

# Exploring Time Use Patterns and Influences on Unpaid Work: Findings from the 2019 Indian Time Use Survey

Aastha\*

<sup>1</sup>A.N. Sinha Institute of Social Studies, Bihar, India

\*Corresponding author: Aastha

Corresponding email: [iaastha11@gmail.com](mailto:iaastha11@gmail.com)

## ARTICLE INFO

### Article history:

Received 02 November 2023

Accepted 11 January 2024

Available Online 10 February 2024

### Keywords:

Unpaid Work, Time Use, Household Economy, Domestic Work, Gender Inequality

## ABSTRACT

This paper aims to investigate the gender patterns and determinants of unpaid work within the context of India. The primary objectives are two-fold: first, to analyze the time utilization patterns of both men and women in paid, unpaid, and leisure activities, and second, to explore the factors influencing unpaid work. The methodology employed in this study relies on secondary data, specifically the unit-level data from the Indian Time Use Survey conducted in 2019. Descriptive analysis utilized to dissect time allocation patterns. Additionally, the Ordinary Least Square (OLS) method has been employed to examine the relationships between unpaid time and other explanatory variables. The findings of this study reveal significant disparities in unpaid work between men and women, irrespective of whether they reside in urban or rural areas. Women consistently allocate more time to unpaid work than men. Furthermore, the research identifies key determinants of unpaid time, including gender, marital status, level of education, and usual employment status, all of which play pivotal roles in shaping time allocation patterns. In conclusion, this study sheds light on the intricate dynamics of unpaid work, emphasizing its gendered nature and the multifaceted factors that underpin these disparities. Understanding these patterns and determinants is crucial for informing policies aimed at promoting gender equality and addressing domestic and care-related responsibilities.

### Cite as:

Aastha. (2024). Exploring Time Use Patterns and Influences on Unpaid Work: Findings from the 2019 Indian Time Use Survey.

*Economics, Business, Accounting & Society Review*, 3(1), 46–59.

<https://doi.org/10.55980/ebasr.v3i1.130>



This is an open-access article under the CC BY-SA License.

## 1. Introduction

Gender inequality, characterized by the disparate treatment of individuals based on their gender, persists as a significant global issue (Bataka, 2024). Traditional patrilineal values and the urban-rural education gap significantly impact attitudes toward gender inequality (Wang et al., 2024). Despite major advancements made by women across various fields since the 1990s, true gender equity remains unachieved (Fischer & Luiz, 2024). Women continue to face systemic discrimination in health, education, political representation, and the labor market, thereby constraining their capabilities and freedom of choice. Notably, women encounter substantial barriers to accessing decent work, as traditional gender roles remain deeply entrenched in society. Predominantly, women are expected to manage household chores, raise children, and care for the elderly, often at the expense of their education and careers (Vitelozzi & Giannelli, 2023). This gendered division of

labor results in women performing at least two and a half times more unpaid household and care work than men. The government regulations should foster an environment that supports decent work (Freihat et al., 2024).

The literature on unpaid work encompasses both theoretical and empirical perspectives, underlining its critical link to gender inequality. Traditional economic theories, notably those of classical economists like Adam Smith, John Stuart Mill, Ricardo, and Marx, have largely focused on men's employment and wages, thereby neglecting the unpaid labor performed predominantly by women. COVID-19 pandemic affected the sharing of such unpaid work tasks between genders (Marlo et al., 2024). Time spent on unpaid work influences the complexity of individuals' daily activity patterns, particularly in the context of partnered relationships (Chidambaram & Scheiner, 2024). Unpaid works absence are essential for family well-being (Kim, 2024). Smith's classification of activities into productive and unproductive perpetuated the undervaluation of unpaid work, reinforcing gender biases that persist in economic discourse. Unpaid work is critical yet often undervalued labor that supports the well-being of family members (Fast et al., 2024). Unpaid work is crucial in understanding the dynamics of work-life balance and the economic and social stratification effects within households (Yoon & Park, 2024).

Feminist economists in the 1960s, were instrumental in spotlighting the significance of women's unpaid work (Santellano & Vallejo, 2024). Their research highlighted the extensive domestic and care responsibilities undertaken by women, advocating for their recognition and valuation within economic frameworks. Extensive domestic implies that these histories are complex and significant, affecting the women lives profoundly (Larance & Kertesz, 2023). It is important to support young mothers in balancing their responsibilities in providing care responsibilities through their education and economy (Bennett & Waterhouse, 2018). Theoretical biases within economics have constrained discussions on women's unpaid contributions. Unpaid domestic work is often invisible in economic policy-making, meaning it is not considered in the creation of policies that could support those who perform this work (Singh & Pattanaik, 2020).

Empirical research has consistently demonstrated substantial gender disparities in unpaid work globally. There is complex interplay of socio-economic factors, policy, individual behavior, and cultural norms in shaping the dynamics of unpaid labor in industrialized nations (Pailhé et al., 2021). Women disproportionately shoulder the burden of unpaid labor compared to men. For instance, in India, the 2001 Census indicated that 367 million women were engaged in unpaid household labor and the 2011 Census provisional report showed that 159.9 million women reported domestic work as their main occupation. These contributions remain largely invisible in GDP calculations, further perpetuating their undervaluation.

Scholarly focus on the determinants of unpaid work has identified various influencing factors, including gender, marital status, education, employment status, and cultural norms. There is a persistent gender gaps in unpaid work, even in more egalitarian societies (Storz et al., 2022; Zoch & Heyne, 2023). These studies emphasize that despite some progress, significant disparities remain, with women consistently performing more unpaid labor than men. Women continue to bear a larger share of unpaid domestic work due to existing gender norms and the distribution of labor within households, despite the potential for "smart" and AI technologies to automate many of these tasks (Hertog et al., 2023).

Understanding unpaid women's work requires a robust conceptual framework that highlights their significant contributions and the challenges they face in various unpaid roles. This framework aims to dissect the intricate nature of unpaid work and its implications for women's economic empowerment, gender equality, and social well-being. Unpaid work encompasses a wide array of activities that individuals perform without monetary compensation. Unpaid workers need to be recognized and acknowledged as economically valuable (Cassar & Meier, 2018; Rao, 2018). There are three types of work, paid work, unpaid work, and no work. Paid work includes economic activities that receive payment, while unpaid work comprises tasks that do not receive payment in

cash or kind. No work pertains to personal care activities (e.g., eating, bathing, sleeping) and leisure activities (e.g., watching TV, playing games, socializing).

The System of National Accounts (SNA) 2008 provides a standardized framework for defining and differentiating these activities, setting inclusion and exclusion criteria for national income accounting. Unpaid economic work, although marketable and eligible for inclusion in national income accounting, remains unpaid. This category, termed unpaid SNA work, includes activities such as unpaid household enterprise work, subsistence production, gathering natural resources for personal consumption, and collecting free resources for production.

Non-economic unpaid work, classified as non-SNA work, falls outside the SNA production boundary but within the general production boundary. This includes unpaid domestic work (e.g., cleaning, cooking, washing) and unpaid care work (e.g., child care, elder care, sick and disabled care), as well as unpaid voluntary services. In India, a significant portion of the population is engaged in non-SNA unpaid work. Activities not involving paid or unpaid work are considered leisure time, classified as non-productive activities by the SNA. Unpaid domestic duties, in India, are categorized under non-SNA and extended SNA activities. This framework is crucial for understanding the gendered dimensions of unpaid work and informing policies that promote gender equality and economic inclusion. In the Indian context, research on unpaid work remains limited, particularly studies utilizing the recent Indian Time Use Survey. There is a critical need to explore the determinants of unpaid labor time in India comprehensively.

### **Conceptual Framework**

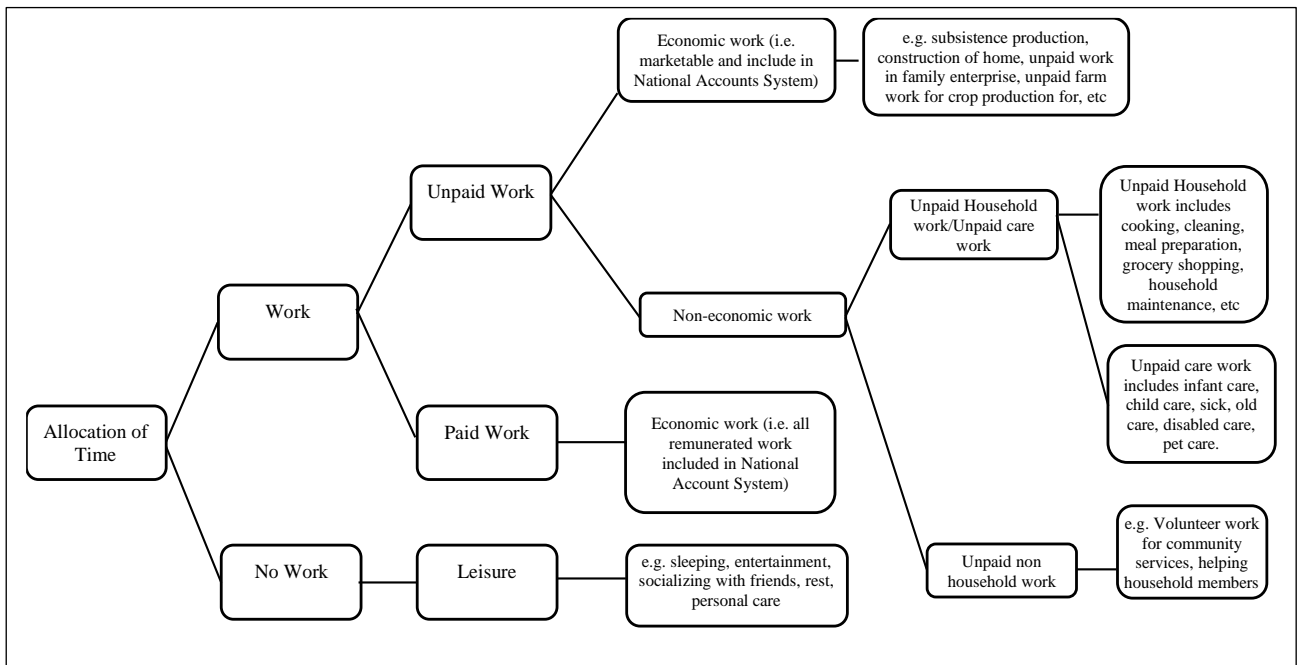
Understanding unpaid women's work requires a robust conceptual framework that highlights their significant contributions and the challenges they face in various unpaid roles. This framework aims to dissect the intricate nature of unpaid work and its implications for women's economic empowerment, gender equality, and social well-being.

Unpaid work encompasses a wide array of activities that individuals perform without monetary compensation (Fast et al., 2024). There are three types of work; paid work, unpaid work, and no work. Paid work includes economic activities that receive payment, while unpaid work comprises tasks that do not receive payment in cash or kind. No work pertains to personal care activities (e.g., eating, bathing, sleeping) and leisure activities (e.g., watching TV, playing games, socializing).

The System of National Accounts (SNA) 2008 provides a standardized framework for defining and differentiating these activities, setting inclusion and exclusion criteria for national income accounting. Unpaid economic work, although marketable and eligible for inclusion in national income accounting, remains unpaid. This category, termed unpaid SNA work, includes activities such as unpaid household enterprise work, subsistence production, gathering natural resources for personal consumption, and collecting free resources for production (Hirway, 2015).

Non-economic unpaid work, classified as non-SNA work, falls outside the SNA production boundary but within the general production boundary. This includes unpaid domestic work (e.g., cleaning, cooking, washing) and unpaid care work (e.g., child care, elder care, sick and disabled care), as well as unpaid voluntary services. In India, a significant portion of the population is engaged in non-SNA unpaid work. Activities not involving paid or unpaid work are considered leisure time, classified as non-productive activities by the SNA.

In the Indian context, unpaid domestic duties are categorized under non-SNA and extended SNA activities, captured under NSS activity status codes 92 and 93. This framework is crucial for understanding the gendered dimensions of unpaid work and informing policies that promote gender equality and economic inclusion.



**Figure 1. Conceptual Framework**

This study seeks to fill this research gap by analyzing the time use behavior of men and women in paid, unpaid, and other activities, and by identifying the factors that determine unpaid labor time in India. By providing a detailed examination of these dynamics, this research aims to inform policy measures that address gender disparities and promote equity in both paid and unpaid labor spheres.

## 2. Methods

This study employs a comprehensive methodological approach to analyze the time use patterns of unpaid work by women in India. The primary data source is the Time Use Survey (TUS) 2019, conducted by the National Statistical Office (NSO). This extensive survey provides microdata on daily activities of individuals across 1,38,799 households, encompassing both rural and urban areas. It covers a sample of 4,47,250 persons aged six years and above, providing a robust dataset for examining time allocation in various activities.

The TUS 2019 data captures the time spent by individuals on a wide range of daily activities, including paid work, unpaid work, household chores, childcare, leisure, and self-care activities. This dataset is particularly valuable for understanding the gendered dimensions of time use, as it includes detailed records of both males and females over a 24-hour period.

In addition to analyzing published data from TUS 2019, this study also utilizes unit-level data to investigate the key factors influencing unpaid work time among women. A thorough literature review informed the identification and clustering of significant variables. These variables include demographic characteristics, employment status, marital status, education level, and household characteristics.

Descriptive statistics, including various tables and graphical representations, were employed to illustrate the time use patterns of men and women. The study also applies the Ordinary Least Squares (OLS) method to estimate the determinants of unpaid work among women. This statistical technique helps in quantifying the relationship between unpaid work time and its influencing factors, providing a nuanced understanding of the socio-economic dynamics at play.

Overall, this methodological framework enables a detailed examination of the gendered distribution of unpaid work and the socio-economic factors that shape these patterns, thereby contributing to policy discussions aimed at promoting gender equality and economic inclusion.

The simple multiple regression model with k regressors can be written as:

$$y = x_{\beta} + e \tag{1}$$

Y is a column vector (n x 1) representing dependent variable, X is a representing matrix of independent variables.

Thus, to derive the main factors that determine the unpaid time by an individual, we follow the regression model using the following specification:

$$y_i = \beta_0 + \beta_1 \text{Gender} + \beta_2 \text{Sector} + \beta_3 \text{Age} + \beta_4 \text{Education} + \beta_5 \text{Marital} + \beta_6 \text{Activity} + \mu_i \tag{2}$$

$y_i$  is the dependent variable representing time spent (in minutes) on unpaid work. Unpaid activities are taken as activities which activity code 92, 93 in NSO classification.

**Table 1. Variable Description**

VARIABLES	DESCRIPTION	
AGE	Categorical	Indicator variable with 3 categories: 15 to 29 yrs – 1; 30 to 44 yrs – 2; 45 to 59 yrs – 3
GENER	Categorical	takes value 1 if the person is male, 0 otherwise.
SECTOR	Categorical	dummy variable which takes value 1 if rural, 0 otherwise.
EDUCATION	Categorical	It denotes an individual's education level which can take value between 1-6: Illiterate – 1; up to the primary – 2; up to the middle – 3; up to secondary – 4; higher secondary – 5; graduate and above – 6.
MARITAL	Categorical	Indicator variable with 4 categories. It takes values 1 if a person has never married, 2 if a person is currently married, 3 if a person is a widow and 4 if a person is divorced or separated.
OCCUPATION	Categorical	It denotes the activity status of a person who is currently working. It takes a value 1 if a person is own account worker, 2 if a person is an employer, 3 if a person is an unpaid family enterprise worker, 4 if a person is a regular salaried/ wage employee, 5 if a person is casual wage labour in public work, 6 if a person is seeking/ available for work, 7 if a person is attended educational institution, 8 if a person attended domestic duties, 9 if a person attended domestic duties and free collection of goods, 10 if a person is rentiers, pensioners, remittance recipient, 11 if a person is not able to work due to disability and 12 if a person is engaged in other activities like begging, prostitution, etc.

### 3. Results

#### 3.1 Gendered Pattern of Time Use Survey: Evidence from Indian TUS 2019

The following table presents a detailed analysis of the mean time spent on various activities by individuals aged six years and above in rural and urban areas of India, disaggregated by gender. This data, sourced from the Time Use Survey (TUS) 2019 conducted by the National Statistical Office (NSO), provides a comprehensive view of the daily time allocation across different types of work and activities. The table highlights the stark gender disparities in time spent on paid and unpaid work, reflecting traditional gender roles that persist in both rural and urban settings.

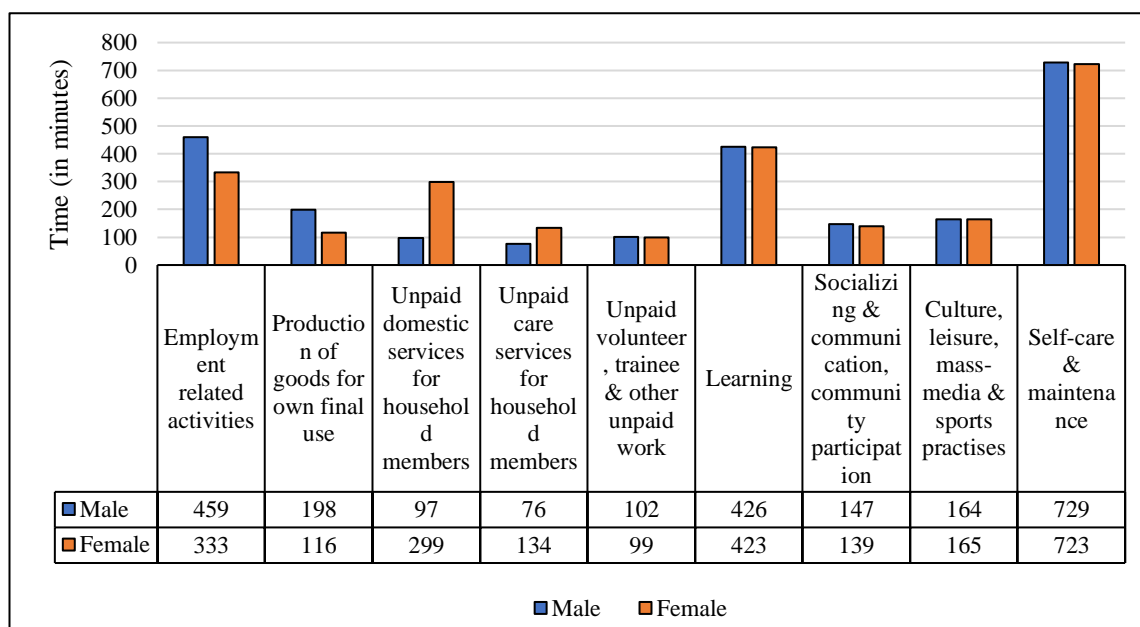
**Table 2. Mean time spent on paid, unpaid and other activities by persons of age six years & above**

Description of activities	Rural		Urban	
	Male	Female	Male	Female
Employment-related activities	243	61	307	62
Production of goods for own final use	39	31	5	5
Unpaid domestic services for household members	27	247	21	232
Unpaid care services for household members	11	37	10	36
Unpaid volunteer, trainee and other unpaid work	3	2	3	2
Learning	102	82	101	88
Socializing and communication, community participation and religious practices	138	127	125	127
Culture, leisure, mass media and sports practices	140	129	157	168
Self-care and maintenance	737	724	711	720
<b>Total (minutes)</b>	1440	1440	1440	1440

Source: (GoI, 2020)

With the help of descriptive statistics and graphs, the following section shows evidence of time use patterns of men and women in rural and urban sectors of India. Table 1 presents the Mean time spent on paid, unpaid and other activities by persons of age six years & above. It is clear from the table below that both in rural and urban areas, the mean time spent on employment-related activities by male members is significantly higher than their female counterparts. In urban regions, male mean time in employment-related activities is more elevated than males in rural areas. While in the case of women, the mean time spent on employment-related activities in both sectors shows the same pattern. On the contrary, in rural and urban areas, women’s mean time spent in unpaid domestic services is significantly higher than males’ mean time in both sectors.

### 3.2 Average Time Spent on Paid, Unpaid and Other Activities In A Day Per Person

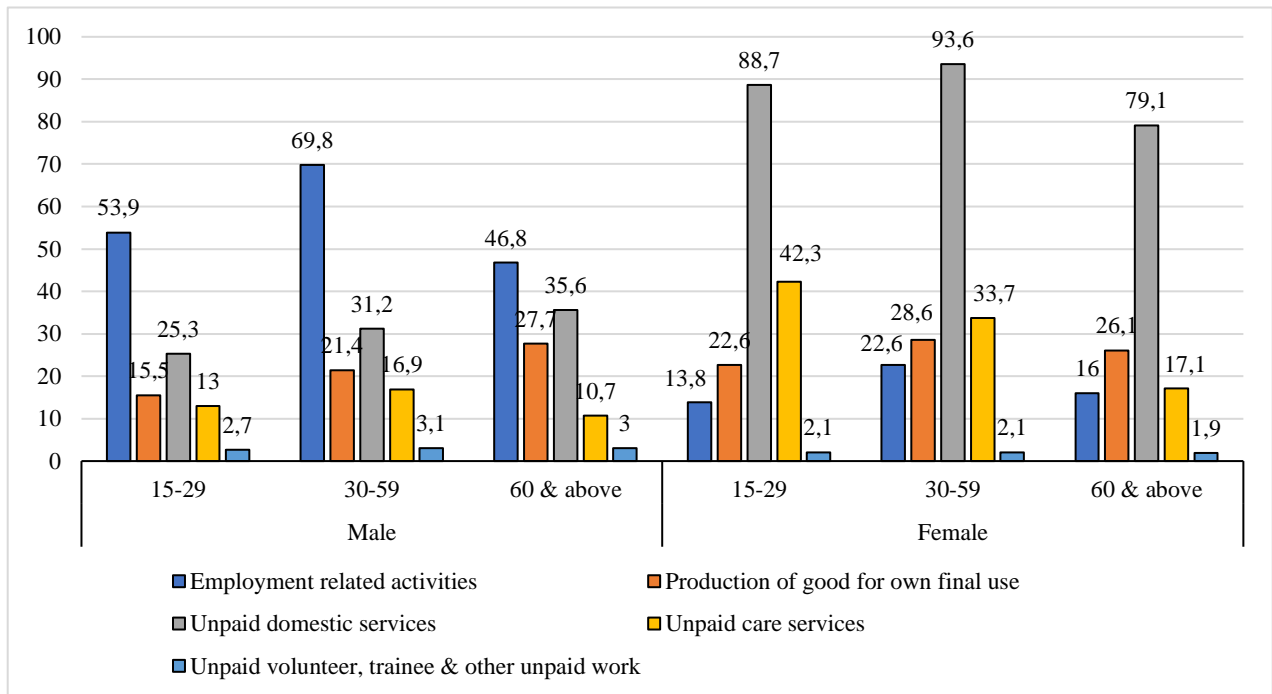


**Figure 2: Average Time (in minutes) Spent in Different Activities in A Day Per Person (Source: GoI, 2020)**

Figure 2 shows the percentage of people participating in paid, unpaid and other activities. The figure suggests that male members are more engaged in employment-related activities. Compared to male

members, females are involved in unpaid domestic service activities, which include housework such as cooking, cleaning, washing clothes etc. Although, males are also engaged in unpaid care work. Men's and women's participation are likely to be the same in all other activities. The figure reveals that a male's average time in employment-related activities is 459 minutes, and a woman's average time per day in similar activities is 333 minutes. Also, in the production of goods for their own final use, men's average time is greater by 82 minutes, i.e., approximately one and half hours. However, the time gap for unpaid domestic work is more than three times for women than for men. And similar trends are visible in unpaid care services, unpaid volunteers, trainees and all other unpaid work.

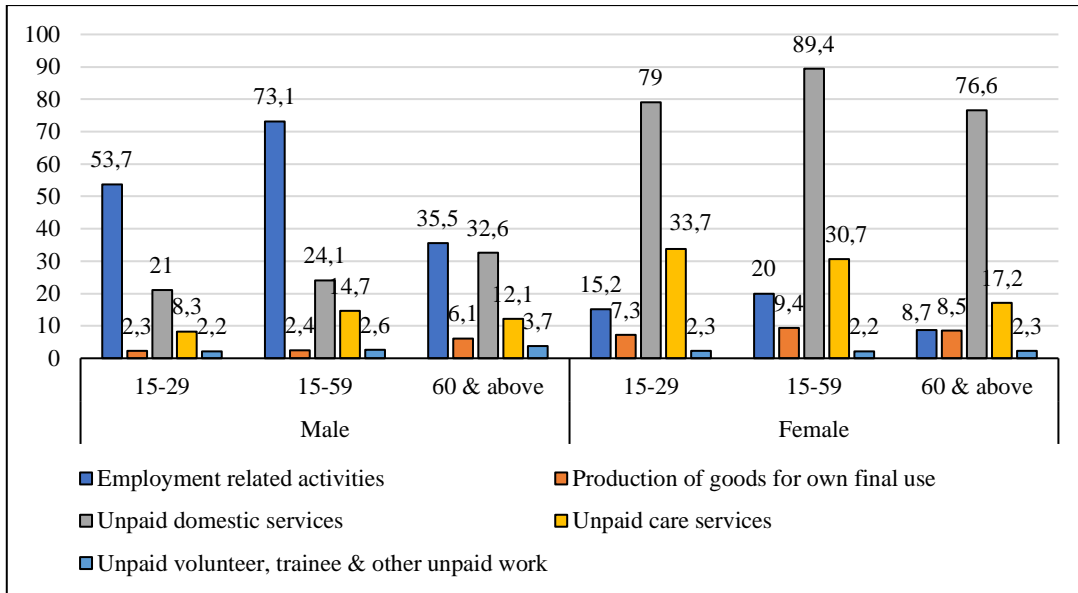
### 3.3 Age-Wise Distribution of Persons in Rural Areas From Different Activities During A Day



**Figure 3: Percentage of persons (male and female) of rural areas from different age groups participating in different activities during a day**  
 Source: GoI, 2020

Figure 3 shows the age-wise percentage of males and females of rural areas participating in different activities in a day. It is clear from the figure, irrespective of age- group, males are relatively more engaged in employment-related activities than women. It should also be noted the highest in the age between 15- 59 and the lowest in the age- group 15- 29. However, females are more engaged in unpaid domestic services as well as in unpaid care services, irrespective of their age groups. Men's participation in employment-related activities is highest in the 15- 59 age group. In the same age group, women's engagement in unpaid domestic service.

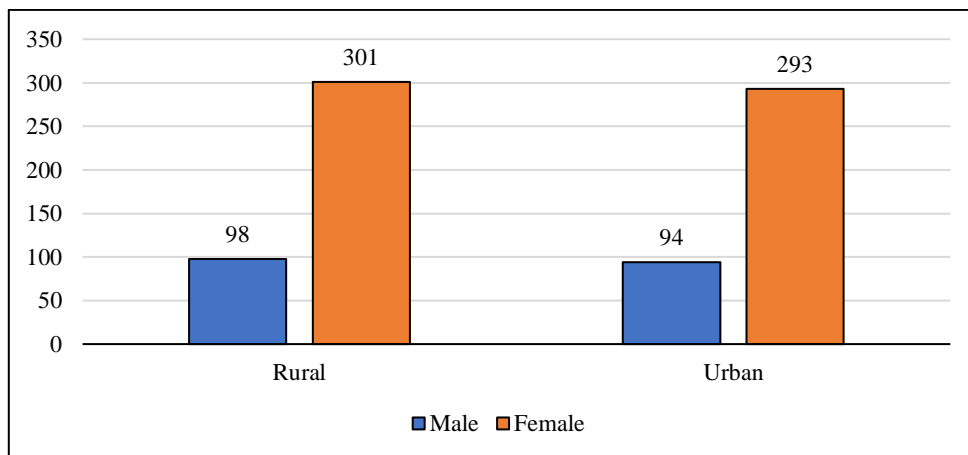
### 3.4 Age-Wise Distribution of Persons in Urban Areas from Different Activities During A Day



**Figure 4: Percentage of persons (male and female) of urban areas from different age groups participating in different activities during a day**  
 Source: (Government of India, 2020)

Similarly, in the urban sector, Figure 4 shows that males are relatively more engaged in employment-related activities than women, irrespective of their age- group. It should also be noted highest in the age between 30-59 and lowest in age-group 15-29. However, females are more engaged in unpaid domestic services as well as in unpaid care services, irrespective of their age groups. Men’s participation in employment-related activities is highest in the 30-59 age group. However, women’s engagement in unpaid domestic service is the highest for the same age group. Overall, unpaid domestic service is mainly related to women’s responsibility. And in comparison, to the rural sector, women’s responsibility in unpaid domestic service and care work is higher than that of women in the urban sector.

### 3.5 Average Time Spent on Unpaid Service Work by A Person (6 Years & Above)



**Figure 5: Average time spent (in minutes) on unpaid service work by a person (6 years & above)**  
 Source: GoI, 2020

As it is already clear from the above analysis that women’s engagement in unpaid domestic work is greater than men. Fig 5 shows the average time spent (in minutes) on unpaid service work by a male and a woman of 6 years & above in rural and urban areas. It is clear from the figure that both in rural and urban areas, women’s average time spent in domestic services is much greater than that man of rural and urban sectors. On average, men spend less than two hours in unpaid domestic service while women spend approximately 5 hours in unpaid domestic service work.

### 3.6 Factors Determining Women's Time in Unpaid Work

**Table 3: Descriptive statistics**

Variables	Frequency	Sample (%)
<b>Gender</b>		
Male	226,644	50.91
Female	218,526	49.09
<b>Sector</b>		
Rural	272,049	61.11
Urban	173,121	38.89
<b>Age</b>		
15-29	142,684	42.23
30-44	115,083	34.06
45-59	80,080	23.70
<b>Education</b>		
Illiterate	89,782	20.17
primary	118,134	26.54
middle	74,903	16.83
Secondary	64,382	14.46
Higher secondary	47,266	10.62
Graduate and above	50,689	11.39
<b>Marital status</b>		
Never married	149,335	33.55
Currently married	265,054	59.54
Widowed	28,484	6.40
Divorced/separated	2,297	0.52
<b>Status code</b>		
Own account worker	69,515	15.62
Self-employed: employer	3,640	0.82
Self-employed: Unpaid family worker	16,977	3.81
Regular salaried	47,818	10.74
Casual wage labour	50,267	11.29
Did not work but was seeking and/or available for work	7,051	1.58
Attended educational institution	104,900	23.56
Attended domestic duties only	92,493	20.78
Attended domestic duties and was also engaged in free collection of goods	26,334	5.92
Rentiers, pensioners, remittance recipients, etc	16,367	3.68
Not able to work due to disability	4,413	0.99
Others	5,395	1.21

This section deals with the second objective of the study, i.e., exploring the factors responsible for deciding women's time in unpaid work. For this purpose, individual-level data have been used for analysis. First, variables have been collected through the literature review. And then, descriptive statistics were calculated in table 2. In the end, the OLS regression model has been used to explore the relationship between unpaid time and other independent variables summarised in table 3.

A Multiple regression analysis has been run to examine the relationship between unpaid time and other independent variables, including sector, gender, age group, marital status, level of education, and usual activity status.

### 3.7 Impact on Mean Unpaid Time of a Unit Change in The Value of a Regressor

The results of the estimated OLS model is given below in Table 3. Overall, the adjusted R-squared value of 0.6146 indicates that the independent variables in the regression model explain approximately 61.46% of the variability in the time spent on unpaid work.

**Table 4. Regression Results**

	Dependent Variables					
	Coef.	Std. Error	t	P> t	[95% Conf. Interval]	
					LB	UB
<b>Gender</b>						
Female	167.77	.931	180.16	0.00	165.95	169.60
<b>Sector</b>						
Urban	-36.43	.62	-58.86	0.00	-37.65	-35.22
<b>Age</b>						
30-44	-10.67	.92	-11.53	0.00	-12.48	-8.86
45-59	-49.33	1.06	-46.70	0.00	-51.40	-47.26
<b>Education</b>						
primary	2.74	1.10	2.48	0.01	.57	4.90
middle	-5.44	1.12	-4.87	0.00	-7.63	-3.25
Secondary	-7.30	1.12	-6.55	0.00	-9.49	-5.12
Higher secondary	-6.53	1.18	-5.51	0.00	-8.85	-4.21
Graduate and above	-9.60	1.21	-7.96	0.00	-11.96	-7.24
<b>Marital status</b>						
Currently married	97.17	1.16	83.90	0.00	94.90	99.44
Widowed	73.00	2.38	30.66	0.00	68.32	77.66
Divorced/separated	64.87	4.49	14.44	0.00	56.06	73.67
<b>Status code</b>						
Self-employed: employer	-38.29	2.97	-12.90	0.00	-44.11	-32.47
Self-employed: Unpaid family worker	59.85	2.12	28.26	0.00	55.70	64.00
Regular salaried	-53.45	1.11	-48.25	0.00	-55.62	-51.28
Casual wage labour	-45.51	1.20	-37.80	0.00	-47.87	-43.15
Did not work but was seeking and/or available for work	9.87	2.30	4.29	0.00	5.36	14.39
Attended educational institution	-68.81	1.42	-48.34	0.00	-71.60	-66.02
Attended domestic duties only	158.36	1.38	115.14	0.00	155.66	161.05
Attended domestic duties and was also engaged in free collection of goods	177.39	1.79	98.99	0.00	173.87	180.90
Rentiers, pensioners, remittance recipients, etc	72.25	3.84	18.80	0.00	64.72	79.79
Not able to work due to disability	-77.67	3.68	-21.11	0.00	-84.88	-70.46
Others	-15.50	4.68	-3.31	0.00	-24.68	-6.32
<b>Constant</b>	71.82	1.54	46.73	0.00	68.81	74.83
Observations: 337,750	Adjusted R-squared			Rmse: 142.16		
F(23, 337726) = 16967.04    Prob > F = 0.0000	R-squared: 0.6146					

The F-statistic and its associated p-value indicate the overall statistical significance of the regression model. From the Table 3, we observed that the average time spent on unpaid work by a female is 167.77 minutes more than a male, holding other variables constant. Another important factor that affects the time spent on unpaid work is the location of the household. A person living in a rural area spends more time on unpaid work than a person in an urban area and vice-versa. The results show that a person in an urban area is spending 36.43 minutes less on unpaid work than a person living in rural area, assuming other factors remain constant. The results showed that

the average time spent on unpaid work decreases as the age of the person increases. The time spent on unpaid work by an individual of the age group 30-44yrs is 10.67 minutes less than a person falling in the 15-29 years age group, holding other variables constant. Similarly, time spent on unpaid work by an individual of the age group 45-59 years is 49.33 minutes less than a person falling in the 30-44 years age group, holding other variables constant.

Education plays a vital role in determining the time allocation of a person. A more educated person is likelier to be engaged more of their time in the paid activity than an illiterate or less literate person. Results suggests that a person who graduated or above spent 9.59 minutes less compared to an illiterate person, *ceteris paribus*. Similarly, currently married, widowed, or separated persons have to spend more time on unpaid work than an unmarried person. The result shows that a currently married person has to spend 97.16 minutes more compared to a never-married person *ceteris paribus*. The occupation of a person is also a deciding factor in time allocation between paid and unpaid work. A person engaged in only domestic duties or free collection of goods spent more time on unpaid work than an own-account worker. An individual who attended to household responsibilities and engaged in free collection of goods spent 177.38 minutes more than an own-account worker, *ceteris paribus*. The negative sign before self-employed, casual workers, salaried employees and students who are attending educational institutions show that they devote less time to unpaid work.

#### **4. Discussion**

The Time Use Survey (TUS) 2019 data provides a comprehensive analysis of the gendered patterns of time allocation among individuals aged six years and above in India. The evidence clearly highlights significant disparities in time spent on paid and unpaid work between men and women (Deshpande, 2022; Janiso et al., 2024), reflecting deep-rooted traditional gender roles prevalent in both rural and urban settings (Espino et al., 2024). The data indicates that men, on average, spend considerably more time on employment-related activities than women (Costoya et al., 2022; Knapková & Kaščáková, 2018). In rural areas, men allocate an average of 243 minutes per day to paid work, whereas women only spend 61 minutes. This disparity is even more pronounced in urban areas, where men devote 307 minutes to paid work compared to 62 minutes for women. These figures underscore the persistent gender gap in labor force participation and the allocation of paid work.

Conversely, women bear a disproportionate burden of unpaid domestic services. In rural areas, women spend an average of 247 minutes per day on domestic chores, compared to just 27 minutes for men. Similarly, in urban areas, women dedicate 232 minutes to unpaid domestic work, while men spend only 21 minutes. This substantial time gap highlights the unequal distribution of household responsibilities, which remains heavily skewed towards women. The Ordinary Least Squares (OLS) regression model further elucidates the determinants of unpaid work time among women. The model's results indicate that gender is a significant factor, with women spending an average of 167.77 minutes more on unpaid work than men, holding other variables constant. The location of the household also plays a crucial role; individuals in rural areas spend more time on unpaid work compared to those in urban areas. Specifically, urban residents spend 36.43 minutes less on unpaid work than their rural counterparts.

Age is another important determinant (Sahu, 2024). Younger individuals (15-29 years) tend to spend more time on unpaid work than older age groups. The time spent on unpaid work decreases progressively with age (Ophir & Polos, 2022), with individuals aged 30-44 years spending 10.67 minutes less, and those aged 45-59 years spending 49.33 minutes less, compared to the 15-29 years age group. Educational attainment significantly impacts time allocation. More educated individuals, particularly those with a graduate degree, spend less time on unpaid work. The results suggest that graduates spend 9.59 minutes less on unpaid work compared to illiterate individuals. Marital status also influences time use patterns (Hertog & Kan, 2021); currently married, widowed, or separated individuals allocate more time to unpaid work than unmarried individuals. Specifically,

currently married individuals spend 97.16 minutes more on unpaid work than their never-married counterparts. Occupational roles are also decisive in determining the distribution of paid and unpaid work (Muriithi et al., 2020). Individuals engaged solely in domestic duties or free collection of goods spend significantly more time on unpaid work than own-account workers. Those attending to household responsibilities and engaging in the free collection of goods spend 177.38 minutes more on unpaid work than own-account workers, holding other factors constant. In contrast, self-employed individuals, casual workers, salaried employees, and students spend less time on unpaid work.

These findings underscore the entrenched gender disparities in time allocation for paid and unpaid activities in India. Women disproportionately shoulder the burden of unpaid domestic and care work, which has significant implications for their economic and social well-being. Addressing these disparities requires targeted policy interventions aimed at redistributing unpaid work more equitably and recognizing its value in economic assessments. Promoting gender equality in both domestic and professional spheres is essential for fostering a more inclusive and equitable society.

## 5. Conclusion

This paper makes a new contribution to understanding the time allocation patterns and their determinants. From the table 3, we found that women are spending more time on unpaid work. Women's predominance in unpaid work is not their choice. Study found that the average time spent on unpaid work by a female is 167.7 minutes more than a male, holding other variables constant. This means that gender plays a very important role in determining unpaid time. This may be due to patriarchal norms followed by the society which assigned household responsibilities to the women. Besides, gender, marital status, location, level of education, activity status plays important role in determining unpaid time. Finding reveals that persons living in rural area spend more time in unpaid work than person living in urban area. It is also found that unpaid time decreases with increasing age. In conclusion, the study finds that women in India are more engaged in unpaid household activities. Therefore, more government intervention is required to bring them into main workforce.

## 6. References

- Bataka, H. (2024). Global value chains participation and gender inequalities in Sub-Saharan Africa: Importance of women education. *International Economics*, 178(September 2023), 100483. <https://doi.org/10.1016/j.inteco.2024.100483>
- Bennett, R., & Waterhouse, P. (2018). Work and family transitions and the self-rated health of young women in South Africa. *Social Science and Medicine*, 203(February), 9–18. <https://doi.org/10.1016/j.socscimed.2018.03.001>
- Cassar, L., & Meier, S. (2018). Nonmonetary incentives and the implications of work as a source of meaning. *Journal of Economic Perspectives*, 32(3), 215–238. <https://doi.org/10.1257/jep.32.3.215>
- Chidambaram, B., & Scheiner, J. (2024). Do men and women differ in time-use? Analysing the complexity of activity patterns in Germany. *Transportation Research Interdisciplinary Perspectives*, 24(April 2022), 101077. <https://doi.org/10.1016/j.trip.2024.101077>
- Costoya, V., Echeverría, L., Edo, M., Rocha, A., & Thailinger, A. (2022). Gender Gaps within Couples: Evidence of Time Re-allocations during COVID-19 in Argentina. *Journal of Family and Economic Issues*, 43(2), 213–226. <https://doi.org/10.1007/s10834-021-09770-8>
- Deshpande, A. (2022). The Covid-19 pandemic and gendered division of paid work, domestic chores and leisure: evidence from India's first wave. *Economia Politica*, 39(1), 75–100. <https://doi.org/10.1007/s40888-021-00235-7>
- Espino, I., Hermeto, A., & Luz, L. (2024). Gender differences in time allocation to paid and unpaid work: evidence from urban households in Guatemala, 2000–2014. *Community, Work & Family*, 27(2), 154–169. <https://doi.org/10.1080/13668803.2022.2130032>

- Fast, J., Duncan, K. A., Keating, N. C., & Kim, C. (2024). Valuing the Contributions of Family Caregivers to the Care Economy. *Journal of Family and Economic Issues*, 45(1), 236–249. <https://doi.org/10.1007/s10834-023-09899-8>
- Fischer, I., & Luiz, J. M. (2024). Exploring gender differences in Gen Z students' attribution of obstacles influencing their academic and professional success. *International Journal of Management Education*, 22(2), 100989. <https://doi.org/10.1016/j.ijme.2024.100989>
- Freihat, L., Al-Qaaida, M., Huneiti, Z., & Abbod, M. (2024). Green Human Resource Management/Supply Chain Management/Regulation and Legislation and Their Effects on Sustainable Development Goals in Jordan. *Sustainability (Switzerland)*, 16(7). <https://doi.org/10.3390/su16072769>
- Hertog, E., Fukuda, S., Matsukura, R., Nagase, N., & Lehdonvirta, V. (2023). The future of unpaid work: Estimating the effects of automation on time spent on housework and care work in Japan and the UK. *Technological Forecasting and Social Change*, 191(December 2022), 122443. <https://doi.org/10.1016/j.techfore.2023.122443>
- Hertog, E., & Kan, M. Y. (2021). Married Adults Coresiding with Older Parents: Implications for Paid Work and Domestic Workloads. *Journal of Population Ageing*, 14(4), 507–535. <https://doi.org/10.1007/s12062-021-09346-2>
- Hirway, I. (2015). Unpaid Work and the Economy: Linkages and Their Implications. *SSRN Electronic Journal*, 838. <https://doi.org/10.2139/ssrn.2612926>
- Janiso, A., Shukla, P. K., & Reddy A, B. (2024). What explains the gender gap in unpaid housework and care work in India? *Development Policy Review*, 42(1). <https://doi.org/10.1111/dpr.12730>
- Kim, J. (2024). The effects of paid family leave—does it help fathers' health, too? In *Journal of Population Economics* (Vol. 37, Issue 1). Springer Berlin Heidelberg. <https://doi.org/10.1007/s00148-024-00994-0>
- Knapková, M., & Kašćáková, A. (2018). Use of time in single-member households in Slovakia. *E a M: Ekonomie a Management*, 21(3), 40–57. <https://doi.org/10.15240/tul/001/2018-3-003>
- Larance, L. Y., & Kertesz, M. (2023). Methodological and Ethical Considerations When Working Beyond the Victim-Offender Binary: A Brief Report on the Unintended Consequences of the C-ABI. *Journal of Family Violence*, 38(6), 1071–1078. <https://doi.org/10.1007/s10896-023-00584-w>
- Marlo, J., Scott, M. A., & Weinberg, S. L. (2024). Who's minding the children: Gender equity in the first 2 years of the pandemic. *International Journal of Social Welfare*, 33(2), 511–530. <https://doi.org/10.1111/ijsw.12622>
- Muriithi, M. K., Mutegi, R. G., & Mwabu, G. (2020). Counting unpaid work in Kenya: Gender and age profiles of hours worked and imputed wage incomes. *Journal of the Economics of Ageing*, 17, 100120. <https://doi.org/10.1016/j.jeoa.2017.04.004>
- Ophir, A., & Polos, J. (2022). Care Life Expectancy: Gender and Unpaid Work in the Context of Population Aging. In *Population Research and Policy Review* (Vol. 41, Issue 1). Springer Netherlands. <https://doi.org/10.1007/s11113-021-09640-z>
- Pailhé, A., Solaz, A., & Stanfors, M. (2021). The Great Convergence: Gender and Unpaid Work in Europe and the United States. *Population and Development Review*, 47(1), 181–217. <https://doi.org/10.1111/padr.12385>
- Rao, N. (2018). Global Agendas, Local Norms: Mobilizing around Unpaid Care and Domestic Work in Asia. *Development and Change*, 49(3), 735–758. <https://doi.org/10.1111/dech.12390>
- Sahu, D. (2024). Gendered division of paid, unpaid, and total work in India: who bears more burden? *Contemporary South Asia*, 32(2), 151–166. <https://doi.org/10.1080/09584935.2024.2341177>

- Santellano, K., & Vallejo, J. A. (2024). Feminist ethnoracial entrepreneurship among Latina elite and middle-class entrepreneurs. *Gender, Work & Organization*, 31(4), 1166–1181. <https://doi.org/10.1111/gwao.13091>
- Singh, P., & Pattanaik, F. (2020). Unfolding unpaid domestic work in India: women's constraints, choices, and career. *Palgrave Communications*, 6(1), 1–13. <https://doi.org/10.1057/s41599-020-0488-2>
- Storz, M. A., Beckschulte, K., Brommer, M., & Lombardo, M. (2022). Current Sex Distribution of Cooking and Food Shopping Responsibilities in the United States: A Cross-Sectional Study. *Foods*, 11(18). <https://doi.org/10.3390/foods11182840>
- Vitellozzi, S., & Giannelli, G. (2023). Thriving in the Rain: Natural Shocks, Time Allocation, and Women's Empowerment in Bangladesh. *SSRN Electronic Journal*, 181(June), 106684. <https://doi.org/10.2139/ssrn.4404480>
- Wang, Q., Chiang, T. F., & Xiao, J. J. (2024). Attitude toward gender inequality in China. *Humanities and Social Sciences Communications*, 11(1). <https://doi.org/10.1057/s41599-024-02857-1>
- Yoon, S., & Park, N. (2024). Development of work-life/family policy and gendered division of childcare responsibility: the case of South Korea. *International Journal of Sociology and Social Policy*, 44(1/2), 59–75. <https://doi.org/10.1108/IJSSP-12-2022-0325>
- Zoch, G., & Heyne, S. (2023). The evolution of family policies and couples' housework division after childbirth in Germany, 1994–2019. *Journal of Marriage and Family*, 85(5), 1067–1086. <https://doi.org/10.1111/jomf.12938>