1987). Gender is produced and reproduced through the symbolic enactment of gender-appropriate behaviors. Given gender role expectations, women are more likely to feel pressured to do all sorts



of housework, especially routine housework tasks that are gender-normative (Chesley and Flood 2017). In contrast, men are more likely to perform “male-typed” chores such as household repairs because these chores align with the traditional norms of masculinity. However, men are reluctant to do routine tasks such as cooking and cleaning because these tasks are considered “feminine” (Quadlin and Doan 2018; Starrels 1994; Thébaud 2010). Grocery shopping is sometimes considered “female-typed” because women tend to do more (Quadlin and Doan 2018). Yet men regard grocery shopping as more acceptable (Tai and Treas 2013) probably because it is less gender conventional (Carlson, Miller, and Sassler 2018) and less regular (Starrels 1994).

The gendered expectations for housework are highly durable even when there is a change in time availability. Prior research shows that in the United States, even in urban areas where men are unable to contribute to male-typed tasks because of structural constraints, men do not increase their time in female-typed tasks despite their increased time availability (Quadlin and Doan 2018). In Germany, unemployment increases men’s time on male-typed task and women’s time on female-typed tasks (Voßemer and Heyne 2019).

Therefore, the effect of flexible working on housework may differ between routine and nonroutine housework and depend on couples’ respective FWAs. When husbands use FWAs alone, wives’ relative housework responsibilities overall will not change much because men are more likely to use the spare time for work-related purposes, given work-to-family permeability as discussed above (Lott and Chung 2016). However, husbands’ use of FWAs is likely to decrease wives’ relative responsibilities in less routine and less gender conventional housework tasks, such as grocery shopping, and in traditionally male-typed tasks, such as gardening and household repairs. Therefore, we hypothesize that *when husbands use FWAs alone, though wives’ or husbands’ relative housework responsibilities will not change overall, wives’ relative housework responsibilities in less routine housework tasks (e.g., shopping, gardening, household repairs) will decrease, and husbands’ relative responsibilities in these tasks will increase (Hypothesis 3A).*

When wives use FWAs alone, their relative housework responsibilities are likely to increase regardless of housework type because women are more likely to feel the pressure to do all sorts of housework when they have high time availability, consistent with gendered expectations (Chesley and Flood 2017). But the effect of wives’ FWAs may be stronger for more routine tasks, such as cooking, cleaning, and washing, because these tasks are less flexible and more traditionally feminine. Therefore, we hypothesize that *when wives use FWAs alone, wives’ relative housework responsibilities will increase, and husbands’ relative responsibilities will decrease, especially in more routine housework tasks (e.g., cooking, washing, cleaning; Hypothesis 3B).* Similarly, when both partners use FWAs, the patterns of wives’ relative housework responsibilities in routine and nonroutine tasks are more similar to when wives use FWAs alone than when husbands use FWAs alone, given the greater pressure of women to perform more housework when their time availability increases (Chesley and Flood 2017). Therefore, we hypothesize that *when both wives and husbands use FWAs, wives’ relative housework responsibilities will increase, and husbands’ relative responsibilities will decrease, especially in more routine tasks (e.g., cooking, washing, cleaning; Hypothesis 3C).*

Finally, housework and childcare may be qualitatively different. Parents tend to derive more joy and meaning from childcare than housework (Sullivan 2013). As the norms of fatherhood shift toward increasing expectations of father involvement, recent studies find that fathers using FWAs are likely to do more childcare but not housework (Carlson, Petts, and Pepin 2021; Lyttelton, Zang, and Musick 2022). However, recent research also suggests that the potential increase in fathers’ childcare time with flexible working is unlikely to alter the unequal gender division of childcare (Dunatchik et al. 2021), given the expectation of intensive mothering that reinforces mothers’ primary caregiver role (Gonalons-Pons 2023). The pressure on mothers to be heavily involved in childcare is still much stronger than on fathers, regardless of parents’ respective work status (Chesley and Flood 2017). Thus, considering both increasing expectations for fathers’ childcare participation and the persistent social norm of intensive mothering, we expect that couples’ use of FWAs is unlikely to change or will maintain the existing unequal gender division of childcare (Hilbrecht et al. 2008; Sullivan and Lewis 2001). Therefore, we hypothesize that *the use of FWAs,*

*whether parents use them alone or together, will not change couples' division of labor in childcare (or not reduce mothers' relatively heavy burden in childcare; Hypothesis 3D).*

## Different Types of FWAs

Previous research has categorized FWAs into three types (i.e., RHAs, FTAs, and TWAs) based on their impact on workload flexibility (how much to work), work schedule flexibility (when to work), and workplace flexibility (where to work; Chandola et al. 2019; Li and Wang 2022). These distinct types of FWAs can have varying effects on time availability for household labor and differing potential for blurring the work–family border. It is expected that RHAs and TWAs have a greater potential to extend available time for household responsibilities and are more likely to blur the work–family border, encompassing physical, temporal, and psychological aspects, compared with FTAs.

First, RHAs involve working fewer hours per day or week, increasing employees' time availability for family and household tasks. This extended available time can blur the physical and temporal boundaries between work and family. For example, research shows that employees who have control over their workload not only tend to take breaks and shorter workdays to handle family errands, attend school events, or engage in caregiving duties but also address unfinished work tasks at home (Fagnani and Letablier 2004; Thornthwaite 2004). RHAs can also blur the temporal and psychological work–family borders by fostering a sense of psychological integration between work and family roles. With fewer work hours, individuals may experience a reduced sense of separation between their work and family identities and may mentally shift between work and family tasks, using work time to address family matters or dedicating family time to work-related tasks (Fagnani and Letablier 2004; Thornthwaite 2004).

Similarly, TWAs can also increase employees' time availability for household responsibilities by enabling them to work remotely and saving the time for daily commuting (Hilbrecht et al. 2008). By eliminating the physical distance between the workplace and home, TWAs can blur not only the physical boundary between work and family but also the temporal and psychological work–family borders (Sullivan and Lewis 2001). Individuals working from home may attend to family needs while managing work responsibilities, which can lead to greater work–family integration (Chung and van der Horst 2018), as well as a reduced psychological distinction between work and family (Sullivan and Lewis 2001).

In contrast, FTAs allow workers to maintain their work hours while meeting family demands by adjusting work schedules around family schedules without changing the number of working hours and workplace (Chung and van der Horst 2018). While FTAs allow workers to have more control over their work schedules, the physical, temporal, and psychological work–family borders may remain more distinct compared with RHAs and TWAs because the total working time and physical workplace remain generally unchanged (Chung and van der Horst 2018; Chung and van der Lippe 2020). Thus, FTAs may not increase time availability for household labor. Given the above discussions, we expect that *whether couples' respective use of FWAs exacerbates or equalizes within-couple division of household labor, the patterns will be more pronounced for RHAs and TWAs than for FTAs (Hypothesis 4A)*. Furthermore, given the gendered nature of different types of household labor discussed previously, we expect that *while husbands' use of RHAs and TWAs primarily affects the division of less routine tasks, wives' use of these arrangements has more pronounced effects on the division of more routine tasks (Hypothesis 4B)*.

## Methods

### Data and Sample

The data used in this research come from the second (2010–2012), fourth (2012–2014), sixth (2014–2016), eighth (2016–2018), and tenth (2018–2020) waves of Understanding Society: The United Kingdom Household Longitudinal Study (UKHLS) because these waves of UKHLS contain consistent measures of FWAs. UKHLS included a clustered and stratified sample of around



50,000 individuals from around 30,000 households in the first wave and reinterviewed the same household each subsequent year. The average response rate is around 60%. The statistical analyses adjust for longitudinal weight to address unequal response rates. This study used fixed effects (FE) models to examine how changes in couples' FWAs affect changes in within-couple housework and childcare inequalities. Therefore, our analytic sample consisted of intact couples who were continuously employed and married/cohabited over at least two waves. To construct our analytic sample, we first restricted the sample to heterosexual couples who were either married or cohabited, aged 18–65, and employed. Next, self-employed respondents were excluded because they are often a highly self-selected employed group who seek work–life balance. Finally, after excluding a small number of cases with missing values (around 5%), the final sample consisted of 7825 heterosexual couples and 18,274 couple-wave observations.

## Measures

This study used several dependent variables to measure gendered housework division within heterosexual couples. Housework hours were measured by the number of hours spent on housework in an average week<sup>1</sup>. In the previous literature, there are three ways to measure gender inequality in housework hours within couples, including housework hour difference (wife – husband), housework hour ratio (wife/husband), and housework hour share (wife/total; [Hu and Mu 2021](#))<sup>2</sup>. Whereas housework hour difference illustrates absolute differences, housework hour ratio and housework hour share emphasize relative differences<sup>3</sup>. As all three measures yield similar results, we focus on housework hour difference in the main analyses and present results for the other two in the Appendix (see [table A4](#)). To measure gender inequality in more specific housework tasks within couples, the survey asked a series of questions about the division of labor in six housework tasks (i.e., grocery shopping, cooking, cleaning, washing, gardening, and the DIY jobs) to both partners of a couple. This study used wives' responses in the main analyses and husbands' responses in the robustness check ([table A5](#) in the Appendix), and both results were consistent. Specifically, each housework task may be “completed mostly by the wife,” “equally shared or completed by others,” or “completed mostly by the husband.” In multivariate statistical models, we followed previous research ([Chung et al. 2021](#)) and collapsed “equally shared or completed by others” and “completed mostly by the husband” for tasks traditionally mostly done by women, such as grocery shopping, cooking, cleaning, and washing, to examine whether these tasks were mostly completed by wives. We collapsed “equally shared or completed by others” and “completed mostly by the wife” for tasks traditionally mostly done by men, such as gardening and the do-it-yourself household repairs (DIY) jobs, to examine whether these tasks were mostly completed by husbands. For couples with children, we further examined the gender division of childcare, measured by whether wives were mainly responsible for looking after the children.

Our key independent variable is the use of FWAs within couples: “neither uses FWAs,” “only the husband uses FWAs,” “only the wife uses FWAs,” and “both use FWAs.” We defined the use of FWAs by whether one currently works on any of the following seven arrangements, including part-time working, working term-time only, job sharing, flexi-time, working a compressed week, working annualized hours, and working from home. To examine how the effect of flexible working on household division of labor varies by the type of FWAs, we followed previous research ([Chandola et al. 2019](#)) and distinguished between three types of FWAs: RHAs, FTAs, and TWAs, testing the effects of different combinations of FWAs within couples.

In addition, we controlled for a number of variables that may be associated with housework labor division within couples and the use of FWAs. Specifically, we adjusted for the husband's age, the wife's age, the couple's marital status (including “married” and “cohabited”), whether children are present in the household (including “no child,” “child aged 0–4,” “child aged 5–11,” and “child aged 11–15”), and the couple's number of children. To account for differential access to FWAs by occupation, we also adjusted for wives' and husbands' respective occupations (including “professional” and “nonprofessional”). Furthermore, to take into account household economic status and economic bargaining power within couples, we controlled for logged household income

and personal income ratio (husband/wife). Finally, to adjust for the period effects, we also included wave dummies. For more details about the distribution of each variable, see [table A1](#) in the Appendix.

## Analytic Strategy

This study used two-way FE models to examine the relationships between the use of FWAs and gender household labor inequality within heterosexual couples. For continuous dependent variables such as housework hour difference, we used linear FE models. For binary dependent variables such as divisions of labor in specific housework tasks or childcare, we used logistic FE models. We started our analyses by estimating the following model.

$$\text{Household labor}_{it} = \alpha_t + \beta_1 \text{FWA}_{it} + \beta_2 \text{Covariates}_{it} + T_t + \mu_i + \varepsilon_{it}$$

where  $\text{Household labor}_{it}$  refers to gender household labor inequality for heterosexual couple  $i$  at time point  $t$ ,  $\alpha_t$  refers to the intercept that may vary across time,  $\beta_1$  is the coefficient for the key independent variable, i.e., the use of FWAs,  $\beta_2$  is the coefficient for covariates,  $T_t$  refers to the effect of time,  $\mu_i$  refers to the time-constant error term which will be excluded during the estimation, and  $\varepsilon_{it}$  refers to the time-varying error term. To ensure the unbiased estimations, the explanatory variables are assumed to be independent of error terms related to time-constant ( $\mu_i$ ) and time-varying characteristics ( $\varepsilon_{it}$ ). As the default method for panel data analysis, the FE models can effectively eliminate the confounding biases from all time-constant variables (e.g., gender, ethnicity, family backgrounds) by focusing only on the within-individual variations and can also enable us to minimize biases from time-varying characteristics by controlling for relevant time-varying variables (as discussed in the Measures section; Allison 2009). In contrast, the estimations of random effects or multilevel models incorporate both within- and between-individual variations and thus are likely to suffer confounding biases from both unobserved time-constant and time-varying characteristics.

Regarding the analytic procedures, we first report descriptive statistics for different couple groups by whether either or both partners use FWAs. Next, we report FE analysis results for housework hour difference and specific household labor tasks. Finally, we conduct a series of robustness checks such as using alternative measures of household labor.

## Results

### Descriptive Statistics

[Table 1](#) shows the descriptive statistics for the gender division of household labor by the use of FWAs. First, there was clear within-couple gender inequality in housework hours, with women doing 4–8 hours more housework per week than their husbands. The disparity was more pronounced when women used FWAs either alone or with their husbands. Second, for traditionally “female-typed” housework tasks (e.g., shopping, cooking, cleaning, and washing), among 43–71% of couples, it was mostly the wife who completed these tasks. Among less than 20% of couples, these tasks were done mainly by the husband. This pattern was also more pronounced when wives used FWAs. Third, for traditionally “male-typed” tasks (e.g., gardening and DIY), the husband was primarily responsible for these tasks among 40–67% of couples. In contrast, the wife mostly did these tasks among less than 20% of couples. This pattern was slightly more evident when husbands did not use FWAs. Finally, childcare also appeared to be mainly the wife’s responsibility. Around 35–54% of couples had mostly the wife doing the childcare, compared with less than 5% of couples where it was mainly the husband. The gender inequality in childcare was more pronounced when women used FWAs. All ANOVA and chi-squared tests were statistically significant ( $p < 0.001$ ), highlighting the divergent distributions of within-couple household labor division across different flexible working statuses.

**Table 1.** Gender Inequalities in Couples' Housework Hours and Task Divisions by Couples' FWAs

	Couple's FWAs				F/ $\chi^2$ tests p-value
	Neither uses FWAs	Only husband uses FWAs	Only wife uses FWAs	Both use FWAs	
Housework diff (wife – husband), M (SD)	5.05 (8.57)	4.01 (8.26)	7.69 (9.59)	6.44 (9.47)	$p < 0.001$
Housework ratio (wife/husband), M (SD)	3.03 (4.13)	2.49 (3.06)	3.92 (5.00)	3.18 (3.94)	$p < 0.001$
Housework share (wife/total), M (SD)	0.66 (0.19)	0.64 (0.19)	0.71 (0.19)	0.68 (0.19)	$p < 0.001$
Who mostly does the grocery shopping (%)					$p < 0.001$
Wife	46.11	42.75	55.92	53.40	
Shared or others	40.64	43.41	32.71	33.50	
Husband	13.25	13.84	11.37	13.10	
Who mostly does the cooking (%)					$p < 0.001$
Wife	52.01	47.86	60.00	57.14	
Shared or others	30.68	33.74	27.64	29.13	
Husband	17.30	18.40	12.36	13.73	
Who mostly does the cleaning (%)					$p < 0.001$
Wife	51.87	49.36	63.19	57.59	
Shared or others	39.23	41.58	31.19	35.59	
Husband	8.90	9.06	5.63	6.82	
Who mostly does the washing/ironing (%)					$p < 0.001$
Wife	60.85	58.03	70.61	64.61	
Shared or others	32.21	34.69	24.91	28.98	
Husband	6.93	7.28	4.48	6.41	
Who mostly does the gardening (%)					$p < 0.001$
Wife	17.29	18.51	20.28	19.95	
Shared or others	40.12	41.53	36.13	40.55	
Husband	42.59	39.97	43.59	39.50	
Who mostly does the DIY jobs (%)					$p < 0.001$
Wife	8.96	10.76	9.26	7.94	
Shared or others	25.41	26.64	23.48	26.07	
Husband	65.63	62.60	67.26	65.99	
Who mostly does the childcare (%)					$p < 0.001$
Wife	40.90	35.43	54.37	48.78	
Shared or others	55.99	60.43	43.78	48.46	
Husband	3.11	4.14	1.85	2.76	

**Note:** M = means, % = column percentages, SD = standard deviations. Column percentages may not add up to 100 because of rounding. **Source:** UK Household Longitudinal Study (UKHLS 2010–2020).  $N = 18,274$  couple-wave observations (7825 couples).

In addition, [table A1](#) in the Appendix reports the descriptive statistics for each analytic variable. Of particular interest is the use of FWAs within couples where, among 30.15% of couples, neither the wife nor the husband used any FWAs; among 9.88% of couples, only the husband used FWAs; among 39.11% of couples, only the wife used FWAs; among 20.87% of couples, both spouses used FWAs. [Table A2](#) in the Appendix further reports couples' use of different types of FWAs and how the distributions changed between 2010 and 2020. Overall, it was more common for the wife to use any type of FWAs alone than for both spouses or only the husband to use it. This pattern was particularly evident in the case of RHAs: about 30% of couples had only the wife using RHAs, compared with around 2% of couples where only the husband used RHAs and 4% of couples where both spouses used RHAs. While RHAs were the most prevalent type of FWAs used by wives, husbands were more likely to use FTAs than other types of FWAs. In addition, the proportion of couples where both partners used FWAs increased over time (from 20% to 24%), whereas the proportion of couples where neither partner used FWAs declined (from 32% to 26%). The pattern was generally consistent across different types of FWAs.

**Table 2.** Two-Way FE Models Examining the Effects of FWAs on Housework Inequalities Within Heterosexual Couples

	Couples' FWAs (Ref. = neither uses FWAs)			
	Only husband uses FWAs	Only wife uses FWAs	Both use FWAs	
<b>Panel A: Inequalities in total housework hours (Coefficients)</b>				
Model 1: Housework hour difference (wife – husband)	–0.05 (0.27)	0.98*** (0.19)	0.86*** (0.23)	N = 18,274 couple-wave obs. (7825 couples). Within R <sup>2</sup> = 0.03, AIC = 109,565, BIC = 109,705.
<b>Panel B: Inequalities in specific housework and childcare responsibilities (OR)</b>				
Model 2: Shopping (mostly wife, or not)	0.72* (0.09)	1.18* (0.11)	1.13 (0.12)	N = 5204 couple-wave obs. (1531 couples). AIC = 3678, BIC = 3789.
Model 3: Cooking (mostly wife, or not)	0.90 (0.12)	1.28* (0.12)	1.35* (0.16)	N = 4556 couple-wave obs. (1332 couples). AIC = 3374, BIC = 3483.
Model 4: Cleaning (mostly wife, or not)	0.82 (0.11)	1.28* (0.11)	1.04 (0.11)	N = 5763 couple-wave obs. (1666 couples). AIC = 4217, BIC = 4372.
Model 5: Washing (mostly wife, or not)	1.17 (0.15)	1.41*** (0.13)	1.24* (0.14)	N = 5209 couple-wave obs. (1525 couples). AIC = 3760, BIC = 3872.
Model 6: Gardening (mostly husband, or not)	1.02 (0.13)	1.15 (0.10)	0.99 (0.11)	N = 5278 couple-wave obs. (1504 couples). AIC = 3930, BIC = 4042.
Model 7: DIY (mostly husband, or not)	0.84 (0.10)	0.83* (0.07)	0.83 <sup>†</sup> (0.09)	N = 5361 couple-wave obs. (1564 couples). AIC = 3953, BIC = 4065.
Model 8: Childcare (mostly wife, or not)	0.86 (0.17)	1.05 (0.13)	1.04 (0.16)	N = 3283 couple-wave obs. (1015 couples). AIC = 2302, BIC = 2399.

**Note:** Standard errors in parentheses. Models 1 reports coefficients, and Models 2–8 report OR. All models control for wives' age, husbands' age, marital status, presence of children in the household, number of children, logged household income, couple income ratio, husband's occupation, wife's occupation, and wave dummies. AIC = Akaike Information Criterion, BIC = Bayesian Information Criterion. <sup>†</sup> $p < 0.10$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . **Source:** UK Household Longitudinal Study (UKHLS 2010–2020).

## FE Models

Table 2 reports the results from the FE models on the relationships between the use of FWAs and household labor inequality within heterosexual couples. In Panel A, Model 1 shows that compared with couples where neither spouse used FWAs, the differences between wives' and husbands' housework hours were significantly higher ( $p < 0.001$ ) when wives used FWAs either alone (effect size = 0.98) or together with husbands (effect size = 0.86). Couples where only wives used FWAs did not significantly differ from those where both partners used FWAs. In other words, when used by wives alone or by both partners, flexible working increased wives' housework burden by about one hour relative to their husbands. Husbands' use of FWAs alone, however, did not significantly change the gender inequality in housework hours (effect size = –0.05). Further analyses comparing the coefficients show that among couples where wives used FWAs alone or together with husbands, wives' housework burden significantly increased even compared with couples where only husbands used FWAs (effect sizes = 0.91–1.03,  $p < 0.01$  or 0.001). Overall, these results lend support to Hypotheses 2A–2C.

Panel B reports the results of logistic FE models (Models 2–8) for specific housework tasks and childcare. The total number of observations varied in Models 2–8 because logistic FE models excluded those with no change in the outcome over time. Specifically, Models 2–5 report the odds ratios (OR) for the “female-typed” tasks (shopping, cooking, cleaning, and washing). The results show that among couples where only wives used FWAs, the odds of wives being primarily responsible for all these tasks were significantly higher compared with couples where no one used FWAs (OR = 1.18–1.41,  $p < 0.05$  or 0.001). Even when both wives and husbands used FWAs, wives’ burden in washing and cooking significantly increased (OR = 1.24–1.35,  $p < 0.05$ ). Further analyses show that among couples where wives used FWAs alone or together with husbands, the odds of wives assuming the main responsibilities of shopping, cooking, and cleaning were significantly higher even compared with couples where only husbands used FWAs (OR = 1.41–1.61,  $p < 0.05$  or 0.001). These results are generally consistent with Hypotheses 3B and 3C. In contrast, when husbands used FWAs alone, the odds of their wives being primarily responsible for shopping decreased (OR = 0.72,  $p < 0.05$ ), which partially supports Hypothesis 3A. However, wives’ heavy burden in other routine tasks, including cooking, cleaning, and washing, remained unchanged when husbands used FWAs alone.

Next, Models 6 and 7 report the results for the nonroutine, traditionally “male-typed” housework tasks such as gardening and DIY for each combination of couples’ FWAs relative to when neither partner used FWAs. For gardening, the use of FWAs within couples did not alter the existing gender labor division in this task. For DIY, wives’ use of FWAs significantly reduced the odds of husbands’ responsibility in this task (OR = 0.83,  $p < 0.05$  or 0.1). These results do not support Hypothesis 3A. Finally, Model 8 shows that couples’ use of FWAs did not change wives’ heavy burden of childcare compared with couples not using FWAs, lending support to Hypothesis 3D. In addition to the effects of FWAs, some control variables also had consistent effects on the gender division of domestic labor (shown in table A3). Specifically, the presence of children in the household (especially young children aged 0–4) and women’s lower personal income relative to their husbands significantly increased wives’ burden in housework hours and a range of household labor tasks. Taken together, the results in table 2 suggest that wives’ use of FWAs intensified or maintained (rather than reduced) wives’ domestic burden not only in routine tasks but also in a nonroutine task, i.e., DIY.

Next, in table 3, we replicated the main models while distinguishing three types of FWAs (i.e., RHAs, FTAs, and TWAs) and their combinations to examine whether the results varied by the type of flexible working. Crossing three types of FWAs and two gender groups, we have yielded nine possible combinations of FWAs use within couples, as shown in Panels A–I in table 3. Overall, in line with Hypothesis 4A, our key findings from the main analyses primarily applied to RHAs and TWAs. Specifically, when wives used these flexible arrangements (especially alone), their domestic burden significantly increased not only in the overall housework hours but also in some traditionally “female-typed” housework tasks such as cooking, cleaning, and washing. This pattern was generally consistent with the main results, regardless of the types of FWAs used by husbands. In addition, consistent with the main analyses, husbands’ use of RHAs and TWAs significantly reduced their wives’ burden in shopping, but not in other routine housework tasks, which lends partial support to Hypothesis 4B. In contrast, when wives used FTAs, their housework burden increased in washing, but not in other tasks. Their use of FTAs also reduced husbands’ responsibility in DIY, probably because such household repair jobs can be more flexibly scheduled than other routine tasks. Together, these results in table 3 suggest that the effects of FWAs on within-couple division of labor varied depending on the specific type of arrangements used.

## Robustness Checks

To ensure the validity of the results, we further conducted a number of robustness checks shown in the Appendix. First, table A4 replicated the main models using alternative measures of housework hour divisions. Models 1–2 used the housework hour ratio and housework hour share as measures of relative housework hour inequality. Consistent with the main results on

**Table 3.** Two-Way FE Models Distinguishing Different Types of FWAs: RHAs, FTAs, and TWAs

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Housework hour difference	Mostly wife does shopping	Mostly wife does shopping	Mostly wife does cooking	Mostly wife does cleaning	Mostly wife does washing	Mostly husband does gardening	Mostly husband does DIY	Mostly wife does childcare
Coef.	OR	OR	OR	OR	OR	OR	OR	OR
<b>Panel A. Couples' use of RHAs</b>								
Couples' FWAs (Ref. = neither uses any FWAs)								
Only husband uses RHAs	0.53* (0.15)	0.78 (0.22)	0.81 (0.21)	1.26 (0.34)	0.70 (0.19)	0.83 (0.24)	0.54 (0.26)	
Only wife uses RHAs	1.19*** (0.26)	1.36* (0.17)	1.37** (0.15)	1.37** (0.17)	1.04 (0.15)	0.90 (0.11)	1.10 (0.16)	
Both use RHAs	0.03 (0.53)	0.99 (0.24)	1.21 (0.29)	1.09 (0.24)	0.86 (0.21)	1.06 (0.24)	0.64† (0.15)	0.80 (0.27)
<b>Panel B. Wife's use of RHAs, husband's use of FTAs</b>								
Couples' FWAs (Ref. = neither uses any FWAs)								
Only husband uses FTAs	0.89 (0.36)	0.90 (0.15)	0.96 (0.15)	1.20 (0.20)	1.06 (0.12)	0.74† (0.12)	1.01 (0.26)	
Only wife uses RHAs	1.17*** (0.24)	1.19 (0.13)	1.23† (0.15)	1.44*** (0.16)	1.44** (0.17)	0.87 (0.10)	1.19 (0.16)	
Wife uses RHAs, husband uses FTAs	1.36*** (0.35)	1.21 (0.21)	1.40† (0.25)	1.23 (0.19)	1.19 (0.21)	0.92 (0.15)	1.15 (0.22)	
<b>Panel C. Wife's use of RHAs, husband's use of TWAs</b>								
Couples' FWAs (Ref. = neither uses any FWAs)								
Only husband uses TWAs	0.61* (0.45)	0.99 (0.22)	0.59* (0.12)	0.85 (0.17)	1.07 (0.23)	0.64* (0.13)	0.56† (0.18)	
Only wife uses RHAs	1.03*** (0.25)	1.13 (0.13)	1.31* (0.16)	1.38** (0.15)	1.49*** (0.18)	0.89 (0.10)	1.11 (0.16)	
Wife uses RHAs, husband uses TWAs	1.08** (0.40)	1.29 (0.27)	1.62* (0.34)	1.26 (0.24)	1.37 (0.26)	0.90 (0.17)	1.17 (0.25)	
<b>Panel D. Wife's use of FTAs, husband's use of RHAs</b>								
Couples' FWAs (Ref. = neither uses any FWAs)								
Only husband uses RHAs	0.51* (0.58)	0.76 (0.23)	0.72 (0.22)	1.19 (0.37)	0.52* (0.16)	0.73 (0.24)	0.27† (0.18)	
Only wife uses FTAs	0.64† (0.35)	1.21 (0.24)	1.01 (0.20)	1.11 (0.19)	1.22 (0.22)	0.65* (0.12)	0.71 (0.21)	

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Table 3. Continued

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Housework hour difference		Mostly wife does shopping	Mostly wife does cooking	Mostly wife does cleaning	Mostly wife does washing	Mostly husband does gardening	Mostly husband does DIY	Mostly wife does childcare
Coef.	OR	OR	OR	OR	OR	OR	OR	OR
Wife uses FTAs, husband uses RHAs	-1.45 (0.88)	0.75 (0.35)	1.24 (0.58)	0.57 (0.24)	0.86 (0.41)	2.61† (1.28)	1.46 (0.70)	0.28 (0.24)
<b>Panel E. Couples' use of FTAs</b>								
Couples' FWAs (Ref. = neither uses any FWAs)								
Only husband uses FTAs	0.15 (0.35)	0.77 (0.15)	0.72† (0.14)	1.12 (0.20)	1.17 (0.22)	1.00 (0.19)	0.86 (0.15)	1.02 (0.33)
Only wife uses FTAs	0.51 (0.32)	1.15 (0.21)	1.05 (0.19)	1.04 (0.17)	1.35† (0.24)	1.47* (0.26)	0.68* (0.11)	0.96 (0.25)
Both uses FTAs	0.71 (0.43)	0.87 (0.21)	1.41 (0.35)	0.91 (0.21)	1.84** (0.43)	0.81 (0.18)	0.68† (0.15)	1.44 (0.53)
<b>Panel F. Wife's use of FTAs, husband's use of TWAs</b>								
Couples' FWAs (Ref. = neither uses any FWAs)								
Only husband uses TWAs	-0.20 (0.43)	0.58* (0.14)	0.73 (0.19)	0.71 (0.17)	1.01 (0.23)	0.98 (0.24)	0.77 (0.18)	0.71 (0.30)
Only wife uses FTAs	0.54 (0.33)	1.09 (0.21)	1.08 (0.21)	0.97 (0.16)	1.20 (0.21)	1.35† (0.25)	0.70* (0.12)	0.77 (0.21)
Wife uses FTAs, husband uses TWAs	0.23 (0.53)	0.98 (0.30)	1.49 (0.50)	0.49* (0.16)	1.56 (0.44)	1.18 (0.33)	0.95 (0.29)	0.96 (0.45)
<b>Panel G. Wife's use of TWAs, husband's use of RHAs</b>								
Couples' FWAs (Ref. = neither uses any FWAs)								
Only husband uses RHAs	-0.17 (0.60)	0.56† (0.19)	0.93 (0.31)	0.90 (0.30)	1.33 (0.44)	0.46* (0.15)	0.87 (0.30)	0.28† (0.19)
Only wife uses TWAs	1.60*** (0.41)	1.27 (0.29)	1.48 (0.37)	1.62* (0.33)	1.49* (0.30)	1.08 (0.22)	0.67† (0.14)	0.63 (0.23)

(Continued)

Table 3. Continued

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Housework hour difference	Mostly wife does shopping	Mostly wife does shopping	Mostly wife does cooking	Mostly wife does cleaning	Mostly wife does washing	Mostly husband does gardening	Mostly husband does DIY	Mostly wife does childcare
Coef.	OR	OR	OR	OR	OR	OR	OR	OR
Wife uses TWAs, husband uses RHAs	-0.45 (1.05)	0.83 (0.46)	1.05 (0.60)	1.10 (0.61)	0.58 (0.38)	0.58 (0.34)	1.55 (0.97)	0.12† (0.14)
<b>Panel H. Wife's use of TWAs, husband's use of FTAs</b>								
Couples' FWAs (Ref. = neither uses any FWAs)								
Only husband uses FTAs	0.28 (0.36)	0.91 (0.19)	0.83 (0.17)	1.13 (0.21)	1.35 (0.26)	0.92 (0.18)	0.75 (0.14)	1.40 (0.49)
Only wife uses TWAs	1.53*** (0.38)	1.36 (0.29)	1.46 (0.34)	1.62* (0.31)	1.71** (0.33)	1.08 (0.22)	0.69† (0.14)	0.77 (0.26)
Wife uses TWAs, husband uses FTAs	0.92† (0.56)	2.22* (0.80)	2.11* (0.77)	1.78† (0.55)	1.72† (0.50)	0.80 (0.24)	0.72 (0.23)	0.75 (0.36)
<b>Panel I. Couples' use of TWAs</b>								
Couples' FWAs (Ref. = neither uses any FWAs)								
Only husband uses TWAs	-0.10 (0.44)	0.59* (0.14)	0.82 (0.21)	0.66† (0.16)	1.06 (0.24)	1.07 (0.26)	0.77 (0.18)	0.67 (0.28)
Only wife uses TWAs	1.64*** (0.38)	1.40 (0.30)	1.48 (0.35)	1.55* (0.30)	1.65** (0.32)	1.06 (0.21)	0.69† (0.14)	0.73 (0.24)
Both use TWAs	1.23* (0.58)	1.62 (0.57)	1.64 (0.60)	1.16 (0.38)	1.38 (0.41)	0.72 (0.23)	0.87 (0.30)	0.52 (0.26)

**Note:** Standard errors in parentheses. Model 1 reports coefficients, and Models 2-8 report OR. All models control for wives' age, husbands' age, marital status, presence of children in the household, number of children, logged household income, couple income ratio, husband's occupation, wife's occupation, and wave dummies. †p < 0.10, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001. **Source:** UK Household Longitudinal Study (UKHLS 2010-2020). N = 18,274 couple-wave observations (7825 couples).

housework hour difference, both models show that among couples where wives used FWAs, wives' housework burden, in terms of ratio or share, significantly increased compared with couples where no one used FWAs. In contrast, husbands' use of FWAs did not change wives' heavy housework burden. Models 3–4 examined housework hours for wives and husbands, respectively. Model 3 again shows that wives' housework hours significantly increased with their use of FWAs but did not vary with their husbands' use of FWAs. In comparison, Model 4 shows that husbands' housework hours generally did not change, regardless of how couples used FWAs.

Second, [table A5](#) replicated the analyses of specific housework and childcare tasks using husbands' reports. The patterns were generally consistent with the results based on wives' reports. Specifically, wives' use of FWAs increased their housework burden in routine or "female-typed" tasks such as shopping, cooking, cleaning, and washing, but not in other housework tasks and childcare. In contrast, husbands' use of FWAs decreased their wives' burden not only in shopping but also in cooking (which slightly differed from the main analyses based on wives' reports).

Third, the results may be influenced by labor market selection because of the availability of FWAs. For example, if employees do not have access to FWAs, they might choose to exit the labor market, and thus our sample may consist of a selected group with certain work–family preferences. Thus, [table A6](#) replicated the main models while controlling for husbands' and wives' availability of FWAs at T–1 (see [table A6](#)). This robustness check only focuses on the continuous outcome variable (i.e., housework hour difference) because including lagged variables will further significantly reduce sample sizes for binary outcome variables, leading to insufficient statistical power. Overall, the results show that after controlling for lagged husbands' and wives' availability of FWAs, the results remain generally unchanged, suggesting that our conclusions are robust to labor market selection because of the availability of FWAs.

## Discussion and Conclusions

The rise of FWAs in recent years has stimulated much debate over whether flexible working may be an "opportunity" for a more egalitarian division of household labor or reinforce the "exploitation" of women in the traditional gender division of labor. Using longitudinal couple-level dyadic data, this study contributes to the previous literature by providing a linked-lives perspective to examine how couples' respective use of FWAs affects within-couple inequalities in various types of household labor and how the patterns vary across different types of FWAs. Overall, there are four important findings.

First, we find that among heterosexual couples, women's use of FWAs significantly increases their housework burden regardless of whether their husbands use FWAs. This finding is consistent with the predictions of work–family border theory that the direction of work–family border permeability as a result of using FWAs may not be symmetrical, depending on which domain an individual identifies the most ([Chung and van der Lippe 2020](#); [Clark 2000](#)). Given the traditional gender norms in the UK, women derive their identity more from the family domain than the work domain and thus tend to use FWAs to do more household labor, leading to the border permeability from family to work. Importantly, this pattern holds regardless of whether their partners use FWAs. Even when both partners use FWAs, the traditional gender division of labor remains unchanged or could even be exacerbated. Overall, rather than providing an "opportunity" for a more egalitarian division of housework, the use of FWAs exacerbates the "exploitation" of women with their already heavy domestic burden, reflecting the entrenched traditional gender norms in shaping work–family border permeability.

Second, even when only men among heterosexual couples use FWAs, their contribution to housework hours remains largely unchanged. This result is generally consistent with the predictions of the work–family border theory. Specifically, as men prioritize the work domain over the family domain, using FWAs leads to the border permeability from work to family. That is, men tend to spend the sparse time saved from FWAs to engage in more work-related activities or work

longer hours rather than doing more housework (Lott and Chung 2016). This result stands in contrast with some previous findings, which show that FWAs can promote men's participation in more housework activities (Chung et al. 2021). Instead, our study used longitudinal couple-level dyadic data and FE models to show how different configurations of FWAs within couples may affect gender inequality in housework. Our evidence suggests that the use of FWAs among heterosexual couples reinforces rather than reduces the unequal gender division of housework by encouraging women to do more housework while not changing men's housework contribution. Another possible contributing factor is that husbands are more likely to use FTAs than other types of FWAs (see table A2). Given that FTAs are expected to increase time availability and work-family integration to a smaller extent than other types of FWAs, as discussed in the theoretical background, the type of FWAs used by husbands may also explain why overall FWAs cannot increase husbands' share of household labor.

Third, our results further provide new insights into how the impacts of FWAs depend on the types of household labor. Specifically, we find that wives' increased domestic burden as a result of using FWAs mainly applies to routine housework tasks (e.g., cooking, washing, and cleaning). This may reflect not only the high demands of routine housework for time availability and flexibility but also the existing gender norm expecting women to perform routine, traditionally "female-typed" housework chores (Noonan 2001). Moreover, when wives use FWAs alone, they can also significantly reduce their husbands' burden on DIY duties, suggesting that the burden imposed by FWAs on women is not limited to routine housework chores. Women are more likely to feel pressured to do all sorts of housework when they have high time availability (Chesley and Flood 2017). In contrast, husbands' use of FWAs can only reduce their wives' burden on grocery shopping. Previous research suggests that men regard grocery shopping as more acceptable (Tai and Treas 2013), probably because it is less gender conventional (Carlson, Miller, and Sassler 2018) and less regular (Starrels 1994). Contrary to our expectation, using FWAs does not increase men's responsibilities in nonroutine, traditionally "male-typed" housework tasks, probably because nonroutine chores are more time-flexible and performed less frequently.

We also find that wives' heavy burden of childcare remains generally unchanged regardless of whether they or their husbands use FWAs. Despite increasing expectations of father involvement in childcare, our result echoes recent research that the potential increase in fathers' childcare time with flexible working is unlikely to alter the unequal gender division of childcare (Dunatchik et al. 2021). Given the strong social expectation of intensive mothering, the pressure on mothers to be heavily involved in childcare is still much stronger than on fathers, regardless of parents' respective work status (Chesley and Flood 2017). Thus, the use of FWAs within couples tends to maintain within-couple gender inequalities in childcare (Hilbrecht et al. 2008; Sullivan and Lewis 2001).

Fourth, this study enriches the existing literature by delving into various types of FWAs. Our results reveal important heterogeneities in how different types of FWAs affect gender housework division. Consistent with our expectations, we find that it is RHAs and TWAs (rather than FTAs) that intensify wives' relative domestic burden compared with their husbands/partners. Compared with flexible work schedules, reduced work hours and commuting time can more directly increase the amount of time devoted to the household and increase wives' domestic burden. Furthermore, as both RHAs and TWAs are likely to blur all three types of work-family borders (physical, temporal, and psychological), the use of these arrangements can lead to stronger family-to-work permeability for wives and increase their domestic burden (Kossek and Lambert 2005).

This study has a number of limitations, which could be potential directions for future research. First, although FE models can eliminate confounding effects of time constant and observed time-varying variables, some unobserved time-varying variables (e.g., workplace discrimination, contributions of other family members to the housework) may introduce bias. Second, because of data limitations, this study does not have measures of time spent on each housework task and whether housework is performed on weekdays or weekends. Future research using more comprehensive time use data could profitably explore how the use of FWAs shapes gender

differences in the amount of time spent on housework tasks and when these housework tasks are completed. Third, while this study focuses on the cross-over effects of FWAs among heterosexual couples, future research can further examine whether such cross-over effects hold depending on co-residence with extended family members, employment of domestic helpers, or other household characteristics.

Nevertheless, these limitations cannot overshadow this study's main contributions to our understanding of the impact of FWAs on the gender dynamics in housework division within couples. Overall, we find that the use of FWAs, rather than promoting a more egalitarian division of housework with couples, maintains or further reinforces the women's disadvantaged position in the share of household labor. The persisting traditional gender norms produce gendered ways in which couples strategize their time in work and family domains when using FWAs. Taken together, these findings shed valuable light on the unintended consequences of flexible working on gender inequality within families, highlighting the importance of an ideological shift alongside workplace changes.

## Endnotes

1. The exact question in the survey is: "how many hours do you spend on housework in an average week, such as time spent cooking, cleaning and doing the laundry?". We think that this is a valid measure of average weekly housework hours because routine, female-typed tasks constitute a majority proportion of housework in everyday lives.
2. In calculating the housework hour ratio, we added one hour to each partner's housework hours to avoid zeros in the denominators. When both partners had the same housework hours, the ratio would be 1. When the wife had longer housework hours than the husband, the ratio would be larger than 1.
3. The difference between two relative measures (i.e., ratio and share) is primarily statistical, with the former having a larger range and variance than the latter.

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## Supplementary Material

Supplementary material is available at *Social Forces* online.

## Data Availability

The data underlying this article are available from UK Data Service, at <http://doi.org/10.5255/UKDA-SN-6614-17>.

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