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Switching Roles:

Gender differences in time use and mental health in Ghana

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Switching Roles

Gender differences in time use
and mental health in Ghana

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Abstract
We explore the association between domestic labor and psychological distress among women and men in Ghana. A growing body of literature has recently focused on the relationship between time use and mental health, uncovering a negative association between women's mental health and domestic labor. This work contributes to the literature by i) focusing on the number of activities, rather than the amount of time, ii) including both women and men, while most studies focus only on women. We use the second and third waves of the Ghana Socioeconomic Panel Survey (GSPS). We find that a higher number of domestic activities is associated with a higher psychological distress. For women the effect is driven mainly by care activities, while for men by both domestic and care activities. We posit that the relevant mechanism is the effort required to switch from one activity to another, and from one role to another.

Résumé

Nous explorons l'association entre le travail domestique et la détresse psychologique chez les femmes et les hommes au Ghana. Un nombre croissant de travaux se sont récemment concentrés sur la relation entre l'utilisation du temps et la santé mentale, révélant une association négative entre la santé mentale des femmes et le travail domestique. Cette étude contribue à la littérature en i) se concentrant sur le nombre d'activités, plutôt que sur la quantité de temps, et ii) en incluant à la fois les femmes et les hommes, alors que la plupart des études se concentrent uniquement sur les femmes. Nous utilisons les deuxièmes et troisièmes vagues de l'Enquête Socioéconomique du Ghana (GSPS). Nous constatons qu'un nombre plus élevé d'activités domestiques est associé à une plus grande détresse psychologique. Pour les femmes, cet effet est principalement dû aux activités de soins, tandis que pour les hommes, il résulte à la fois des activités domestiques et de soins. Nous postulons que le mécanisme pertinent est l'effort requis pour passer d'une activité à une autre, et d'un rôle à un autre.

Mots-clés

Utilisation du temps, travail domestique, santé mentale, rôles genrés, Ghana

Introduction

The burden of unpaid domestic work disproportionately affects women on a global scale (Gimenez-Nadal, 2022). Research conducted across various countries and contexts consistently reveals that women tend to spend more time than men on both domestic and economic activities, leading to an unequal distribution of time that hampers women's labor supply, earnings, and labor market participation (Ferrant *et al.*, 2014). A growing body of literature has focused on exploring the relationship between time use and mental health, uncovering a negative association between the unequal division of time and women's mental well-being, with less apparent effects observed among men (Ervin *et al.*, 2022, 2023; Seedat & Rondon, 2021). Recently, increased attention has been paid to the 'mental load': the amount of mental resources that people, especially women, devote to planning and managing household chores and domestic work, in addition to being the ones mainly engaged in it (Daminger, 2019; Dean *et al.*, 2022). This phenomenon aligns with findings that women often experience time constraints, juggling multiple roles and commitments, which in turn contribute to elevated depressive symptoms (Roxburgh, 2004). Working mothers, in particular, face heightened time pressures (Ruppanner *et al.*, 2019).

While the precise mechanisms through which time allocation affects mental health remain relatively underexplored, the main explanations draw upon the "role strain theory" (Ervin *et al.*, 2022). According to this framework, the combination of unpaid domestic work and paid employment intensifies role overload and role conflict, leading to increased stress and diminished mental well-being (Barnett & Baruch, 1985; Hecht, 2001). These hypotheses align with the "scarcity frame theory," which posits that the simultaneous demands of paid and unpaid work generate perceptions of time pressure and stress, thereby negatively impacting mental health and overall well-being (Strazdins *et al.*, 2016). When considering the unequal distribution of unpaid domestic work, coupled with the gendered nature of mental health (where women are twice as likely as men to experience mental disorders due to prevailing gender norms that enforce strict gender roles in society), exploring the association between mental health and time allocation through a gender lens becomes of upmost importance. In low- and middle-income countries, this asso-

ciation risks being even more harmful because women disproportionately bear the burden of unpaid domestic work compared to men, and their living conditions increase the risk of suffering from mental disorders.

In this study, we explore the association between time allocation and psychological distress among women and men in Ghana. We identify three main types of activities under the more general umbrella of unpaid domestic work: household work, and work of care (of children and/or of the elderly and sick), and leisure/recreational activities. We hypothesize that the higher the number of activities individuals engage in, the higher the demand for assuming multiple roles within the day, and this will lead to higher psychological distress.

Building on this hypothesis, and differently from previous studies, rather than focusing only on the time spent in unpaid and paid work, we first examine whether the number of activities individuals engage in during a typical day is associated with their mental distress, and we further the analysis by disentangling the association by type of activity. We then complement the analysis with the time spent on each activity, and we answer the following research questions: 1) does engaging in multiple activities during the day affect women's and men's mental distress? 2) are there differences in the association based on the type of

activities (i.e., domestic, care, and leisure activities)? 3) does the pattern of association differ by gender? and 4) does using the number of activities rather than the number of hours lead to different results?

To answer these questions, we adopt the ISSER-Northwestern-Yale Long Term Ghana Socioeconomic Panel Survey (GSPS), a nationally representative household panel survey which started in 2009/2010 (first wave). As of 2024, two additional waves of data have been collected: wave two in 2013/2014 and wave 3 in 2017/2018. The dataset is particularly suited for the study because it collects information on mental distress measured through the Kessler Psychological Distress Scale (K10) and on time allocation of the week prior to the interview. For our analysis we employ only the second and third waves of the dataset to rely on the most recent information and to avoid inconsistencies with the first wave.

Because time allocation in Ghanaian households follows the prevailing patriarchal norms (Ampim *et al.*, 2020), according to which the wife has full responsibility for domestic work and the husband has to provide economically for the household, we include in the sample only respondents who reported being the household head or the spouse to best capture the effect we are interested in. The panel nature of the data allows for adopting a Fixed Effects (FE) model to

control for unobservable characteristics that do not change over time, thus allowing us to provide robust correlations. Our analytic sample consists of 14,882 panel individuals over 18 years of age, of which 6,635 are men and 8,247 are women.

Our main findings indicate that the higher the number of domestic activities individuals engage in, the higher the self-reported psychological distress. While for women the effect seems to be driven mainly by care activities, for men instead engaging both in domestic and care activities worsen their mental health. When we look closer at the type of activity, we find that for women collecting firewood, cleaning, and caring for children are the main activities negatively associated with their psychological distress, while for men it is mainly shopping and caring for the sick and the elderly. Looking at the time spent on these activities, we find similar but not equal results. Especially when we look into care activities, we find no effect for women while previous results suggest that it is mainly the motherhood responsibility that increases women's psychological distress. This analysis shows that, when focusing only on the time spent in domestic work, without considering the different and total amount of activities individuals engage in during a normal working day, we risk losing important information on the analyzed topic. Results suggest that the problem per se is not the total time spent on domestic

work, but rather the effort required to switch from one activity to another, and from one role to another (e.g., from mother to spouse).

Our main contribution to the literature comes from the focus on the association between the number of domestic activities men and women engage in and their mental health in a lower income country. Existing studies focus mainly on the analysis of high-income countries (Ervin *et al.*, 2022, 2023), without considering that in contexts of poverty the load of unpaid domestic work risks being more burdensome for women and it may hold several negative consequences in terms of their mental health. Also, these studies neglect to consider as explanatory variable the total number of activities that compose domestic work, thus not considering that, rather than the time spent in household work, what can lead to poor mental health is the responsibility of covering multiple roles within the household and switching from one activity to another. Building on a recent study showing that in Ghana the time spent in domestic activities is negatively correlated with women's mental health, and that the main source of stress appears to be role overload (Owoo & Lambon-Quayefio, 2021), we expand on these results by: i) expanding the analysis to men and looking at gender differences in domestic work and mental health; ii) focusing on the number of domestic

activities in addition to the time spent in unpaid domestic work; and iii) conducting the analysis using the second and third wave of the GSPS panel dataset rather than the first and second one to see if previous dynamics still persist or are changing over time.

1. Background and context

Women are more likely than men to suffer from mental disorders on a global scale (Blanchflower & Bryson, 2024; Jenkins & Good, 2014). In addition to biological factors, this inequality is also underpinned by patriarchal gender norms, defining men's and women's identities and roles in society, and pervading the power structures and relationship between the sexes (Jenkins & Good, 2014). Conservative gender norms strictly define women's and men's role and spheres of activity in society, leading women to be at higher risk of being victimized, have less resources to cope with negative shocks, be more likely to live in poverty, and have less opportunities to seek independent goals and aspirations (Chonody & Siebert, 2008; Jenkins & Good, 2014; Nolen-Hoeksema, 2001). These societal factors, paired with economic stressors, have been found to be important drivers of women's vulnerability to mental disorders (Jenkins & Good, 2014). Increased stress and anxiety levels, and mental disorders more broadly, not only constitute a problem per se, lowering individuals' well-being and quality of life, but they also have negative consequences on several economic outcomes, such as productivity and employment, preferences, decision-making processes, and economic growth more broadly (Ridley *et al.*, 2020).

A relatively unexplored factor that could negatively affect mental health is unpaid labor and, more precisely, the unequal division of unpaid labor between spouses in the household. Recently, scholars have been focusing on the association between mental health and time allocation, finding mixed results. The systematic review carried out by Ervin *et al.* (2022) shows that among employed adults, unpaid labor is negatively associated only with women's mental health, with no clear effects on men. In Australia, household work is negatively associated with both women's and men's mental health, while care and outdoor activities are positively associated with mental health for women and men, respectively (Ervin *et al.*, 2023). Most of the existing studies explain this association by relying on theories stating that, for employed individuals, a high unpaid workload can lead to stress, role overload, role conflict, and time poverty, all of which might negatively affect health and wellbeing (Ervin *et al.*, 2022). A more recent study by Han and Kaiser (2024) explore the trends of time-weighted happiness over time in the US: differently from previous studies they find no negative gender gap for women, and while women still perform the majority of domestic work, their happiness (and therefore un-happiness) derived from domestic work is similar to that of men. Importantly, differences exist across socioeconomic statutes and countries: a higher socioeconomic status provides individuals with resources that can help outsource domestic and care work, allowing them to spend more quality time with their children and not constantly worry about all the domestic work that needs to be done (Seedat & Rondon,

2021). A recent study looks at the experienced well-being of older adults in five countries, including Ghana, and find that older women still experience a lower level of well-being (Flores *et al.*, 2022). While this is partially explained by economic status and disability, a substantial part is explained by the difference in time use between genders, and particularly by specific activities, with women performing more housework (Flores *et al.*, 2022).

In low- and middle-income countries this association risks being even more pronounced, as women are at higher risk of suffering from mental disorders and stress (Jenkins & Good, 2014; Nolen-Hoeksema, 2001), they are often solely responsible for domestic and reproductive work while simultaneously working in economic activities to contribute to the household expenses, and they lack the means to outsource domestic work (Gaëlle Ferrant & Annelise Thim, 2019). In rural areas women also take part in farming activities, both farming their own plots and helping in the men's plot. This stretches women's time further, as well as preventing women from fully participating in agricultural production (Pierotti *et al.*, 2022) often increasing power imbalances within the household in favor of men (Ntakyo & Van Den Berg, 2022). In such settings, women frequently make tradeoffs and negotiate their multiple commitments, needing to navigate the relationships with their spouses and live up to their expected roles, often at the expense of their own priorities (Fran & Bennett, 2014). This resonates with the theory of multiple roles: women risk suffering from time pressure not because of the absolute amount of work required of them, but because of the various demands and expectations that pull them in different directions. This type of demand can contribute to increased stress and poor mental health (Offer, 2014; Offer & Schneider, 2011).

## 1.1. Theoretical framework and context

We can rely upon different theoretical frameworks for women and men to understand how the responsibility of domestic and care work can affect their mental health. Figure 1 summarizes the framework through which we interpret our analysis and findings.

For women, we rely upon the role strain theory, according to which having to fulfill different roles (e.g., being a parent, a spouse, a worker, a homemaker, etc.) and therefore having to face societal and family expectations and obligations, increases stress and worsen mental health (Barnett & Baruch, 1985; Ervin *et al.*, 2022; Hecht, 2001; Owoo & Lambon-Quayefio, 2021). While constraints such as income and infrastructure affect both men and women, they place a stronger burden on women's time, and the power imbalance within the household in terms of access to resources can exacerbate these constraints.

In Ghana, women bear most of the domestic responsibilities and patriarchal norms prescribe them to fill the roles of daughters, mothers, wives, and workers (Ampim *et al.*, 2020; Owoo & Lambon-Quayefio, 2021). Data show that women perform between two-thirds and three-quarters of the household chores and childcare spending almost double the amount of time on the care of children compared to men (Ferrant *et al.*, 2014). When women engage also in paid work, they risk suffering from a double burden. A recent study shows a negative association between domestic work and women's mental health (Owoo & Lambon-Quayefio, 2021). The qualitative interviews the authors collected reveal that Ghanaian women feel overburdened by having to combine domestic and market activities, and this affects their stress levels as well as their productivity and physical health (Owoo & Lambon-Quayefio, 2021).

There are various hypotheses on how unpaid domestic and care responsibilities might increase men's stress levels and affect their mental health. Even though gender norms in Ghana have shifted in recent years toward a more equitable distribution of unpaid household labor between couples, the social stigma remains strong, and both men and women face societal pressure to conform to the roles they identify with (Ampim *et al.*, 2020). The male breadwinner model predominates in Ghanaian society, increasing men's pressure to provide economically for the family and women's pressure to be in control of the overall household organization. In this setting, a man engaging in domestic and care labor is not viewed favorably by society, even if it is his deliberate and voluntary choice to be supportive. Then, we hypothesize that males who take on domestic tasks may experience increased psychological distress not only because of the added burden, but because they are not complying with traditional gender roles and may face stigma or judgment from others (Ampim *et al.*, 2020) , particularly in rural areas, and in compound housing settings in urban areas when these activities are not usually private.

Figure 1. Theoretical framework
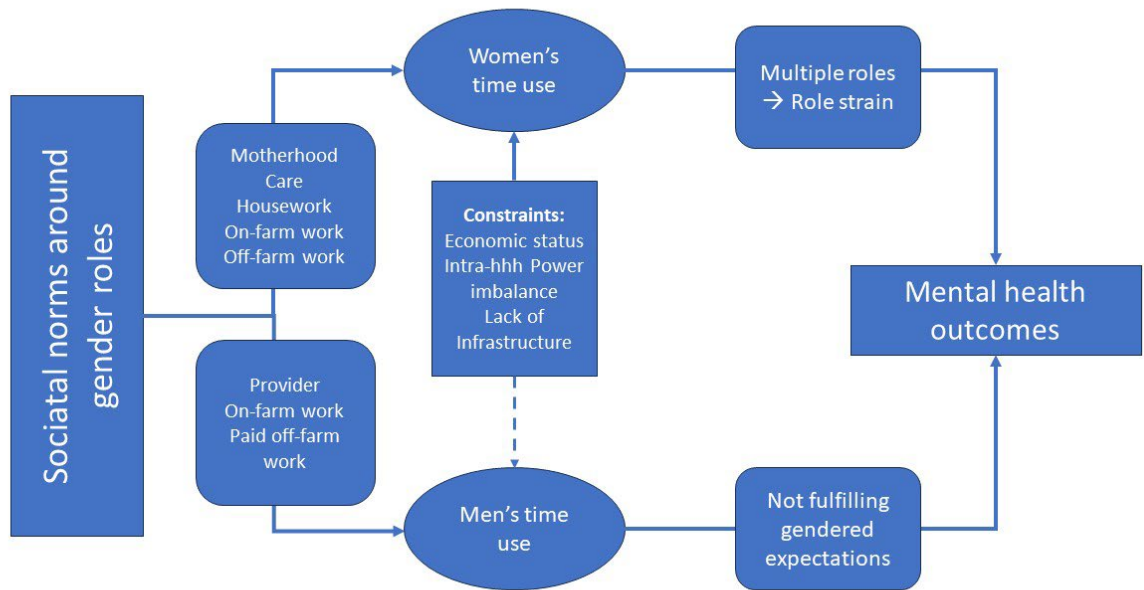
Source: Author's elaboration.

2. Data and methodology

1.2. Data and definitions

The GSPS is a joint effort between the Economic Growth Center at Yale University, the Global Poverty Research Lab at the Northwestern University, and the Institute of Statistical, Social and Economic Research (ISSER) at the University of Ghana, Legon (Accra, Ghana). Data are collected in all regions of the country, starting with a total of 5009 households in 2009. Two additional waves of data have been collected in 2013-14, and in 2018-19, following the initial 5009 households and some of the spin-offs from these households. Differently from Owoo & Lambon-Quayefio (2021), for our analysis we employ the second (2013-14) and third (2018-19) waves of the panel to rely on more recent information.

The GSPS covers a broad range of topics, including detailed information on mental health collected through the Kessler Psychological Distress Scale, and on time-use related to household and personal activities (such as listening to the radio or reading a newspaper). All this information makes the data particularly suitable for our study.

In the GSPS data, psychological distress is measured using the Kessler Psychological Distress Scale (K10), a 10-item questionnaire intended to yield a global measure of non-specific psychological distress based on questions about anxiety and depressive symptoms that a person has experienced in the most recent 4-week period (Kessler *et al.*, 2002; Furukawa et al, 2003). The K10, as well as the embedded Kessler scale (K6) are not intended as diagnostic tools but rather as screening instruments.

The choice of the instrument is very important in accurately assessing mental health in different settings, and diagnostic and screening tools need to be validated for diverse settings and display consistency across settings (Sweetland et al, 2014). The K10 has been used in different studies in the African continent (Ethiopia, Burkina Faso, South Africa) but not, to our knowledge, in Ghana. A recent study (Ametaj et al, 2024) seeks to cross-validate the K10 in four African countries and finds that it retains similar functioning across countries. A review of the use of the K10 in different settings (Stolk et al, 2014) finds mixed results, and especially inconsistencies when using cut-offs to define different levels of distress. For our analysis, we use the K10 as an outcome variable, employing the continuous measure of psychological distress rather than the cut-offs of the scale, which we posit is related to unpaid labor.

Participants' responses are added up to get a score ranging from 10 to 50. The distribution of the score (Figure 2a and 2b) shows that in the sample the level of distress is low (when using categories at a cut-off of 20, we find that at baseline 66% of women and 73% of men reported no significant distress). However, women have a generally higher level of distress, especially in the middle of the distribution (between 20 and 30). Furthermore, the distress level increased for women between the two waves, while it remained similar among men.

Figure 2. Distribution of the psychological distress score

Panel a. Second wave (2013)
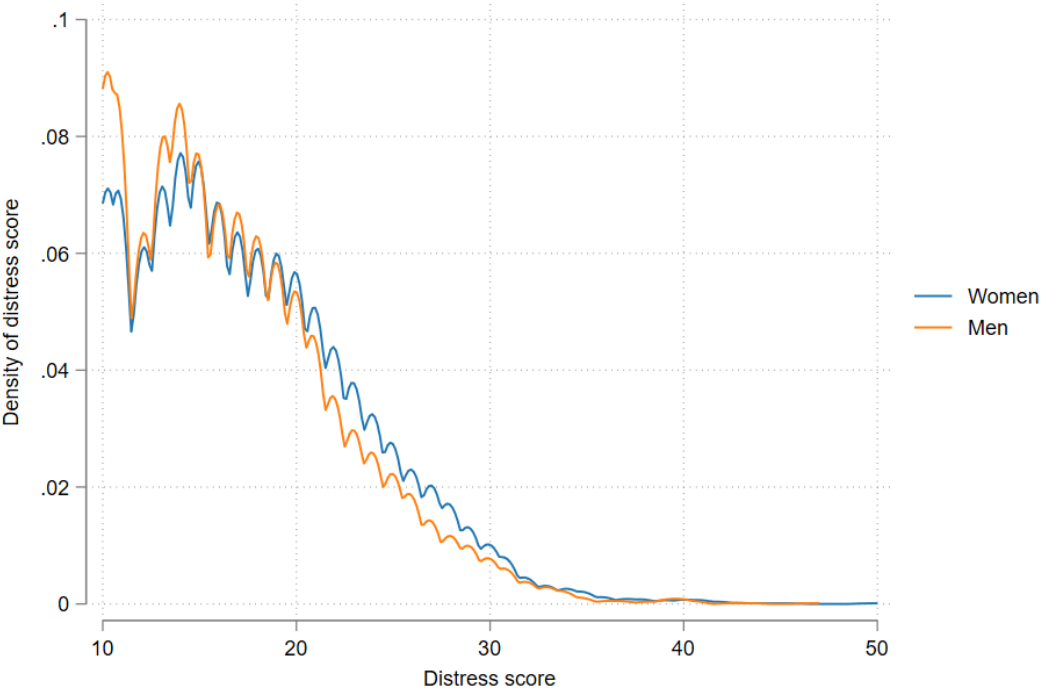
Panel b. Third wave (2018)
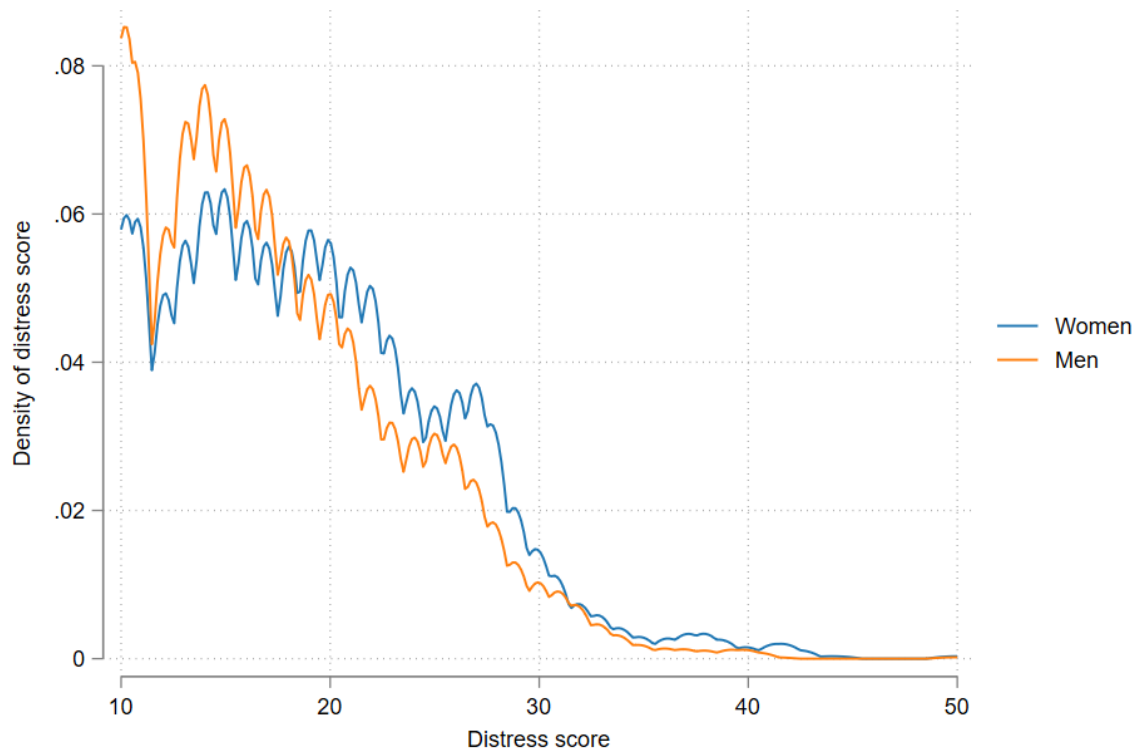
Source: Authors' elaboration on GSPS.

As already mentioned, our analysis focuses on the number of activities an individual engaged in the week prior to the interview. Our main explanatory variable is the number of total unpaid domestic activities the respondent reported being engaged in over the week prior to the interview. We define three main groups of activities: household work, domestic and care activities. Household work is defined as the combination of domestic and care activities, with domestic work including the activities of cooking, cleaning, collecting water and firewood, shopping, doing the laundry, and washing the dishes, while care work is the combination of caring for the children, the elderly, and the sick.[1] Then, when we look at each activity separately, on top of those already mentioned we include leisure activities: reading, listening to the radio, and watching television. Finally, we compute the number of hours spent in each category of activities.

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[1]   Unfortunately, the data do not allow us to look into productive activities and to include them in the analysis. We acknowledge that this is an important limitation of the study and that future research should try to include this important dimension as well to have a throughout understanding of the effect of unpaid domestic work on mental health.

Figure 3 shows the percentage of the number of activities men and women engaged in the week prior to the interview including care work at baseline (panel a) and in the following wave (panel b). While men's distribution is skewed towards the left, showing that more than over 60% of the sample engage in 0 to 3 activities, women's distribution is skewed towards the right, showing that the majority of the sample tend to engage in 6 to 8 activities, in both waves. For women, we also observe an increase in the number of activities between the two waves, with a higher share of women performing a number between 5 and 8 activities. This engagement in multiple activities is reflected in the time spent in domestic and household work in Figure in Appendix: while men's time spent in domestic work is about 1 to 2 hours, women spend on average from 7 to 10 hours.

Figure 3. Percentage of number of domestic activities men and women engage in

Panel a. Second wave (2013)
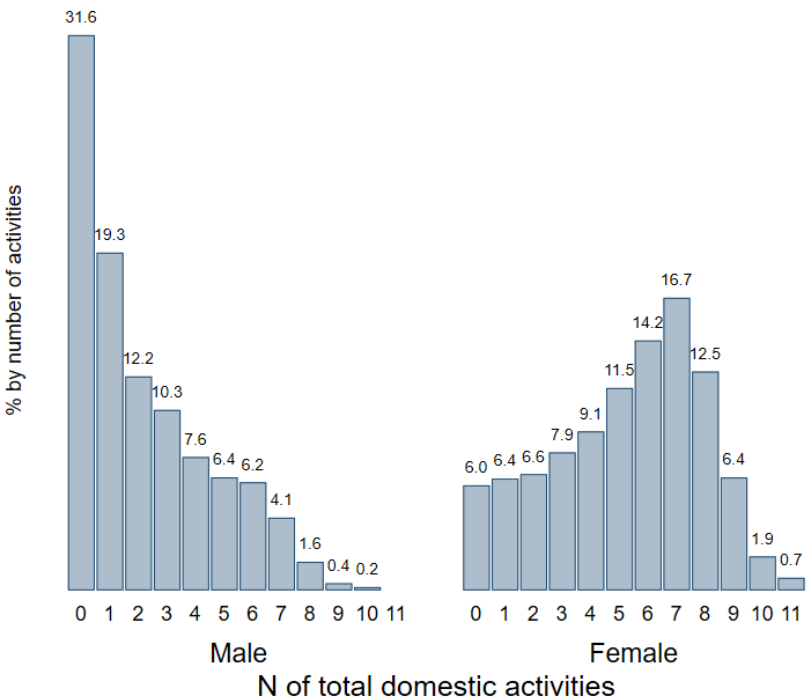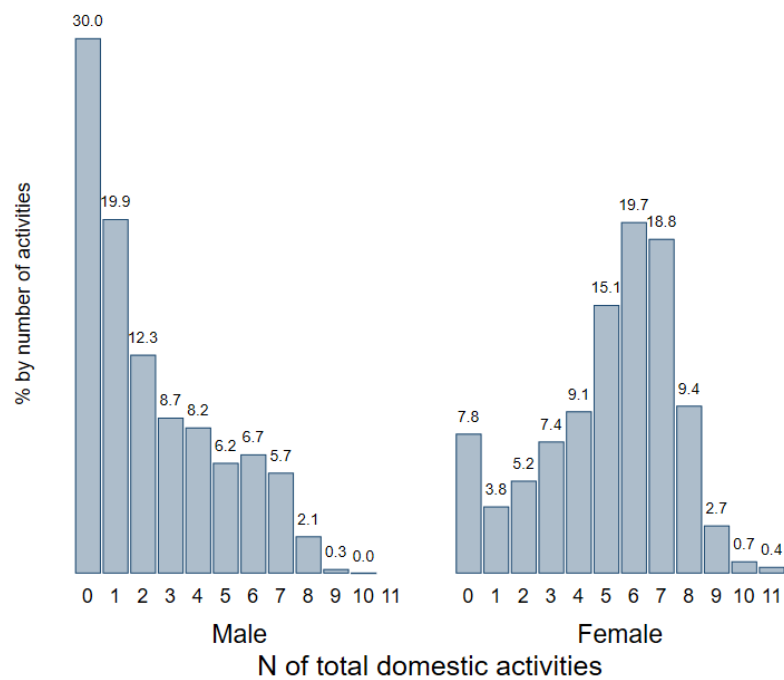
Source: Authors' elaboration on GSPS.

Table 1 reports mean differences between men and women in our variables of interest at baseline (2013). As we can see, there is a statistically significant difference in the hours spent on domestic work and the number of activities men and women participate in, with women spending more than twice as much time on household and domestic work as men and participating in twice as many activities. Women are also more likely than men to report higher psychological distress. Table 2 shows the type of activities men and women engaged in: women are more likely than men to do any activity, except running errands. The share of both men and women caring for the sick or the elderly is very low. Among recreational activities, men read and listen to the radio substantially more than women, while both watch tv in similar proportion (43% women and 46% men)

Figure 4 shows a positive correlation for both men and women between the number of activities individuals engage in and the probability of having a total score equal or higher than 25.

Table 1. Mean differences between men and women in variables of interest at baseline (2013)

	Women	N	Men	N	S.E.	T-stat	P-value
Hours of household work	6.13	4,688	2.39	3,615	0.08	44.62	0.000
Hours of domestic work	7.47	4,688	2.92	3,615	0.10	43.44	0.000
Hour of caring activities	1.34	4,688	0.53	3,615	0.05	15.10	0.000
N of total domestic activities	5.25	4,688	2.22	3,615	0.06	54.17	0.000
N of HH work activities	4.69	4,688	1.92	3,615	0.05	54.90	0.000
N of care activities	0.55	4,688	0.30	3,615	0.01	16.95	0.000
Psychologically distressed	1.82	4,688	1.69	3,615	0.02	6.20	0.000
Distress score (Kessler 10 Scale)	17.54	4,688	16.69	3,615	0.12	6.83	0.000

Note: T-test of equality of the means.
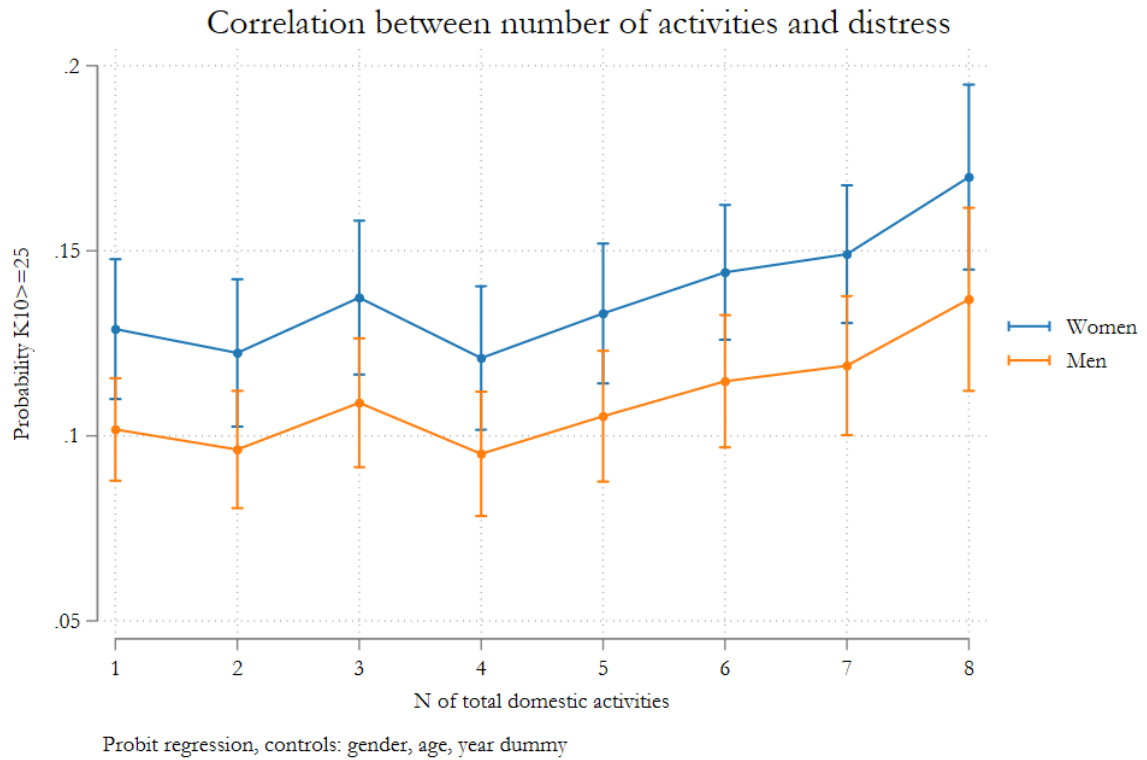Source: Authors' elaboration on GSPS Wave 2.

Table 2. Mean differences between men and women in type of activity at baseline (2013)

	Women	N	Men	N	S.E.	T-stat	P-value
Wood collection	0.42	4,688	0.16	3,615	0.01	27.14	0.000
Water collection	0.59	4,688	0.26	3,615	0.01	32.12	0.000
Shopping	0.60	4,688	0.20	3,615	0.01	40.05	0.000
Errand	0.29	4,688	0.32	3,615	0.01	-2.71	0.007
Laundry	0.70	4,688	0.34	3,615	0.01	35.51	0.000
Washing dishes	0.62	4,688	0.16	3,615	0.01	47.40	0.000
Cleaning	0.61	4,688	0.25	3,615	0.01	35.19	0.000
Cooking	0.85	4,688	0.24	3,615	0.01	72.32	0.000
Caring for children	0.39	4,688	0.17	3,615	0.01	22.92	0.000
Caring for the elderly	0.07	4,688	0.06	3,615	0.01	1.89	0.059
Caring for the sick	0.09	4,688	0.07	3,615	0.01	2.72	0.007
Reading	0.16	4,688	0.30	3,615	0.01	-15.79	0.000
Listening to radio	0.42	4,688	0.67	3,615	0.01	-23.87	0.000
Watching TV	0.43	4,688	0.46	3,615	0.01	-2.57	0.010

Note: T-test of equality of the means.
Source: Authors' elaboration on GSPS Wave 2.

Figure 4. Correlation of number of activities and psychological distress

Correlation between number of activities and distress

Probit regression, controls: gender, age, year dummy

Source: Authors' elaboration on GSPS Wave 2.

1.3. Methodology

To study the association between mental health and unpaid domestic work, we exploit the panel nature of the data, and we adopt a Fixed Effects model to control for unobservable characteristics that do not change over time. Even though this does not provide the estimation of a causal effect between unpaid labor and mental distress, it does guarantee robust correlations. We estimate the following specification:

$$Y_{it} = \beta_0 + \beta_1 UnpaidActivity_{iy} + \beta_2 \boldsymbol{X_{it}} + D_t + a_i + u_{it}$$

Where Y_{it} is the continuous scale of psychological distress for individual *i* in time *t;* $UnpaidActivity_{iy}$ is the number of activities individuals reported engaging in the week prior to the interview; and $\boldsymbol{X_{it}}$ is a set of control variables at the household and individual level, namely the age and educational level of respondents; the number of children under the age of 5 in the household; the number of children aged 6 to 11 years in the household; the number of adults and adolescents; the quintiles of monthly per capita expenditure; and a dummy variable identifying whether the respondent lives in urban or rural areas. D_t are year dummies, a_i represents the time-invariant unobservable, and u_{it} is the error term.

When we disentangle the analysis for type of activity, the explanatory variable is a dummy taking the value of 1 if the respondent reported being engaged in the activity, and 0 otherwise.

3. Results

The results of the fixed effects regression on the number of activities on psychological distress suggests that an increasing number of domestic activities is associated with increased stress for both men and women (Fig. 5). When disentangling the activities between domestic and care activities, we observe that engaging in a higher number of household activities increases men's stress levels but not women's, while the higher the care activities carried out, the higher the stress levels of both men's and women's. As men tend to engage at least half of the time of women in domestic activities, these results resonate with the idea that their engagement in unpaid domestic work is positively associated with their distress because they are performing activities that are seen as "feminine" by society, and this can cause internal conflict, as well as the risk of being judged by the broader community of both men and women.

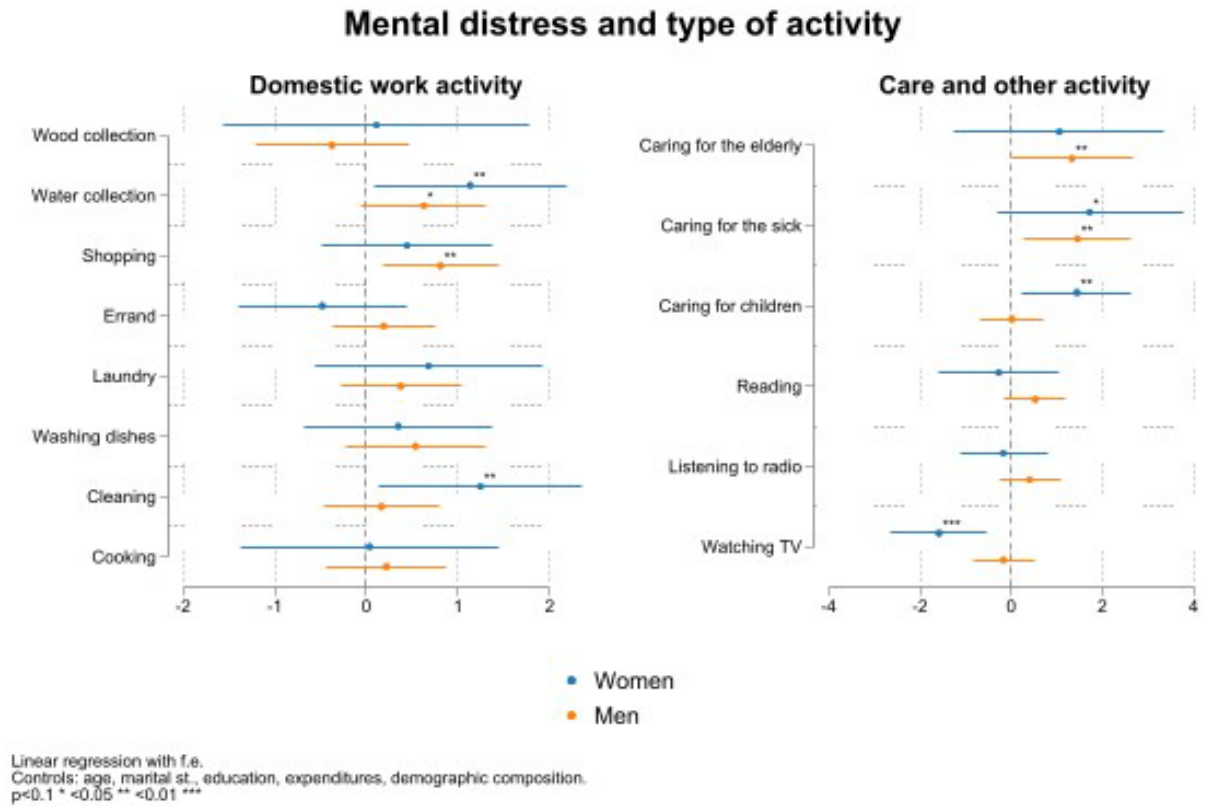**Figure 5. Number of activities and psychological distress**
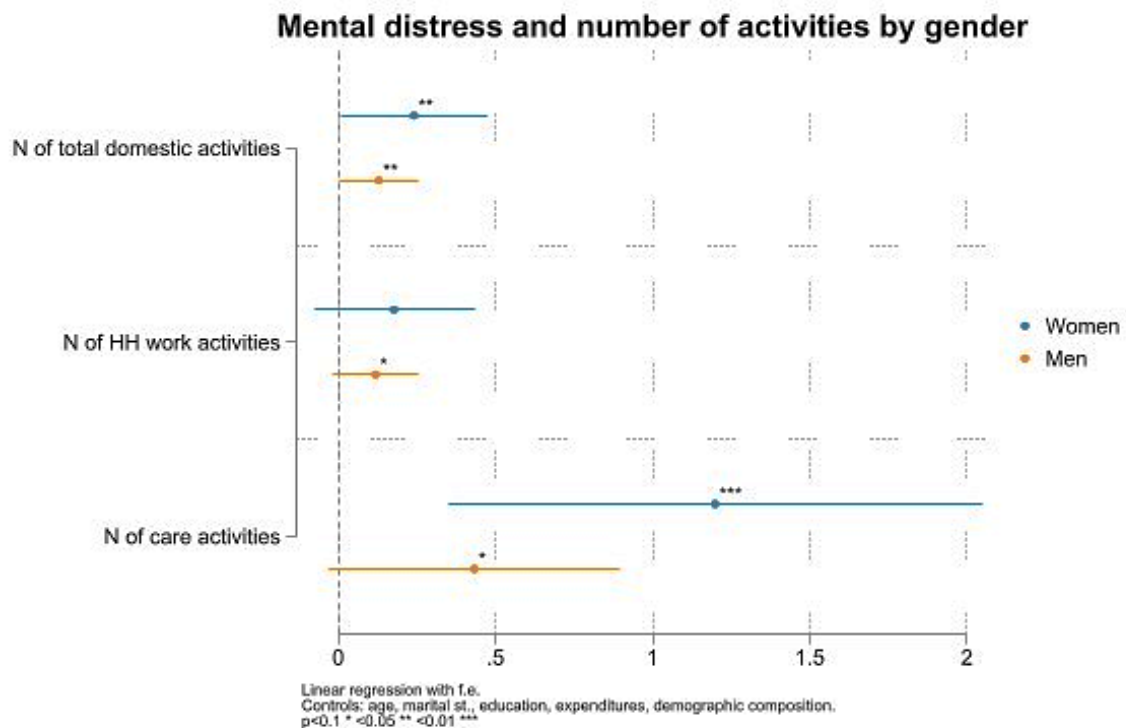
Source: Authors' elaboration on GSPS Wave 2.

Along with these results, when we look at the time spent in those activities in Figure 8 in Appendix, we find a similar effect: the higher the time spent in domestic activities, the higher the likelihood of feeling psychological distress. Interestingly enough, the effect seems to be driven mainly by domestic work, as we find no significant correlation with the time spent on care activities. These results seem suggesting that looking at the number of activities rather than the time individuals engage in unpaid work may lead to more accurate analyses, as it is not the absolute amount of work individuals engage in to lead to poor mental health, but rather all the requests and the activities they have to shift from.

As women in Ghana typically bear the primary responsibility for domestic work, child rearing, and caring for elderly family members, to best tackle separately all these responsibilities we separate the analysis by type of activity. Figure 6 reports the different domestic activities women and men engage in. Women's stress levels negatively correlate with cleaning activities, while men's with shopping. Caring for the sick increases stress for both men and women, and for women caring for children increases their psychological distress, once again in line with role strain theory. As for leisure activities, it is interesting to notice that for women only watching tv is associated with less psychological distress, suggesting that TV watching helps them to release and disconnect from their daily hassles. One plausible reason is that listening to the radio can be done whilst performing other tasks, while reading may take additional effort. For men instead we find no significant associations between leisure activities and psychological distress.

Figure 6. Mental distress and type of activity

Mental distress and type of activity

Domestic work activity

Wood collection · Water collection (**) · Shopping (*) · Errand (**) · Laundry · Washing dishes · Cleaning (**) · Cooking

Care and other activity

Caring for the elderly (**) · Caring for the sick (*) (**) · Caring for children (**) · Reading · Listening to radio · Watching TV (***)

● Women
● Men

Linear regression with f.e.
Controls: age, marital st., education, expenditures, demographic composition.
$p < 0.1$ * < 0.05 ** < 0.01 ***

Source: Authors' elaboration on GSPS Wave 2

When we look at the time spent in each activity, as shown in Figure 9 in the Appendix, we find results that are similar in signs but not in significance. This reinforces the intuition that studies examining the association between mental health and unpaid domestic work should focus not only on the time spent in each activity, but also on the number of activities carried out within a day. The problem seems to be not the time spent in each single activity, but rather the activity itself: engaging in multiple and various activities throughout the day requires switching from different roles, which may be detrimental to stress levels and mental health in general. Also, as indicated by qualitative interviews in Owoo and Lambon-Quayefio (2021), the problem does not appear to be the total time spent in domestic work, but rather having to execute all of these duties - often two or more all at once - which causes stress. This is consistent with the literature on mental load: having to manage all household activities and be responsible for the well-being of children has a significant impact on women's stress levels and wellbeing, leading to negative long-term consequences on their mental health, labor productivity, and occupational choices (Daminger, 2019; Dean *et al.*, 2022; Offer, 2014; Vitellozzi *et al.*, 2023).

Robustness checks

To ensure the reliability and validity of our findings, we conduct separate analyses for each wave of data, to ascertain that our results are not solely influenced by one particular wave. This approach allows us to explore the consistency and stability of the observed patterns across different time points.

By examining the results presented in Tables 5 and 6, we find consistent and corroborating evidence in support of our hypotheses across all waves for both male and female respondents: the results drawn from our analysis are not driven by the idiosyncrasies of any wave. Rather, they represent robust and consistent trends that transcend temporal variations, enhancing the overall robustness and credibility of our study.

Table 3. Total number of activities – wave 2 (year 2013)

Wave 2 (year 2013)	(1) Men	(2) Women	(3) Men	(4) Women	(5) Men	(6) Women
N of total domestic activities	0.150***	0.157***				
	(0.030)	(0.046)				
N of HH work activities			0.162***	0.165***		
			(0.033)	(0.051)		
N of care activities					0.256**	0.271
					(0.123)	(0.178)
Controls: individual	YES	YES	YES	YES	YES	YES
Controls: household	YES	YES	YES	YES	YES	YES
Observations	5,076	3,021	5,076	3,021	5,076	3,021
Number of PID	3,659	2,436	3,659	2,436	3,659	2,436

Source: Authors' elaboration on GSPS.

Table 4. Total number of activities – wave 3 (year 2018)

Wave 3 (year 2018)	(1) Men	(2) Women	(3) Men	(4) Women	(5) Men	(6) Women
N of total domestic activities	0.146***	0.156**				
	(0.039)	(0.061)				
N of HH work activities			0.144***	0.130*		
			(0.043)	(0.067)		
N of care activities					0.405***	0.679***
					(0.140)	(0.236)
Controls: individual	YES	YES	YES	YES	YES	YES
Controls: household	YES	YES	YES	YES	YES	YES
Observations	4,113	2,058	4,113	2,058	4,113	2,058
Number of PID	2,696	1,462	2,696	1,462	2,696	1,462

Source: Authors' elaboration on GSPS.

4. Discussion and conclusion

The aim of this study was to investigate the association between mental health and time allocation in unpaid domestic work for both men and women in Ghana. Recent studies have shown that the engagement in unpaid domestic work, which falls disproportionately on women, is negatively associated with mental health and subjective well-being more broadly (Ervin *et al.*, 2022, 2023; Owoo & Lambon-Quayefio, 2021). These studies are conducted mainly in high-income countries even though in low- and middle-income countries household work risks being more burdensome because women lack access to facilities and assets that could help them outsource domestic work. We know that mental disorders are positively correlated with poverty (Ridley *et al.*, 2020), and they are more prevalent in women than men (Seedat *et al.*, 2009). Our study contributes to this literature by providing robust correlations on the association between unpaid domestic work and psychological distress of women and men living in urban and rural areas in Ghana. The main novelty of this work is the focus on the *number* and *type* of activities rather than only on the time spent in each activity, as well as the investigation of the link between domestic work and mental distress for men as well as for women.

Our results show that as people take on more activities, their self-reported psychological distress increases, and we find that this increased number of activities influences distress both in men and women. We interpret the results differently by gender, hypothesizing that for women an increase in stress is mainly related to the role overload theory, according to which the combination of multiple roles places excessive demands on an individual, surpassing their available resources, such as time, energy, and coping mechanisms. This can lead to increased stress, feelings of being overloaded, and difficulties in meeting the expectations of each role. The theory suggests that role overload can have negative consequences on both the individual's psychological well-being and their ability to perform effectively in their roles.

For men, we interpret the results through the lens of identity and social stigma. While there has been a noticeable increase in men's involvement in domestic activities in Ghana over recent years, household labor continues to be predominantly associated with femininity. This societal perception can have significant implications for men's well-being and mental health. Engaging in domestic work, traditionally considered the domain of women, can subject men to scrutiny and judgment from the broader community. The prevailing social norms and expectations surrounding gender roles may result in men facing disapproval when they deviate from the traditional male breadwinner role within the household.

This dissonance between societal expectations and the evolving reality of men's participation in domestic responsibilities can generate psychological distress and strain.

The results suggest that when both men and women participate in domestic work, they exhibit a common negative response by reporting heightened levels of psychological distress. While it is commonly established that women spend more time than men on unpaid domestic chores, resulting in greater psychological discomfort, it is less obvious whether males would suffer the same negative repercussions if they were required to carry the same home burden as women. Our findings show that for men, engaging in household work causes increased psychological distress, revealing a critical dimension of gender inequality: while both men and women's mental health are negatively affected by domestic work, women spend at least twice as much time as men in domestic and care activities, increasing their risk of suffering from poorer mental health than men.

Our study is not without limitations: the panel nature of the data allows us to provide robust correlations on the relationship between unpaid domestic work and mental health, but we are not identifying a causal effect, thus results must be interpreted carefully. It is worth noticing, however, that when studying mental health, the threat of endogeneity is particularly hard to overcome. The data does not allow us to include information on gender and social norms at the individual level, thus making it particularly challenging to test the hypotheses behind the results we find, especially for men. Finally, for data limitations we were not able to recover information on the occupational status of the respondents, excluding then from the analysis important information such as the time spent in market activities.

Notwithstanding these limitations, we still believe that our study provides important and insightful results on a topic of great importance that has not been adequately analyzed yet, especially in low- and middle-income countries, where poverty and gender norms make women particularly vulnerable to both poor mental health and the overload coming from the burden of unpaid domestic work. Further research is needed in this direction to better understand whether it is effectively the number of activities individuals have to engage in rather than the time spent in each activity to overburden them, especially now that scholars have started increasingly to focus also on mental load, i.e., the mental work associated with domestic work. It would be particularly informative to conduct mixed-method studies in this area of research to better understand the underlying mechanisms that differently affect women and men's mental health when engaging in domestic activities.

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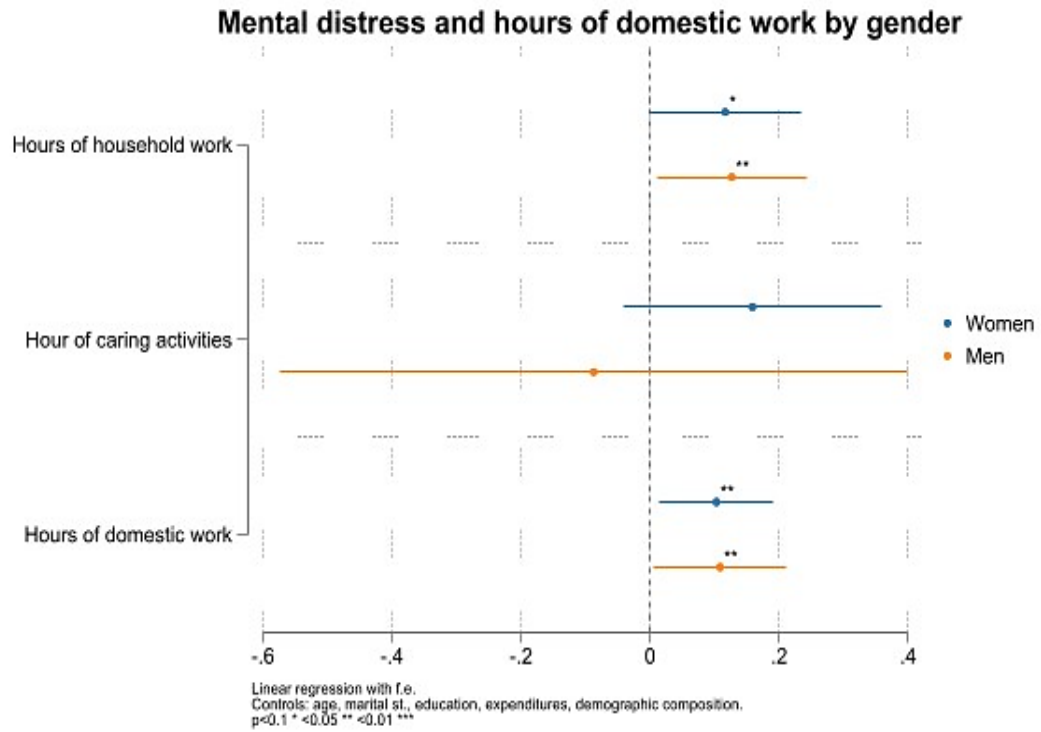
Appendix

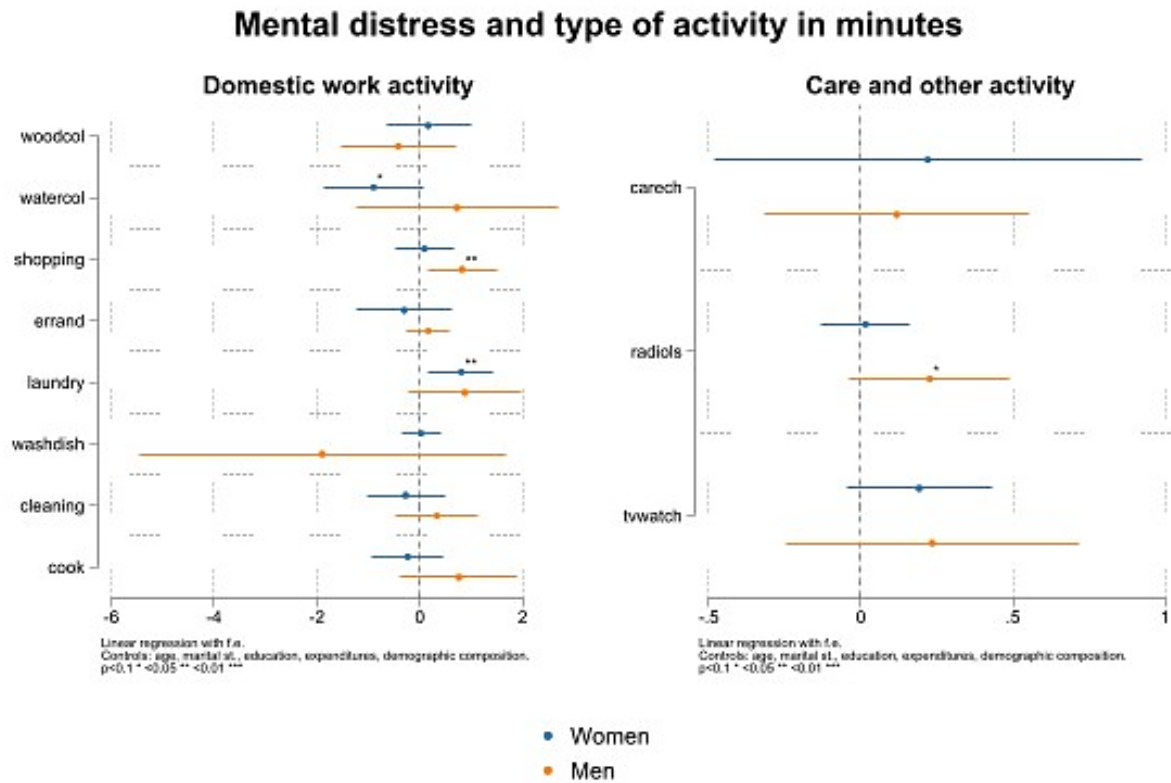**Figure 7. HH weekly work distribution by gender and wave**
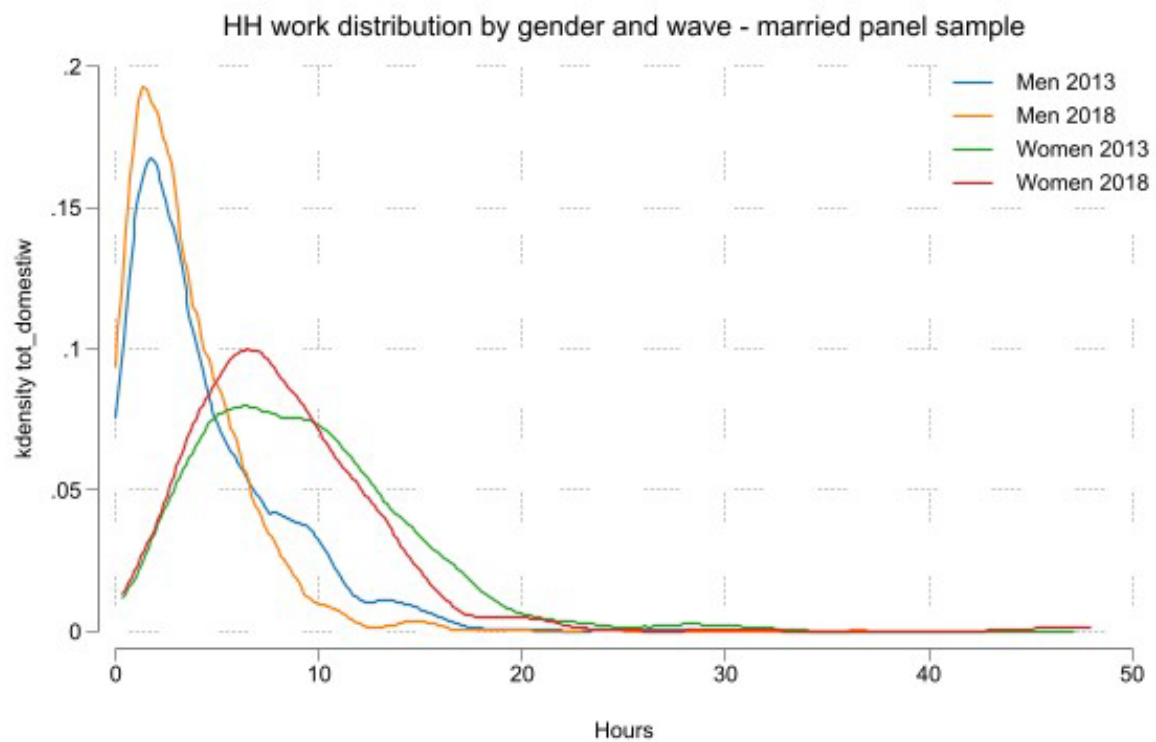
Source: Authors' elaboration on GSPS.

Figure 8. Mental distress and hours of domestic work by gender

Source: Authors' elaboration on GSPS.

Figure 9. Mental distress and type of activities in minutes by gender

Source: Authors' elaboration on GSPS.

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