AN EMPIRICAL INVESTIGATION OF GENDER AND TIME USE IN UGANDA

FINAL REPORT

November 2019

Francis Mwesigye, PhD

OCCASIONAL PAPER NO. 49

AN EMPIRICAL INVESTIGATION OF GENDER AND TIME USE IN UGANDA

November 2019

Submitted to UN-WOMEN, Kampala, Uganda

OCCASIONAL REPORT NO 49

The Economic Policy Research Centre (EPRC) is an autonomous not-for-profit organization established in 1993 with a mission to foster sustainable growth and development in Uganda through advancement of research –based knowledge and policy analysis. Since its inception, the EPRC has made significant contributions to national and regional policy formulation and implementation in the Republic of Uganda and throughout East Africa. The Centre has also contributed to national and international development processes through intellectual policy discourse and capacity strengthening for policy analysis, design and management. The EPRC envisions itself as a Centre of excellence that is capable of maintaining a competitive edge in providing national leadership in intellectual economic policy discourse, through timely research-based contribution to policy processes.

Any enquiries can be addressed in writing to the Executive Director on the following address:

Economic Policy Research Centre
Plot 51, Pool Road, Makerere University Campus
P.O. Box 7841, Kampala, Uganda
Tel: +256-414-541023/4
Fax: +256-414-541022
Email: eprc@eprc.or.ug
Web: www.eprc.or.ug

OCCASIONAL REPORT NO 49

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

EXECUTIVE SUMMARY

The report presents findings of a study on time use and role allocation by gender in Uganda. Most governments, Uganda inclusive, have put in place measures to promote gender equality in terms of access to resources, political representation, and reduced discrimination at work places. For instance, according to Uganda's constitution, women have a right to equally inherit property upon the death of their parents and spouses. In addition, Uganda has put measures to promote girl child education so as to close gender gap in education. The notable intervention is the affirmative action which gives girl students 1.5 extra points at high school to enable then join the university.

However, despite all these efforts, women are still disadvantaged along social, economic and political dimensions. For example, role allocation and time use vary by gender. Studies have shown that men are most likely to participate in paid work, while women participate in unpaid work. This has implications, not only on equality, but also on welfare of women, and households at large. To address gender gaps, data and evidence are key for policy guidance. Recognizing that gender statistics is necessary in effectively attaining equity and equality in the planning and decision-making processes of government, Uganda Bureau of Statistics has undertaken several household-based surveys including the Time Use Survey 2017. This study examines this data to generate incites on time use, role allocation and perceptions about work by gender in Uganda.

Findings from this study show that males and females are different along many dimensions. Males are more educated than females, and hence they are more likely to be decently employed compared to their female counterparts. In terms of occupational choice, the results show that on one hand, males were more likely to be employed by government or private organizations, and to operate private businesses compared to females. Females, on the other hand, were more likely to participate in unpaid work, conduct petty trade such as selling a few items on the streets, and participate in agriculture.

The study examined what females and males do at different time periods throughout the day. The day was divided into 4 sessions: Period 1 (5-8 Hrs), Period 2 (8-17 Hrs), period 3 (17-23Hrs), and period 4 (23-5Hrs). The results show that throughout these time periods, women were significantly more likely to do unpaid household work, unpaid care work such as taking care of children, elderly and the sick, and they were more likely to participate in agriculture. As for men, they were more likely to participate in employment work and in socializing with friends. Even during period 4 (23-5 Hrs) which is usually used for sleeping, women participated in unpaid care work suggesting that they slept for a shorter time compared to men. The regression results showed that being a female was associated with 3 hours less time allocated to employment jobs, but more 4 hours spent on unpaid household work compared to males.

The results on work perceptions revealed that females are more likely to believe that taking care of family, elderly, and child care are a woman's responsibility. In addition, females are more likely to believe that men do not know how to take care of toddlers compared to males. This means that traditional role allocation has been institute ionalized and now females believe that it is their responsibility to do unpaid work. This suggests that changing time use and role allocation patterns in Uganda requires mindset change. On women empowerment, the results show that, compared to males, females do not believe that a man who does house work will be overpowered by his wife.

1. INTRODUCTION

Time use and role allocation within the household and beyond vary by gender, and this has serious implications on welfare, and inequality, and overall development (Guloba, et al., 2019; Stevano, et al., 2018; Hirway & Jose, 2011; Sarah Gammage, 2010). Within the household, women engage disproportionately in domestic tasks and undertake the majority of social reproduction, caring work, and household maintenance. Moreover, many women engage exclusively in reproductive activities or non-market production within the household (Sarah Gammage, 2010). The differences in task allocation and time use manifest in a visibly sex-segmented labor market with pronounced income and earnings gaps, where women typically earn less than men in the same jobs. It is therefore apparent that addressing gender differences in time use and role allocation within a household would reduce different forms of discrimination and enhance equitable growth.

To address gender gaps, data and evidence are key for policy guidance. A number of countries are now undertaking time-use surveys and mainstreaming gender questions in a number of household surveys. Uganda has made efforts to mainstream gender statistics in the production and dissemination of statistics in response to the ratification of declarations on gender equality on the international scene such as the Convention on the Elimination of All forms of Discrimination against Women (CEDAW), the Beijing Platform of Action (BPfA) and the SDGs.

To achieve gender mainstreaming, the government has engendered national statistical tools so as to capture measures and indicators of gender access to resources, decision making, and time use. For example, gender issues have been incorporated in the annual agricultural survey tool (AAS), Uganda national census of agriculture tool, and other surveys that the government conducts through Uganda Bureau of Statistics (UBoS). At the same time, the country has committed to achieve gender equality. Recognizing that gender statistics is necessary in effectively attaining equity and equality in the planning and decision-making processes of government, UBOS has undertaken several household-based surveys including the Time Use Survey 2017. This study uses Time use survey data 2017 to examine the time use and role allocation by gender.

A large and growing body of literature shows that there are time use variations across gender, and that this has far reaching implications on socio-economic wellbeing of people. For instance, a study by Bird and Fremont (1991) notes that men and women hold different social roles, and that men hold most of the highly rewarding roles compared to women. The study concluded that if gender roles were more equal, women would experience better health than men, more consistent with their greater longevity. In addition, Pinto, et al., (2018) argues that the pattern of inequality in the division of household chores between men and women persists and, even in developed countries, within the domestic sphere the burden remains greater for women, particularly if there are children and/or a spouse or a person who requires care.

Gender-differentiated time use patterns are affected by many factors, including household composition and life cycle issues (age and gender composition of household members), seasonal and farm system considerations, regional and geographic factors, including ease of access to water and fuel, availability of infrastructure, and distance to key economic and social services such as schools, health centers, financial institutions, and markets. But social and cultural norms also play an important role both in defining, and sustaining rigidity in, the gender division of labor. This is most evident in the division of responsibilities between productive (market) and reproductive (household) work. In addition to their prominence in agriculture and in much of the informal sector, women bear the brunt of domestic tasks: processing food crops, providing water and firewood, and caring for the elderly and the sick, this latter activity assuming much greater significance in the face of the HIV/AIDS pandemic (Blackden and Wodon, 2006).

Other related studies indicated that women have higher rates of psychological distress including anxiety, depression, worry, and demoralization. Social scientists find consistently that sex differences in psychological distress are caused by role stress, role conflict, and the degree of commitment to gender roles (Gove 1984). For example, women typically bear major responsibility for housework and child care even when they are employed (Ross, Mirowsky, and Huber 1983). In addition, the more work by women affect their health outcomes through causing health issues such as obesity. Indeed, Pinto, et al., (2018) found that the length of the working hours a week influences factors underlying weight gain, linked to behavioural and/or stress mechanisms.

There have been attempts to examine whether gender role allocations persist over the life cycle. Using data from the 2006 Turkish Time-Use Survey, a study by Kongar and Memiş (2017) examines gender differences in time allocation among married couples over the life cycle. While they found large discrepancies in the gender division of both paid and unpaid work at each life stage, the gender gap in paid and unpaid work is largest among parents of infants compared to parents of older children and couples without children. The gender gap narrows as children grow and parents age. Married women's housework time remains relatively unchanged across their life cycle, while older men spend more time doing housework than their younger counterparts. The study also found that over the course of the life cycle, women's total work burden increases relative to men's.

Time use has far reaching implication on poverty and inequality. The World Bank has incorporated time poverty in the expanded definition of poverty which considers multidimensional poverty as opposed to the conventional income or consumption poverty measures (World Bank, 2006). In this definition, work is categorized into subsistence, reproductive, and voluntary work (Kes & Swaminathan, 2006). Subsistence production concerns production of goods for home use that in principle could be marketed such as food, clothing, soft furnishings, pottery, and housing. Reproductive work, on the other hand, includes activities such as preparing meals, laundry, cleaning, household maintenance, and personal care. Voluntary community work comprises unpaid activity in community and civic associations such as self-help groups to secure improvements in neighborhood safety (Elson 2002). There are reported significant gender differences in time use across these work categories (Kes & Swaminathan, 2006).

Understanding time use, gender roles, and gender beliefs is key in addressing gender inequality and poverty in sub-Saharan Africa. Gender roles concern behavior, both descriptively (what men and women do) and normatively (what men should do and what women should do), and beliefs, are expectations about the behavior of one's own sex and the other sex, that is, the extent to which we believe that "real men" or "real women" (should) behave in certain ways (Sent & Staveren, 2019). Overlooking the differences in men's and women's contributions to work can lead to inappropriate policies which have the unintended effect of raising women's labor burdens while sometimes lowering those of men (World Bank, 2006). However, there remains limited time use studies to guide policy in many SSA countries, Uganda inclusive. It is against this background that this study seeks to conduct time use analysis using Uganda's Time Use Survey, 2017.

The rest of the study is structured as follows. Section 2 presents the objectives and research questions. Section 3 describes the methodology adopted and the data used. Section 4 presents the first set of results from the descriptive statistics. Section 5 presents the estimation strategy, while section 6 presents empirical results. Lastly, section 7 concludes and provides recommendations.

2. STUDY OBJECTIVES AND RESEARCH QUESTIONS

The overarching objective of this study is to examine gender differences in time use in Uganda.

2.1. Specific Objectives

(i) Examine different activities performed by men, women, and across age cohorts, and time allocation to these activities.
(ii) Examine the factors influencing gendered time allocation.
(iii) Examine the attitudes towards work and time allocation by men and women.

2.2. Research Questions

The study seeks to answer the following questions

(iv) Who of the men and women contribute more towards paid work and un-paid care work?
(v) What factors influence women and men's participation and time allocation to different kinds work (productive, reproductive, and voluntary work)?
(vi) What perceptions do men and women have towards work?
(vii) What is the association between perceptions and individual level characteristics, and time use? The perceptions and time use will be analysed by gender and age cohorts.

3. METHODOLOGY AND DATA

3.1. Methodology

This study uses both quantitative and qualitative methods to examine gender variations in time use in Uganda. Regarding the quantitative method, this study generates descriptive statistics on the characteristics of households, and of eligible men and women surveyed in the 2017/18 time use study. The characteristics covered range from family demographic attributes, to individual characteristics, and to the individual perceptions about gender roles. To establish whether the observed statistical differences are significant, we conduct t-tests. All the analysis is desegregated by gender, urban-rural, and by region. In addition to descriptive analysis, the study uses regression methods to examine the association between gender and time use in Uganda. Also, the study uses regression analysis to examine the association between gender and work allocation perceptions in Uganda.

To complement the quantitative analysis, this study generates more information using focus group discussions with community members, and from focus group discussions. This data is analyzed using qualitative methods to gain an understanding behind the results from the statistical and regression analysis. The qualitative analysis helps in providing the narratives, and experiences regarding time allocation across different regions, and cultures which enriches our contextual understanding of time use in Uganda. The qualitative survey focused on the communities that were covered by UBoS for the 2017 Time Use survey.

3.2. Data

3.2.1. Quantitative Data

This study uses Uganda Time Use survey (TUS) 2017/18 collected by the Uganda Bureau of Statistics (UBoS). The survey covered all the 112 districts in Uganda at the time. It was based on the household population and excluded the population in institutions, refugee camps, forest reserves, police and army barracks, and other special areas. The 2017/18 TUS sample was designed to allow for generation of separate estimates at the national level, for urban and rural areas and for the 4 statistical regions of Uganda, namely central, eastern, northern, and western regions (UBoS, 2019).

A two-stage stratified sampling design was used. At the first stage, Enumeration Areas (EAs) were grouped by districts of similar socio-economic characteristics and by rural-urban location. The EAs were then drawn using Probability Proportional to Size (PPS). At the second stage, households which are the ultimate sampling units were drawn using Systematic Random Sampling (UBOS, 2019).

A total of 350 EAs were selected from the 2014 National Population and Housing Census (NPHC) list of EAs which constituted the Sampling Frame. The survey targeted to interview 10 households per EA, implying a total sample of 3500 households. However, due to response failure, 3,364 households were covered. From each household, two individuals, a man and a woman, aged above 14 years of age were selected for further interviews. The two individuals to interview were randomly selected from the list of eligible household members.

3.2.2. Qualitative Data

To supplement quantitative analysis, a qualitative survey was conducted in the sampled communities to establish the reasons behind role allocation, time use, and gender perceptions towards work. The qualitative survey covered all the four regions. Three districts were selected per region, giving a total of 12 districts. The selected districts include: Soroti, Mbale, and Mayuge for eastern region; Nebbi, Lira, and Oyam from northern region, Kiryandongo, Kasese and Mbarara for western region; and Masaka, Mpigi and Wakiso from Central region. In each district, two sub-counties were selected, and in each sub-county, one village was selected for focus group discussions (FGD). Overall, 24 villages were sampled for qualitative survey. In each selected village, two FGDs were conducted, one with a group of

only women, and another with a mixed group of men and women. Therefore, in total there were 48 interviews conducted.

The qualitative data captured information on the role allocation and perceptions about work by gender, and captured narratives on the rationale behind these perceptions. The data also captured information on women empowerment, and domestic violence against women and girl child. The FGD participants were also asked to propose a monthly monetary compensation to women for the unpaid household and care work they perform. This was aimed at rating how men and women unpaid work.

4. RESULTS: DESCRIPTIVE STATISTICS

This section presents the statistics on the household and individual characteristics disaggregated by gender, whether rural or urban, and by region. The characteristics examined below include demographic characteristics, occupation choice, time use and perceptions about work.

4.1. Household Characteristics

Table 1 presents the household characteristics. Overall, 28% of the surveyed households were female headed. There are more female headed households in urban areas (31%) compared to rural areas (28%) but the difference is not statistically significant. The surveyed households have heads that are aged about 44 years but those in rural areas are older (45%) than urban households' heads (40%). The family size, both in absolute numbers and in adult equivalent is large in rural compared to urban areas, and the differences are statistically significant.

In addition, there is a high dependence rate in rural areas compared to urban areas. This is defined as the ratio of children (0-14 years) and the elderly (above 65 years) to working age household members (15-65 years). The results indicate that for every one working persons, there are 1.5 dependents in rural areas compared to 1.2 for those in urban areas, and the difference is statistically significant. Consistent with dependence rate, the results also show that are more households with children under 5 and 10 years in rural areas than in urban areas.

4.2. Individual Characteristics

Table 2 presents the individual characteristics of eligible and selected men and women from each household. Consistent with the patrilineal system that is followed in Uganda, 66% of interviewed males were household heads while only 24% of the interviewed females reported to have been heads. Conversely, 44% of the interviewed females were spouses compared to only 1% of males who reported to be spouses. Overall, most of the surveyed individuals were married (59%) followed by singles (29%) and widowed/divorced or separated (13%). However, there were significantly more divorced or separated females (19%) compared to males (6%). On the other hand, there were more single males (36%) compared to females (22%) confirming an anecdotal evidence that females marry at a young age compared to males.

Table 1: **Household Characteristics**

	Overall		Rural (A)		Urban (B)		ttest
	MEAN	*SD*	MEAN	*SD*	MEAN	*SD*	
Female Headed HHds	0.28	0.45	0.28	0.45	0.31	0.46	-0.03
Household head Age	43.5	16.2	44.6	16.5	39.8	14.9	4.81***
Family Size (#)	5.5	3.1	5.6	3.1	4.9	3.2	0.79***
Total Adult Equivalents	4.5	2.6	4.6	2.6	4.1	2.7	0.57***
Dependence Rate	1.5	1.1	1.5	1.1	1.2	0.9	0.37***
Households with at least one child under 5 years	0.53	0.50	0.57	0.50	0.43	0.49	0.14***
Households with at least one child under 10 years	0.71	0.45	0.74	0.44	0.61	0.49	0.13***
Households with at least one youth	0.69	0.46	0.67	0.47	0.76	0.43	-0.10***
Number of Individuals (Millions)	13.70		10.50		3.20		

Source: Authors' computation using Time Use Survey Data, 2017. *** is significant at 1%, ** at 5%, and * at 10%.

The results on the literacy indicate that there were more females who could not read and write (39%) compared to males (24%). Conversely much fewer females reported that they could both read and write (57%) compared to males (71%) who could read and write. This suggests that men are relatively more literate than women. Indeed, more females reported that they have never attended school (20%) compared to only 9% of men that reported to have never been to school. Instead, more men reported that they were either attending (17%) or have been to school (74%) compared to women where only 13% reported to have been attending school and 67% had been to school in the past.

Analysis of the highest grade completed, shows that more females have no formal education (21%) compared to 10% of males. However, there were more males who reported to have completed all grades than females and the results are statistically significant. The results on literacy and education attainment indicate that females are more disadvantaged compared to males. This has significant implications on the access to decent job opportunities and hence time use.

Table 2: Individual Characteristics disaggregated by Gender

	Overall		Females (A)		Males (B)		ttest
	MEAN	*SD*	MEAN	*SD*	MEAN	*SD*	
Respondents relationship to the household head (Proportions are reported)							
Respondent is HH head (Proportion)	0.44	0.50	0.24	0.43	0.66	0.47	-0.42***
Respondent is Spouse (proportion)	0.26	0.44	0.48	0.50	0.01	0.07	0.47***
Respondent is Child	0.24	0.43	0.20	0.40	0.28	0.45	-0.08***
Other Relative	0.07	0.25	0.08	0.27	0.05	0.23	0.03
Marital Status of Respondent (Proportions are reported)							
Married	0.59	0.49	0.59	0.49	0.58	0.49	0.00
Widow/Divorced/Separated	0.13	0.33	0.19	0.39	0.06	0.23	0.13***
Single	0.29	0.45	0.22	0.42	0.36	0.48	-0.14***
Literacy Level of Respondents (Proportion)							
Cannot read nor write	0.32	0.47	0.39	0.49	0.24	0.43	0.15***
Can read only	0.05	0.21	0.04	0.20	0.05	0.23	-0.01*
Can Read and Write	0.63	0.48	0.57	0.50	0.71	0.46	-0.14***
School Attendance History of Respondents							
Never been to School	0.15	0.36	0.20	0.40	0.09	0.29	0.11***
Attended school in the past	0.70	0.46	0.67	0.47	0.74	0.44	-0.07***
Currently Attending School	0.15	0.36	0.13	0.34	0.17	0.38	-0.04*
Respondents' Highest Grade Completed							
No Education	0.16	0.36	0.21	0.41	0.10	0.29	0.11***
P1-P7	0.54	0.50	0.53	0.50	0.57	0.50	-0.04***
S1-S4	0.20	0.40	0.19	0.40	0.21	0.41	-0.01**
S5-S6	0.03	0.17	0.02	0.14	0.04	0.20	-0.02**
Post-Primary Skills program	0.02	0.14	0.02	0.13	0.02	0.15	-0.01**
Post-Secondary Education	0.03	0.16	0.02	0.15	0.03	0.18	-0.01**
Degree and Above	0.02	0.13	0.01	0.11	0.02	0.15	-0.01**
N (Millions)	20.3		10.8		9.5		

Source: Authors' computation using Time Use Survey Data, 2017. *** is significant at 1%, ** at 5%, and * at 10%.

In table 3, the individual characteristics are disaggregated by both gender and location, whether rural or urban. Other characteristics of the interviewed individuals are not statistically different between rural and urban areas, apart from education. There is a significantly higher percentage of individuals who cannot read and write in rural compared to urban areas. The difference is about 26 percentage point which is significant at 1% level of significance. In addition, there is a higher percentage of individuals in rural areas who reported to have never been to school compared to those in urban areas, yet those in urban areas dominate in school attainment across all the grades.

The results show that there are gender differences in terms of education attainment within rural and urban areas. For instance, the percentage of females who cannot read and write in rural areas is 46% almost twice that of males (27%). In urban areas, the number of females who cannot read and write is 14% higher than that of males at 8%. Overall, while males and females in urban areas are more educated than those in rural areas, there are sharp variations in education attainment between males and females within rural and urban areas.

Table 3: Individual Characteristics disaggregated by Gender and Location

	Rural			Urban			ttest
	Overall (A)	Female	Male	Overall (B)	Female	Male	A-B
Respondents relationship to the head (Proportions are reported)							
Respondent is HH head	0.44	0.23	0.66	0.44	0.27	0.68	-0.01
Respondent is Spouse	0.26	0.49	0.01	0.24	0.42	0.00	0.02
Respondent is Child	0.25	0.21	0.30	0.18	0.16	0.20	0.07**
Other Relative	0.05	0.06	0.04	0.13	0.14	0.12	-0.08**
Marital Status of Respondent (Proportions are reported)							
Married	0.61	0.61	0.61	0.49	0.50	0.47	0.12
Widow/Divorced/Separated	0.13	0.19	0.06	0.14	0.19	0.06	-0.01
Single	0.26	0.20	0.33	0.37	0.31	0.47	-0.11
Literacy Level of Respondents (Proportion)							
Cannot read nor write	0.37	0.46	0.27	0.11	0.14	0.08	0.26***
Can read only	0.05	0.04	0.05	0.04	0.03	0.07	0.01
Can Read and Write	0.58	0.49	0.67	0.84	0.84	0.85	-0.26***
School Attendance History of Respondents							0.00
Never been to School	0.18	0.24	0.11	0.04	0.05	0.02	0.14***
Attended school in the past	0.67	0.63	0.71	0.82	0.81	0.84	-0.15***
Currently Attending School	0.15	0.13	0.18	0.14	0.14	0.13	0.01
Respondents' Highest Grade Completed							
No Education	0.19	0.25	0.11	0.04	0.06	0.02	0.14***
P1-P7	0.59	0.56	0.62	0.37	0.39	0.34	0.22***
S1-S4	0.17	0.15	0.18	0.33	0.33	0.33	-0.17***
S5-S6	0.02	0.01	0.03	0.09	0.07	0.12	-0.07***
Post Primary Skills program	0.02	0.01	0.02	0.03	0.04	0.02	-0.01***
Post-Secondary Education	0.02	0.01	0.03	0.07	0.06	0.07	-0.05***
Degree and Above	0.00	0.00	0.01	0.07	0.05	0.10	-0.06***
N (Millions)	16.1	8.4	7.7	4.2	2.45	1.8	

Source: Authors' computation using Time Use Survey Data, 2017. *** is significant at 1%, ** at 5%, and * at 10%.

Table 4 further disaggregates the analysis of individual characteristics by region. The results indicate that literacy rate is higher in central region, followed by western, eastern and northern region in that order. Indeed, only 17% of the respondents in the central region reported that they cannot read and write, compared to 33% in western, 37% in eastern and 47% in northern regions. The same results hold when I analyze those that have never been to school. The smallest percentage of respondents in central Uganda reported to have never attended school, while the northern region had the highest percentage of those that have never attended school. This suggests that literacy and education attainment is un-equally distributed across regions in Uganda with the central leading and the northern trailing all other regions.

4.3. Occupation choice by the Time Use Survey Respondents

This sub-section examines the kinds of activities that men and women are involved in. The analysis is also disaggregated by gender and location. Table 5 captures information on the activities undertaken by the respondents seven days preceding the survey. Panel A looks at whether the respondents work or do not, and if they are working, what kind of activities they are involved in. The results show that there was a significantly small percentage of females who reported to have been self-employed, or employed by government and other private organizations compared to males. However, most females reported that there were more involved in home duties compared to males. This suggests that

Table 4: Individual Characteristics disaggregated by Region

	Central	East	North	West
Respondents relationship to the head (Proportions are reported)				
Respondent is HH head (Proportion)	0.46	0.41	0.48	0.42
Respondent is Spouse (proportion)	0.25	0.25	0.26	0.27
Respondent is Child	0.20	0.29	0.21	0.25
Other Relative	0.09	0.05	0.06	0.06
Marital Status of Respondent (Proportions are reported)				
Married	0.53	0.59	0.62	0.62
Widow/Divorced/Separated	0.15	0.10	0.14	0.12
Single	0.32	0.31	0.24	0.26
Literacy Level of Respondents (Proportion)				
Cannot read nor write	0.17	0.37	0.47	0.33
Can read only	0.05	0.05	0.04	0.05
Can Read and Write	0.79	0.58	0.49	0.62
School Attendance History of Respondents				
Never been to School	0.06	0.16	0.23	0.17
Attended school in the past	0.80	0.64	0.65	0.68
Currently Attending School	0.13	0.19	0.12	0.14
Respondents' Highest Grade Completed				
No Education	0.07	0.17	0.23	0.18
P1-P7	0.48	0.55	0.59	0.58
S1-S4	0.28	0.23	0.11	0.15
S5-S6	0.06	0.02	0.01	0.02
Post Primary Skills program	0.01	0.02	0.02	0.02
Post-Secondary Education	0.05	0.01	0.02	0.03
Degree and Above	0.04	0.01	0.01	0.01
N (Millions)	5.9	5.08	4.02	5.3

Source: Authors' computation using Time Use Survey Data, 2017.

Table 5: Employment and Activities Involved in 7 days prior to survey

	Overall		Females (A)		Males (B)		ttest
	MEAN	*SD*	MEAN	*SD*	MEAN	*SD*	A-B
Panel A: Employment Status of the respondents for the past 7 days (Proportions are reported)							
Self Employed	0.50	0.50	0.47	0.50	0.52	0.50	-0.05***
Gov't Employed	0.01	0.11	0.01	0.10	0.02	0.12	-0.01*
Employed in Private org'n	0.09	0.29	0.06	0.23	0.14	0.34	-0.08***
Home Duties	0.23	0.42	0.30	0.46	0.15	0.36	0.15***
Did not work	0.05	0.22	0.05	0.21	0.05	0.22	0.00
Student	0.08	0.27	0.07	0.26	0.09	0.28	-0.01
Too young/old to work	0.02	0.15	0.02	0.16	0.02	0.15	0.00
Other work	0.01	0.12	0.02	0.12	0.01	0.12	0.00
Number of Individuals (Millions)	20.3		10.8		9.5		
Panel B: For those working, the kind of job they are doing							
Employed in Gov't/Private Org'n	0.07	0.26	0.06	0.24	0.09	0.28	-0.02***
Agriculture	0.55	0.50	0.61	0.49	0.50	0.50	0.11***
SME	0.34	0.47	0.28	0.45	0.40	0.49	-0.12***
Doing Petty Job	0.03	0.17	0.05	0.22	0.01	0.11	0.04***
Number of Individuals (Millions)	12.9		6.3		6.6		

Source: Authors' computation using Time Use Survey Data, 2017. *** is significant at 1%, ** at 5%, and * at 10%.
Note: Petty Jobs included selling foods on the street, selling banana leaves, weaving baskets, and working as maids. SMEs Include operating a shop, and any other decent business activities

men are more likely to be employed in income generating activities while women are doing unpaid domestic work.

Panel B follows up those that reported to be working and categorizes the activities they were involved in into private or government employment, agriculture, Small and Medium Enterprises (SMEs) for those that are self-employed in small businesses, and petty jobs for those that sell food on streets etc. The results show that females are largely employed in agriculture and in petty jobs while men are employed by private and government organizations, and SMEs. This variation in employment indicates that women are mostly in less rewarding activities.

Table 6 disaggregates the analysis by location, whether rural or urban. According to Panel A, a significantly higher percentage of rural respondents were either self-employed, worked on home duties, or did some other kinds of work. In urban areas, a high percentage of respondents were employed by private organizations and government compared to those in rural areas. However, there is a higher percentage of respondents in urban areas who reported that they did not do any work suggesting that un-employment rate is higher in urban areas. Panel B shows that a significantly higher percentage of rural respondents are employed in agriculture while those in urban areas are employed government or private organizations, SMEs, and doing petty jobs. This confirmed that agriculture is the major source of employment for rural population.

The analysis by gender (Panel A) reveals that even within rural areas, men are more self-employed, and by private organizations while women work were involved in home duties. The same results are observed between men and women in urban areas. Panel B shows that for those that are working, Males are employed in private or government organizations and in SMEs, while females are employed in agriculture and petty jobs. These results are similar for both rural and urban areas.

Table 7 disaggregates the analysis by gender and region. Across all regions, females dominate in undertaking home duties (Panel A). While males largely partici-

Table 6: Employment and Activities Involved in the past 7 days prior to survey disaggregated by location

	Rural			Urban			ttest
	Overall (A)	Female	*Male*	Overall (B)	Female	*Male*	A-B
Panel A: Employment Status of the respondents for the past 7 days (Proportions are reported)							
Self Employed	0.53	0.50	0.55	0.39	0.38	0.40	0.14***
Gov't Employed	0.01	0.00	0.01	0.03	0.03	0.03	-0.02**
Employed in Private org'n	0.06	0.03	0.09	0.22	0.14	0.34	-0.16***
Home Duties	0.24	0.31	0.17	0.18	0.27	0.06	0.06***
Did not work	0.05	0.04	0.05	0.06	0.07	0.05	-0.01*
Student	0.08	0.07	0.09	0.09	0.10	0.08	-0.02**
Too young/old to work	0.03	0.03	0.02	0.02	0.01	0.02	0.01*
Other work	0.02	0.02	0.02	0.01	0.01	0.01	0.01*
Number of Individuals (Millions)	16.1	8.4	7.7	4.2	2.4	1.8	
Panel B: For those working, the kind of job they are doing							
Employed in Gov't/Private Org'n	0.04	0.03	0.05	0.19	0.17	0.21	-0.15***
Agriculture	0.67	0.73	0.60	0.15	0.18	0.12	0.52***
SME	0.28	0.21	0.34	0.58	0.51	0.65	-0.31***
Doing Petty Job	0.02	0.02	0.01	0.08	0.14	0.02	-0.06***
Number of Individuals (Millions)	10.1	4.9	5.2	2.8	1.4	1.4	

Source: Authors' computation using Time Use Survey Data, 2017. *** is significant at 1%, ** at 5%, and * at 10%.
Note: Petty Jobs included selling foods on the street, selling banana leaves, weaving baskets, and working as maids.
SMEs Include operating a shop, and any other decent business activities

Table 7: Employment and Activities Involved in the past 7 days prior to survey disaggregated by location

	Central		*East*		*North*		*West*	
	Female	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*
Panel A: Employment Status of the respondents for the past 7 days (Proportions are reported)								
Self Employed	0.47	0.53	0.47	0.58	0.45	0.42	0.50	0.54
Gov't Employed	0.01	0.02	0.00	0.02	0.01	0.02	0.01	0.01
Employed in Private org'n	0.11	0.24	0.04	0.08	0.04	0.07	0.04	0.13
Home Duties	0.20	0.01	0.35	0.16	0.38	0.31	0.29	0.17
Did not work	0.09	0.05	0.02	0.05	0.02	0.08	0.04	0.03
Student	0.10	0.12	0.07	0.07	0.05	0.07	0.06	0.08
Too young/old to work	0.02	0.03	0.02	0.02	0.03	0.01	0.03	0.03
Other work	0.00	0.01	0.01	0.02	0.02	0.02	0.03	0.01
Number of Individuals (Millions)	3.2	2.7	2.7	2.4	2.2	1.9	2.8	2.5
Panel B: For those working, the kind of job they are doing								
Employed in Gov't/Private Org'n	0.11	0.12	0.04	0.08	0.05	0.07	0.04	0.06
Agriculture	0.39	0.40	0.76	0.58	0.64	0.51	0.71	0.53
SME	0.42	0.47	0.18	0.33	0.25	0.41	0.23	0.39
Doing Petty Job	0.09	0.02	0.02	0.00	0.06	0.01	0.02	0.02
Number of Individuals (Millions)	2	2.2	1.5	1.7	1.1	0.96	1.7	1.8

Source: Authors' computation using Time Use Survey Data, 2017.
Note: Petty Jobs included selling foods on the street, selling banana leaves, weaving baskets, and working as maids.
SMEs Include operating a shop, and any other decent business activities

pate in employment by self, other private organizations and government. This confirms that women are mainly confined at home in unpaid work, while men are mainly involved in paid work. The results on those that are employed (panel B) reveal that across all the districts, men are mostly employed in government, private organizations and personal SMEs, whereas women dominate in agriculture employment and in petty jobs.

4.4. Activities performed at different time intervals

Table 8 presents the results from the individual diary where they articulated what they were doing every hour for 24 hours. The activities are categorized into employment or job; crop and livestock production; unpaid household work such as cooking, washing utensils etc; un-paid care work such as taking care of the sick,

Table 8: Activities Performed at Different Time Periods

	Overall		*Females (A)*		*Males (B)*		ttest
	MEAN	*SD*	MEAN	*SD*	MEAN	*SD*	A-B
Time Period: 8:00-17 Hrs							
Employment job	0.78	0.41	0.76	0.43	0.81	0.39	-0.06***
Crop and Livestock Production	0.42	0.49	0.50	0.50	0.32	0.47	0.18***
Un-Paid HH Work	0.64	0.48	0.88	0.33	0.37	0.48	0.50***
Un-Paid Care Work (Children, Sick Elderly)	0.19	0.39	0.29	0.45	0.08	0.27	0.21***
Learning (Class and Internship)	0.56	0.50	0.63	0.48	0.48	0.50	0.15***
Socializing	0.70	0.46	0.64	0.48	0.78	0.42	-0.13***
Self-Care (e.g sleeping and eating)	0.98	0.13	0.98	0.13	0.98	0.13	0.00
Time Period: 17 -23 Hrs							
Employment job	0.47	0.50	0.46	0.50	0.48	0.50	-0.02**
Crop and Livestock Production	0.15	0.36	0.18	0.39	0.11	0.31	0.08***
Un-Paid HH Work	0.47	0.50	0.70	0.46	0.20	0.40	0.50***
Un-Paid Care Work (Children, Sick Elderly)	0.19	0.39	0.31	0.46	0.06	0.23	0.25***
Learning (Class and Internship)	0.21	0.41	0.23	0.42	0.20	0.40	0.03*
Socializing	0.76	0.43	0.71	0.45	0.81	0.39	-0.10***
Self-Care (e.g sleeping and eating)	0.94	0.23	0.95	0.22	0.93	0.25	0.02**
Time Period: 25-05 Hrs							
Employment job	0.03	0.18	0.02	0.15	0.04	0.20	-0.02**
Crop and Livestock Production	0.00	0.06	0.00	0.07	0.00	0.05	0.00
Un-Paid HH Work	0.02	0.13	0.02	0.13	0.02	0.13	0.00
Un-Paid Care Work (Children, Sick Elderly)	0.05	0.22	0.09	0.28	0.01	0.10	0.08***
Learning (Class and Internship)	0.01	0.07	0.00	0.06	0.01	0.08	0.00
Socializing	0.08	0.27	0.07	0.26	0.08	0.28	-0.01
Self-Care (e.g sleeping and eating)	1.00	0.06	1.00	0.04	0.99	0.08	0.00
Time Period: 05-08 Hrs							
Employment job	0.52	0.50	0.45	0.50	0.59	0.49	-0.15***
Crop and Livestock Production	0.24	0.43	0.27	0.45	0.20	0.40	0.07***
Un-Paid HH Work	0.40	0.49	0.55	0.50	0.24	0.42	0.31***
Un-Paid Care Work (Children, Sick Elderly)	0.11	0.31	0.18	0.38	0.04	0.19	0.14***
Learning (Class and Internship)	0.05	0.21	0.05	0.22	0.04	0.20	0.01
Socializing	0.31	0.46	0.29	0.45	0.33	0.47	-0.04**
Self-Care (e.g sleeping and eating)	0.99	0.10	0.99	0.09	0.99	0.12	0.01*
	20.3		10.8		9.5		

Source: Authors' computation using Time Use Survey Data, 2017. *** is significant at 1%, ** at 5%, and * at 10%.

elderly and children; leaning; socializing; and self-care such as sleeping, and eating. The day was divided into 4 sessions: Period 1 (5-8 Hrs), Period 2 (8-17 Hrs), period 3 (17-23Hrs), and period 4 (23-5Hrs). These time periods were used to ease the analysis of gender time allocation across the day as it would be hectic to have results for each of the 24 hours in a day.

The results reveal that during period 2 (8-17 Hrs), a significantly higher percentage of males are working on employment jobs (81%) compared to females (76%). However, a significantly higher percentage of females (49%) were conducting crop and livestock production during these hours compared to males (32%). These results indicate that men work out side home in employment jobs, while women remain home working on agricultural production during the 8-17 hours.

The results also show that period 8-17 Hrs, 88% of females were involved in unpaid household work such as cooking, while 29% were involved in unpaid care work such as taking care of children, elderly and the sick. On the other hand, 37% and 8% of men were involved in unpaid household and care work respectively. This suggests that unpaid work is largely performed by women in Uganda.

Other forms of time use are learning, socializing such as participating in games, functions, catching up with friends, among other; and self-care such as sleeping, and eating. The results show that a higher percentage of males (78%) socialized with friends during period 2 (8-17Hrs) which is significantly higher than 64% of females who participated in the same activities.

During period 3 (17-23Hrs), females still largely do unpaid household and care work, while men largely participated in employment, even past the official employment hours, and socializing. During period 4 (between 23 and 5 Hrs), 9% of women reported to have been involved in unpaid care work, significantly higher than only 1% of men who were involved in unpaid care work during the same time.

The patterns of time use remain consistent when we look at time period 5-8 Hrs. The results show that men are more likely to participate in employment jobs and socializing during this time period, while women are more involved in crop and livestock production, un-paid household and un-paid care work.

These results collaborate with what was reported during the focus group discussions. Groups of women and both men and women reported that there is a sharp divide between what women and men do. Majority of women are involve in house hold chores including cooking, fetching water, taking care of children, taking care of men/husbands, cleaning houses and compounds, Fetching water, and collecting firewood. Women are also involved in digging mainly for home consumption, and that they also operate small businesses near their homes to supplement house hold income. Men, on the other hand, are involved in paid activities which are largely done outside the home setting. For example, through focus group discussions, communities reported that men are involved in commercial crop and livestock production such as growing like sugar cane, animal rearing, construction of houses including roofing, brick laying with the support of women fetching water to support the activity, riding Boda Boda and driving taxis, business both whole sale and retail, charcoal burning, fishing, stone quarrying among others.

Table 9 disaggregates the analysis by location and gender. The results show that there are variations in time allocation between rural and urban areas along the day. For instance, the results show that there is a significantly higher percentage of respondents in rural areas who participated in employment and agriculture between 8 and 17Hrs compared to those in urban areas. In addition, a higher percentage of individuals in urban areas reported to have been involved in unpaid household and care work, and socializing compared to those in rural areas. During the 17-23 Hrs time period, more individuals in urban areas are involved in employment work, unpaid work and socializing while a significantly higher percentage of households in rural areas participated in agriculture. During the time period 25-5Hrs (time usually for sleeping), a higher percentage of urban individuals remain engaged in all activities more than those in rural areas. However, early in the morning (5-8 Hrs) individuals in rural areas participated more in employment jobs and agriculture. This study does not break down employment into its specifics, but for

Table 9: Time Allocation by Gender and location

	Rural			*Urban*			*ttest*
	Overall (A)	Female	Male	Overall (B)	Female	Male	**A-B**
Time Period: 8:00-17 Hrs							
Employment job	0.80	0.78	0.82	0.72	0.68	0.78	0.08***
Crop and Livestock Production	0.47	0.57	0.36	0.23	0.28	0.15	0.24***
Un-Paid HH Work	0.63	0.87	0.37	0.70	0.92	0.39	-0.07***
Un-Paid Care Work (Children, Sick Elderly)	0.19	0.28	0.08	0.21	0.30	0.08	-0.02*
Learning (Class and Internship)	0.57	0.63	0.51	0.51	0.61	0.37	0.06***
Socializing	0.70	0.62	0.78	0.74	0.73	0.75	-0.04***
Self-Care (e.g sleeping and eating)	0.98	0.98	0.99	0.98	0.98	0.97	0.01
Time Period: 17 -23 Hrs							
Employment job	0.45	0.44	0.46	0.53	0.50	0.58	-0.09***
Crop and Livestock Production	0.16	0.20	0.12	0.11	0.12	0.08	0.05***
Un-Paid HH Work	0.46	0.71	0.19	0.50	0.68	0.25	-0.04**
Un-Paid Care Work (Children, Sick Elderly)	0.19	0.31	0.05	0.21	0.31	0.07	-0.02**
Learning (Class and Internship)	0.21	0.22	0.20	0.22	0.24	0.18	0.00
Socializing	0.74	0.68	0.80	0.82	0.80	0.85	-0.08***
Self-Care (e.g sleeping and eating)	0.94	0.95	0.93	0.94	0.95	0.93	0.00
Time Period: 25-05 Hrs							
Employment job	0.02	0.02	0.03	0.07	0.05	0.10	-0.05***
Crop and Livestock Production	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Un-Paid HH Work	0.01	0.01	0.01	0.05	0.04	0.05	-0.04**
Un-Paid Care Work (Children, Sick Elderly)	0.05	0.08	0.01	0.07	0.09	0.03	-0.02**
Learning (Class and Internship)	0.00	0.00	0.00	0.01	0.01	0.01	-0.01**
Socializing	0.05	0.05	0.06	0.17	0.15	0.20	-0.12***
Self-Care (e.g sleeping and eating)	1.00	1.00	1.00	0.99	1.00	0.97	0.01**
Time Period: 05-08 Hrs							
Employment job	0.54	0.48	0.60	0.43	0.34	0.55	0.11***
Crop and Livestock Production	0.27	0.31	0.23	0.13	0.16	0.10	0.14***
Un-Paid HH Work	0.37	0.51	0.22	0.51	0.66	0.31	-0.14***
Un-Paid Care Work (Children, Sick Elderly)	0.11	0.17	0.04	0.13	0.20	0.04	-0.03***
Learning (Class and Internship)	0.04	0.04	0.04	0.06	0.07	0.04	-0.02**
Socializing	0.30	0.28	0.31	0.36	0.32	0.40	-0.06***
Self-Care (e.g sleeping and eating)	0.99	0.99	0.99	0.99	0.99	0.99	0.00
Number of Individuals (Millions)	16.1	8.3	7.7	4.2	2.4	1.8	

Source: Authors' computation using Time Use Survey Data, 2017. *** is significant at 1%, ** at 5%, and * at 10%.

rural areas this can mean both on-farm and off-farm jobs, while in urban areas this captures both formal and informal employment.

Within the rural and urban areas, role allocations and time use remains consistent as explained above. Women are mostly employed in agriculture, un-paid household and unpaid care work, while men are largely employed in paid employment, and do a lot of socializing across all time periods of the day. Comparing what women in rural and urban areas do reveals that women in urban areas are more burdened with unpaid household and unpaid care work than those in rural areas.

Table 10 presents the results of the regional and gender disaggregated analysis. The results indicate that across all regions, women dominate in crop production, unpaid household work, and unpaid care work, while men largely participate in employment job, and socializing.

Considering the time period 8-17 Hrs (official working hours in Uganda) more than 50% of the interviewed women in eastern, northern, and western regions reported that they were working in agriculture, and in central, 35% of women worked in agriculture during working hours. However, less than 40% of men in all the four regions reported that they participated in agriculture during the working hours. This suggests that agriculture is largely women's work. Indeed, during the focus group discussions, the respondents reported that women were largely involved in food production for home consumption but males came in at marketing level. Also, men are more involved in production of commercial crops such as sugar cane, and coffee while women participate in subsistence agriculture.

In addition, the results show that more than 85% of women in all regions were involved in unpaid household work, and more than 24% were involved in unpaid care work. Conversely, less than 42% of men across all regions were involved in unpaid household work, and less than 10% were involved in unpaid care work during the normal working hours. These results suggest that unpaid and less rewarding work such as substance agriculture, household chores, and taking care of the children and the sick are performed by women.

The results on the time use during 17-23 Hrs time period show that a higher percentage of both men and women are still doing employment jobs, suggesting that individuals work late in the night. During this time period, the percentage of women who reported to be involved in unpaid care work increased across all regions. However, those reporting to be participating in unpaid household work reduced compared to those who reported the same during 8-17 hours period (official work hours). During sleep time, more women reported to having been involved in unpaid care work compared to men.

The results in table 10 indicate that time use in Uganda is consistent across regions. There is a sharp divide between what men and women do. Men largely participate in paid employment, and spend more time socializing with friends. Women, on the other hand, work in agriculture, and work on unpaid household and care work.

Table 10: Time Allocation by Gender and region

	Central		East		North		West	
	Female	*Male*	Female	*Male*	Female	*Male*	Female	*Male*
Time Period: 8:00-17 Hrs								
Employment job	0.71	0.82	0.71	0.75	0.82	0.82	0.80	0.86
Crop and Livestock Production	0.35	0.31	0.59	0.38	0.60	0.24	0.52	0.32
Un-Paid HH Work	0.89	0.42	0.88	0.40	0.89	0.36	0.86	0.31
Un-Paid Care Work (Children, Sick Elderly)	0.28	0.09	0.34	0.10	0.29	0.06	0.24	0.07
Learning (Class and Internship)	0.54	0.26	0.71	0.59	0.70	0.59	0.60	0.54
Socializing	0.71	0.81	0.76	0.87	0.48	0.65	0.57	0.74
Self-Care (e.g sleeping and eating)	0.99	0.97	0.99	0.99	0.98	0.99	0.97	0.98
Time Period: 17 -23 Hrs								
Employment job	0.52	0.57	0.44	0.37	0.38	0.46	0.46	0.49
Crop and Livestock Production	0.10	0.11	0.27	0.12	0.17	0.10	0.22	0.11
Un-Paid HH Work	0.66	0.25	0.72	0.20	0.65	0.16	0.77	0.20
Un-Paid Care Work (Children, Sick Elderly)	0.29	0.05	0.35	0.07	0.31	0.04	0.29	0.06
Learning (Class and Internship)	0.20	0.09	0.27	0.27	0.15	0.17	0.29	0.27
Socializing	0.76	0.86	0.77	0.86	0.65	0.78	0.65	0.73
Self-Care (e.g sleeping and eating)	0.94	0.93	0.97	0.97	0.98	0.96	0.92	0.88
Time Period: 25-05 Hrs								
Employment job	0.04	0.07	0.02	0.03	0.01	0.03	0.01	0.02
Crop and Livestock Production	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Un-Paid HH Work	0.04	0.03	0.01	0.02	0.01	0.01	0.01	0.01
Un-Paid Care Work (Children, Sick Elderly)	0.10	0.02	0.07	0.01	0.07	0.01	0.10	0.01
Learning (Class and Internship)	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Socializing	0.14	0.17	0.03	0.05	0.03	0.03	0.07	0.07
Self-Care (e.g sleeping and eating)	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Time Period: 05-08 Hrs								
Employment job	0.36	0.52	0.50	0.62	0.47	0.55	0.48	0.69
Crop and Livestock Production	0.18	0.17	0.37	0.28	0.32	0.15	0.25	0.20
Un-Paid HH Work	0.60	0.25	0.45	0.21	0.57	0.32	0.56	0.19
Un-Paid Care Work (Children, Sick Elderly)	0.19	0.05	0.18	0.02	0.15	0.03	0.17	0.05
Learning (Class and Internship)	0.06	0.03	0.07	0.05	0.03	0.05	0.03	0.04
Socializing	0.27	0.33	0.36	0.40	0.20	0.23	0.31	0.35
Self-Care (e.g sleeping and eating)	0.99	0.98	1.00	0.99	0.99	0.99	0.99	0.99
Number of Individuals (Millions)	3.2	2.7	2.7	2.4	2.2	1.9	2.8	2.5

Source: Authors' computation using Time Use Survey Data, 2017.

4.5. **Time spent on different activities in a day**

This sub-section presents time (in minutes) spent on different activities in a day. The time is categorized into two: time spend on the main activities, and the time spent on simultaneous activities. It is worth noting that if a person did not perform an activity, the time allocation will be zero. Given that the results presented are not conditional on one performing an activity but rather the total averages with zeros for those that did not undertake the activity, the average time presented will most likely be lower than if we had only considered time that is greater than zero.

Table 11 shows that overall, apart from time spent on self-care (sleeping, eating, etc), people spend more time on employment jobs (189 minutes per day), followed by socializing (187 minutes), unpaid household work (115 minutes), crop and agricultural production (58 minutes), and unpaid care work (20 minutes) in that order. However, the order changes when we look at the time spent on simultaneous activity, the order changes. Socializing and unpaid care work are leading as simultaneous activities. Individuals reported that they spent 94 minutes socializing and 11 minutes providing unpaid care as a simultaneous activity.

The comparison by gender reveals that men spend more time on employment work and the difference in minutes spend on employment work between men and women is 104 minutes, about two hours a day. In addition, women spend more 131 minutes (almost 2 and a half hours) on unpaid household work compared to men. Women also spend more 23 minutes on unpaid care work, and 6 minutes on agriculture compare to men. On the other hand, men spend more 83 minutes socializing as a main activity above what women spend on the same. As a simultaneous activity, women spend more 19 minutes on unpaid care work than men. Over-

Table 11: Time Allocation to different activities in Minutes by Gender

	Overall		Females (A)		Males (B)		ttest
	MEAN	*SD*	MEAN	*SD*	MEAN	*SD*	A-B
Time (Minutes) Spent on the main activities in 24 Hours							
Employment job	189	197	140	156	245	223	-104***
Crop and Livestock Production	58	102	61	95	55	109	6**
Un-Paid HH Work	115	131	176	135	45	84	131***
Un-Paid Care Work (Children, Sick Elderly)	20	48	30	56	8	33	23***
Learning (Class and Internship)	48	85	52	84	45	87	7
Socializing	187	169	148	143	232	184	-83***
Self-Care (e.g sleeping and eating)	880	244	880	231	880	258	0
Did you participate in simultaneous activity?	0.88	0.32	0.89	0.32	0.88	0.33	0
Time (Minutes) Spent on the Simultaneous activities in the past 24 Hours							
Employment job	1.8	10.7	2.0	11.4	1.5	9.8	1
Crop and Livestock Production	0.2	3.2	0.1	1.6	0.4	4.3	0
Un-Paid HH Work	3.1	14.3	5.2	16.9	0.8	10.0	4
Un-Paid Care Work (Children, Sick Elderly)	11.1	44.6	19.9	59.5	1.0	6.6	19***
Learning (Class and Internship)	1.3	8.9	1.4	8.7	1.3	9.1	0
Socializing	94.3	103.9	89.2	97.8	100.0	110.1	-11***
Self-Care (e.g sleeping and eating)	118.5	118.9	115.3	115.9	122.2	122.0	-7
Number of Individuals (Millions)	20.3		10.8		9.5		

Source: Authors' computation using Time Use Survey Data, 2017. *** is significant at 1%, ** at 5%, and * at 10%.

all, women spend more 40 minutes on unpaid care work per day compared to men.

The qualitative survey elicited information on who of the men and women is more likely to multitask and why. All the communities visited reported that women are more likely to multitask compared to men. For instance, a woman can take care of the kids and at the same time prepare a meal, clean the environment, among others. Men on the other hand, men are more likely to concentrate on one activity at a given time. The respondents explained that the nature of work women do such as unpaid domestic and care work requires them to multitask, while men's work which is largely outside the home setting does not require multitasking.

Table 12 disaggregates the analysis by rural/urban. The results show that individuals in rural areas spend more 46 minutes per day on agriculture, they spend less 27 minutes on employment jobs, and also spend less time on unpaid work, both household and care work. Within rural and urban, there are large variations in time allocation between males and females. Women spend significantly less time on employment work but spend more time on agriculture and on unpaid work.

Women in rural areas spend more time on agriculture compared to those in urban areas. However, women in urban areas spend a lot more time on unpaid household and unpaid care work than their counterparts in rural areas. These results might suggest the role of social networks and large extended families in rural areas which reduces on women burden of taking care of the children and caring for the sick. Families in urban areas are relatively small, with limited support.

There are also variations between what men in rural and urban areas do. Men in urban areas spend more

Table 12: Time Allocation to different activities in Minutes by Gender and location

	Rural			Urban			ttest
	Overall (A)	Female	Male	Overall (B)	Female	Male	A-B
Time (Minutes) Spent on the main activities in 24 Hours							
Employment job	184	140	230	210	141	306	-27***
Crop and Livestock Production	68	73	62	22	21	23	46***
Un-Paid HH Work	107	168	42	142	203	58	-35***
Un-Paid Care Work (Children, Sick Elderly)	18	29	6	25	34	13	-7**
Learning (Class and Internship)	49	50	47	47	56	33	2
Socializing	176	133	222	232	200	276	-56***
Self-Care (e.g sleeping and eating)	897	894	900	816	833	792	81***
Did you participate in simultaneous activity?	0.88	0.89	0.87	0.90	0.90	0.90	0
Time (Minutes) Spent on the Simultaneous activities in the past 24 Hours							
Employment job	2	2	1	3	3	2	-1
Crop and Livestock Production	0	0	0	0	0	0	0
Un-Paid HH Work	3	5	0	5	7	2	-2**
Un-Paid Care Work (Children, Sick Elderly)	11	21	1	10	17	2	1
Learning (Class and Internship)	1	1	1	2	2	2	-1
Socializing	95	91	99	92	83	104	3**
Self-Care (e.g sleeping and eating)	119	116	122	118	113	124	1
Number of Individuals (Millions)	16.1	8.3	7.7	4.2	2.4	1.8	12

Source: Authors' computation using Time Use Survey Data, 2017. *** is significant at 1%, ** at 5%, and * at 10%.

time on employment work, and socializing compared to their counterparts in rural areas. However, just like women, men in rural area spend more time on agriculture compared to those in urban areas.

Table 13 disaggregates time use analysis by region. The results show that males in Western Uganda spend the highest number of minutes working on employment job (270 Minutes), followed by males in central (264 minutes), and northern (246 minutes). Eastern region has the lowest time allocation to employment job by both men and women. This suggests that there are less employment opportunities in the eastern region compared to other regions in Uganda.

In addition, women in western Uganda spend more time on agricultural production (79 minutes) higher than men and women in all other regions. Also, women in central and northern regions spend more time on unpaid household work, and unpaid care work.

There are variations within region by gender. In all regions, women spend less time on employment job, but instead spend more time on agriculture, unpaid household work and unpaid care work. In addition, males spend more minutes socializing compared to their female counterparts.

4.6. Perceptions about Work

Time allocations to different activities is largely influenced by the perceptions that both men and women have on who should do what and why. This study elicited information on different perceptions held by the surveyed respondents. Perceptions can be used to assess the degree of women empowerment and decision making abilities.

Table 13: Time Allocation to different activities in Minutes by Gender and region

	Central		East		North		West	
	Female	Male	Female	Male	Female	Male	Female	Male
Time (Minutes) Spent on the main activities in 24 Hours								
Employment job	131	264	109	196	156	246	169	270
Crop and Livestock Production	37	57	65	58	69	42	79	58
Un-Paid HH Work	189	57	168	42	198	46	152	34
Un-Paid Care Work (Children, Sick Elderly)	32	8	32	7	31	6	26	9
Learning (Class and Internship)	53	23	61	58	45	55	46	47
Socializing	187	266	159	251	101	198	130	200
Self-Care (e.g sleeping and eating)	850	837	925	947	911	935	848	821
Time (Minutes) Spent on the Simultaneous activities in the past 24 Hours								
Employment job	4	2	1	2	1	0	2	1
Crop and Livestock Production	0	1	0	0	0	0	0	0
Un-Paid HH Work	5	1	4	1	4	0	7	1
Un-Paid Care Work (Children, Sick Elderly)	17	2	25	1	18	0	20	1
Learning (Class and Internship)	2	2	1	2	0	0	2	1
Socializing	78	94	88	96	52	57	132	142
Self-Care (e.g sleeping and eating)	111	117	111	114	70	74	159	173
Number of Individuals (Millions)	3.2	2.7	2.7	2.4	2.2	1.9	2.8	2.4

Source: Authors' computation using Time Use Survey Data, 2017.

Table 14 presents the results on the perceptions disaggregated by gender. The results show that perceptions about the age at which girls and boys should marry are equally shared by men and women. Overall, 13% of the respondents believe that girls below 18 years should marry, and 9% believe that boys below 18 years should marry. The relatively lower percentages of people with such beliefs could be attributed to effectiveness of the policy that bars child marriages, and its enforcement, in addition to other factors such as education.

About 65% of the respondents believe that girls and boys should spend the same time on domestic work, suggesting that there is a 35% of respondents who do not believe so. The disaggregation by gender shows that a significantly higher percentage of females (68%) believes that boys and girls should spend same time on domestic work than males (62%). These findings indicate that females believe more in equal sharing of unpaid domestic work than males. Furthermore, a higher percentage (66%) of the respondents believe

Table 14: Work Allocation and role perceptions by Gender

	Overall		Females (A)		Males (B)		ttest
	MEAN	*SD*	MEAN	*SD*	MEAN	*SD*	A-B
For each of the following statements, the respondents indicated whether they agree/disagree. We report agree.							
Girls Under 18 May be Married	0.13	0.34	0.14	0.34	0.13	0.34	0.00
Boys Under 18 May Be Married	0.09	0.29	0.09	0.29	0.09	0.29	0.00
Girls& Boys should spend same time on domestic Wrk	0.65	0.48	0.68	0.47	0.62	0.49	0.06***
Women Shd cook all the time	0.66	0.47	0.67	0.47	0.65	0.48	0.02
Men Shd help women with cooking	0.66	0.47	0.65	0.48	0.67	0.47	-0.02
Man can cook dinner for family	0.63	0.48	0.61	0.49	0.64	0.48	-0.03**
Woman's role is to take care of family	0.80	0.40	0.81	0.39	0.79	0.41	0.02**
Taking care of elderly is woman's responsibility	0.54	0.50	0.57	0.49	0.50	0.50	0.07***
Childcare is mother's responsibility	0.72	0.45	0.76	0.42	0.68	0.47	0.09***
Men don't know how take care of toddler without women	0.73	0.44	0.76	0.43	0.70	0.46	0.05***
Men who are seen playing with children are considered to behaving like women	0.27	0.44	0.27	0.44	0.26	0.44	0.01
It is shameful for a man to wash women's cloth	0.44	0.50	0.46	0.50	0.43	0.49	0.03
Men & women must share hh and child tasks if both are working	0.72	0.45	0.71	0.45	0.73	0.44	-0.02
Men must be responsible for HH chores	0.52	0.50	0.51	0.50	0.53	0.50	-0.01
A man who shares Housework with wife will be overpowered by her	0.40	0.49	0.38	0.49	0.41	0.49	-0.04**
Men always work outside and women do in the home	0.63	0.48	0.62	0.48	0.64	0.48	-0.02
Men's work is more important than women's work	0.58	0.49	0.53	0.50	0.63	0.48	-0.10***
Both husband and wife shd earn for the wellbeing of the family	0.89	0.31	0.90	0.30	0.88	0.32	0.02
Many housewives would like to work outside given an opportunity	0.81	0.40	0.82	0.39	0.80	0.40	0.02
Many men would prefer their wives as housewives instead of working	0.63	0.48	0.66	0.47	0.60	0.49	0.06***
Women face constraints to work outside home	0.79	0.40	0.79	0.41	0.80	0.40	-0.01
Number of Individuals (Millions)	20.3		10.8		9.5		

Source: Authors' computation using Time Use Survey Data, 2017. *** is significant at 1%, ** at 5%, and * at 10%.

than women should cook all the time. This level of perception is equally held by both men and women.

Regarding the role of men in domestic work, about 63% of respondents believe that men can cook dinner for the family while 27% believe that men cannot cook. In addition, the percentage of men (64%) who believe that men can cook dinner for family is significantly higher than that of women who believe the same way, suggesting that women may have less trust in men's ability to cook dinner.

The results also show that majority of the respondents believe that taking care of the family and elderly, and child raising are women's responsibility. In addition, these beliefs are significantly common among women than they are believed by men. This suggests that role allocation is institutionalized within a family and women are socialized to believe that their main role in a family is to engage is unpaid household and unpaid care work.

The results also indicate that women are still disempowered. For instance, 40% of the surveyed individuals believe that a man who shares housework with wife will be overpowered by her. This belief is more held by men (41%) compared to women (38%). In addition, almost 60% of the respondents believed that men's work is more important than women's work. By gender, a higher percentage of men (63%) believe that men's work is more important compared to 53% of women who share the same belief.

The reasons for women not working outside homes might not because they do not have opportunities but because their husbands deny them that opportunity. Indeed, 63% of the respondents reported that many men would prefer their wives as housewives instead of working. The analysis by gender shows that 66% of females believe that men prefer to have them as house wives than working, significantly higher than 60% of men.

Table 15 disaggregates the analysis by location, whether urban or rural. Overall, the results indicate that perceptions in favor of women empowerment, equal sharing of tasks, and women's freedom to work outside home are stronger in urban areas compared to rural areas. For instance, the results show that the perceptions that girls and boys under 18 years can be married is more prevalent in rural areas compared to urban areas. In addition, more individuals (68%) in rural areas believe that women should cook all the time compared to 58% of those in urban areas who believe that women should cook all the time.

On whether men should support their wives, the results show that more individuals in urban areas believe that men have the capacity and hence should help their wives with domestic work. For instance, a significantly higher percentage of respondents in urban areas believe that men should help women cooking, and believe that men can cook dinner for family.

In addition, more people in rural areas believe that taking care of children, and the elderly, is woman's responsibility. Also, more people in rural areas believe that men do not know how to take care of the toddlers. Furthermore, individuals in rural areas believe that men who are seen playing with children are considered to be behaving like women, and that it is shameful for a man to wash women's cloth. There is a significantly lower percentage of individuals in urban areas who share similar beliefs. More people in rural areas also reported that men would prefer their wives as housewives rather than work outside home.

The analysis by gender shows that the beliefs between men and women are consistent. However, women in rural areas seem to perceive that it is okay for women to do household chores, and to do less paying jobs compared to women in urban areas. In fact, women in urban areas' perceptions are more of relatively empowered women. For some responses, women's perceptions of their time use are more directed towards women empowerment than their male counterparts. For instance, more women in urban areas believe that men can cook, and that men should help their wives with cooking but a relatively smaller percentage of males share the same beliefs. In rural areas, however, fewer women compared to men, believe that men should help their women with cooking. These variations allude to the differences in the level of women empowerment between rural and urban areas.

Table 15: Work Allocation and role perceptions by Gender and location

	Rural			Urban			ttest
	Overall (A)	Female	*Male*	Overall (B)	Female	*Male*	A-B
Girls Under 18 May be Married	0.14	0.15	0.13	0.11	0.09	0.13	0.03**
Boys Under 18 May Be Married	0.10	0.10	0.09	0.07	0.06	0.10	0.02*
Girls& Boys should spend same time on domestic Wrk	0.65	0.68	0.62	0.65	0.67	0.63	0.00
Women Sh'd cook all the time	0.68	0.69	0.66	0.58	0.58	0.59	0.10***
Men Sh'd help women with cooking	0.65	0.63	0.67	0.72	0.74	0.69	-0.07***
Man can cook dinner for family	0.60	0.58	0.63	0.71	0.71	0.70	-0.10***
Woman's role is to take care of family	0.81	0.83	0.79	0.75	0.75	0.76	0.06**
Taking care of elderly is woman's responsibility	0.56	0.60	0.51	0.45	0.46	0.44	0.11***
Childcare is mother's responsibility	0.74	0.80	0.68	0.65	0.65	0.64	0.09***
Men don't know how take care of toddler without women	0.75	0.78	0.72	0.68	0.70	0.65	0.07***
Men who are seen playing with children are considered to be behaving like women	0.28	0.28	0.27	0.23	0.23	0.23	0.04***
It is shameful for a man to was women's cloth	0.45	0.47	0.44	0.40	0.41	0.39	0.05***
Men & women must share hh and child tasks if both are working	0.72	0.71	0.73	0.73	0.74	0.73	-0.02
Men must be responsible for HH chores	0.52	0.50	0.53	0.54	0.54	0.53	-0.02
A man who shares Housework with wife will be overpowered by her	0.40	0.38	0.42	0.38	0.38	0.38	0.02
Men always work outside and women do in the home	0.65	0.65	0.66	0.54	0.54	0.55	0.11***
Men's work is more important than women's work	0.58	0.54	0.63	0.57	0.50	0.66	0.01
Both husband and wife shd earn for the wellbeing of the family	0.89	0.89	0.88	0.89	0.90	0.86	0.00
Many housewives would like to work outside given an opportunity	0.79	0.80	0.77	0.88	0.88	0.89	-0.10***
Many men would prefer their wives as housewives instead of working	0.65	0.67	0.63	0.57	0.63	0.48	0.08***
Women face constraints to work outside home	0.78	0.78	0.79	0.84	0.84	0.85	-0.06***
Number of Individuals (Millions)	16.1	8.35	7.7	4.2	2.44	1.8	

Source: Authors' computation using Time Use Survey Data, 2017. *** is significant at 1%, ** at 5%, and * at 10%.

Table 16 presents regional disaggregated results. Overall, gender and time use perceptions favor men across all the four regions. However, the regional comparisons indicate that for most of perception indicators, people in central and northern Uganda have relatively better perceptions towards women involvement in work. For instance, in central region, 10% of females believed that girls below 18 years can marry. This is lower than 17% for females in eastern Uganda, and 14% for females in northern and western regions. The same applies for the percentage of females who believe that boys below 18 years can marry. In central, 5% of females believe that boys below 18 can marry, less than 10% for eastern, 12% for northern and 10% for western region.

Females in all regions believe that taking care of children and elderly are responsibilities of women. For instance, over 70% of females in all regions believe that taking care of children, and the elderly is a mother's responsibility. In addition, over 70% of females in all regions believe that men cannot take care of children without a mother's help.

On the measures of women empowerment, females in northern Uganda seem to believe that they can do what men do than females in other regions. For instance, only 24% of women in northern Uganda believe that a man who shares Housework with wife will be overpowered by her, compared to 41% in central, 38% in eastern, and 44% in western region. More than 40% of females believe that it is shameful for a man to wash women's cloth. This view is supported by the findings in the qualitative survey which indicated that there are less cultural restrictions on what women can and cannot do in northern Uganda compared to other regions. For instance, in all other regions, FGD respondents reported that women cannot build houses, cannot climb and cannot ride motorcycle. However, in northern Uganda, there were no such restrictions on women. Instead, it was reported that when a woman marries in, they take on the responsibility of taking care of the family which requires them to undertake many activities to raise the resources necessary to take care of their families. In is in northern Uganda where most of the women reported that men do not work and they spend most of the time drinking, leaving all the responsibilities to women.

On whether women can freely work outside homes, over 60% of females in all regions believe that many men would prefer their wives as housewives instead of working, and over 80% of females in central, eastern and western Uganda believe that women face constraints to work outside home. However, 64% of females in northern Uganda believe that women face constraints to work outside home, much lower than in other regions. These perception variations might be attributed to cultural differences across regions.

Table 16: Individual perceptions disaggregated by Region and Gender

	Central		*East*		*North*		*West*	
	Female	Male	Female	Male	Female	Male	Female	Male
Girls Under 18 May be Married	0.10	0.14	0.17	0.20	0.14	0.10	0.14	0.09
Boys Under 18 May Be Married	0.05	0.10	0.10	0.11	0.12	0.09	0.10	0.07
Girls& Boys should spend same time on domestic Work	0.69	0.64	0.75	0.67	0.68	0.67	0.60	0.52
Women Sh'd cook all the time	0.66	0.66	0.66	0.66	0.53	0.50	0.79	0.74
Men Sh'd help women with cooking	0.68	0.69	0.62	0.60	0.75	0.77	0.58	0.63
Man can cook dinner for family	0.66	0.65	0.60	0.58	0.77	0.82	0.45	0.57
Woman's role is to take care of family	0.76	0.79	0.79	0.77	0.84	0.81	0.86	0.78
Taking care of elderly is woman's responsibility	0.55	0.49	0.50	0.48	0.62	0.54	0.63	0.51
Childcare is mother's responsibility	0.71	0.63	0.72	0.67	0.82	0.69	0.82	0.72
Men don't know how take care of toddler without women	0.73	0.68	0.71	0.66	0.83	0.82	0.78	0.69
Men who are seen playing with children are considered to behaving like women	0.29	0.29	0.29	0.28	0.21	0.18	0.27	0.27
It is shameful for a man to wash women's cloth	0.47	0.42	0.43	0.46	0.29	0.26	0.59	0.53
Men & women must share hh and child tasks if both are working	0.69	0.73	0.67	0.67	0.78	0.78	0.73	0.74
Men must be responsible for HH chores	0.58	0.53	0.57	0.60	0.35	0.36	0.51	0.58
A man who shares Housework with wife will be overpowered by her	0.41	0.44	0.38	0.44	0.24	0.25	0.44	0.49
Men always work outside and women do in the home	0.62	0.66	0.58	0.59	0.48	0.50	0.77	0.77
Men's work is more important than women's work	0.60	0.74	0.53	0.64	0.34	0.41	0.61	0.67
Both husband and wife sh'd earn for the wellbeing of the family	0.93	0.91	0.84	0.81	0.95	0.93	0.87	0.88
Many housewives would like to work outside given an opportunity	0.91	0.92	0.78	0.76	0.84	0.78	0.72	0.71
Many men would prefer their wives as housewives instead of working	0.64	0.58	0.62	0.57	0.62	0.52	0.74	0.71
Women face constraints to work outside home	0.88	0.89	0.78	0.81	0.64	0.61	0.82	0.82
Number of Individuals (Millions)	3.2	2.7	2.7	2.4	2.2	1.9	2.8	2.3

Source: Authors' computation using Time Use Survey Data, 2017.

5. EMPIRICAL STRATEGY

Time use and intra-household role allocation across gender are influenced by number of factors such as culture, and other socio-economic characteristics. This section presents the methodology adopted to examine the relationship between gender and time use. In addition, we also detail the methodology adopted to examine the relationship between gender and perceptions about work.

5.1. Gender and Time Use in Uganda

To examine the relationship between gender and time use, we use two sets of outcome variables which determine the method of analysis. The key outcome variable in this analysis include: sets of dummy variables which take 1 if the female/male undertook a given activity during the specific period of time within the last 24 hours. The second set of outcome variables is the time, in minutes, spent of different activities in a day. This is a continuous variable and hence is modeled differently from the dummy variables.

5.1.1. Gender and minutes allocated to different activities

Denote an individual by i and a household by j, and region by d. Also let $Female_{ijd}$ be a dummy variable that takes 1 if the individual i in household j and region d is a female (woman) and 0 if he is a male. We use this female dummy as a key variable of interest and this analysis seeks to evaluate its association with time use. In addition, let M_{ijd} be the outcome variable measuring the number of minutes spent on different activities in the past 24 hours. Formally, we estimate an OLS equation of the form:

$$M_{ijd} = \alpha + \beta Female_{ijd} + \gamma X_{ijd} + \gamma Z_{id} + \mathrm{u}_{ijd,} \quad (1)$$

Where X_{ij} are individual level characteristics such as education level, age, square of age to capture the non-linear effects of age on time use, and individual marital status. Z_i Captures household-level characteristics such as the age of the household age, family size, dependence rate, and the household location, whether rural or urban. The study also controls for regional dummies. u_{ijd} is the idiosyncratic error term.

5.1.2. Gender and activity choice

In addition to examining the relationship between gender and minutes allocated to each activity, this subsection looks at how gender is associated with the choice of activities at any given time during day. Let $Activity_{ijd}$ be a dummy variable that takes 1 if a given activity type is performed and zero otherwise. The key activities here include whether or not the individual participated in employment labor, whether or not they undertook unpaid household, or unpaid care work, and whether the individual spent time socializing. We adopt the regression specification below.

$$Activity_{ijd} = \alpha + \beta Female_{ijd} + \gamma X_{ijd} + \gamma Z_{id} + \mathrm{u}_{ijd,} \quad (2)$$

The control variables are as defined under equation 1. The above specification is estimated using probit modeling framework. The choice of this method is informed by the fact that different activities can be undertaken simultaneously and hence we cannot use multinomial modeling framework which assumes that the set of outcome variables are mutually exclusive. For each specification equation, we replace the outcome variable with one of the activities undertaken and the rest take zero.

It is also worth noting that for this analysis we divide the 24 hour day into 4 time periods. Period one starts at 5-8 Hrs, which is in most cases after waking up but before official working hours. The second time period is 8-17 Hrs, representing the official working hours in Uganda. The third time period is 17-23 Hrs, which is usually after work but before sleep, and last period is 23-5 Hrs, which is usually sleep time. This analysis looks at the association between gender and activities performed at different time periods during the day.

5.2. Gender and Work Perceptions

Perceptions about work and work allocation vary by gender. These variations can be explained by culture and other individual or household-level characteristics. In this sub-section, we detail the methodology for examining the relationship between gender and work perceptions while controlling for other factors that can potentially influence work-related perceptions.

$$Percep_{ijd} = \alpha + \beta Female_{ijd} + \gamma X_{ijd} + \gamma Z_{id} + \mathrm{u}_{ijd,} \quad (3)$$

Let $Percep_{ijd}$ be a dummy variable that takes 1 if the individual holds a belief about how men and women should work and zero otherwise. There are a number of perceptions to be estimated here so in the analysis, the outcome variable will change depending on the perception of interest being analyzed. These perceptions range from whether both men and women should equally participate on conducting domestic work, to whether women should shoulder the burden of caring for children, the sick and elderly alone, and to whether husbands restrict their wives from working outside home. These perceptions are not independent of each other and, hence, one person can hold different perceptions at the same time. Because of this, we use probit model to estimate the association between gender and the different perceptions about work and time allocation.

6. ESTIMATION RESULTS

This section presents the regression results for all the analysis specifications in section 5. These include the relationship between gender and minutes allocated to different activities, gender and work allocation at different time periods in the day, and gender and perceptions about work and work allocation.

6.1. Gender and Minutes allocated to different activities

Table 17 presents results on the determinants of time (minutes) spent on different activities during the day. Each specification relates to each activity. Specification 1 looks at the determinants of minutes spent on the employment in a day. Specification 2 looks at the minutes spend on agricultural productivity, while specification 3 presents the determinants of time spent on un-paid household work, and specification 4 presents the determinants of un-paid care work. Specifications 5 and 6 presents the determinants of time allocated to socializing and self-care, respectively.

The results show that the time allocated to employment reduces by 109 minutes (almost 3 hours) a day if the respondent is a female compared to males. This means that females are significantly less likely to participate in employment compared to men. In addition, being a female is associated with 6 more minutes allocated to agricultural production compared to males, meaning that women are more likely to allocate more time to agriculture compared to their male counterparts. Regarding women involvement in unpaid work, the results in specification 3 show that being a woman is associated with 139 more minutes allocated to unpaid household work compared to males. This means that, controlling for other factors, being a female significantly increases the time allocated to unpaid household work by more than 3 hours a day. In addition, the results also show that being a female is associated with about 25 more minutes allocated to unpaid care work per day compared to males.

The qualitative survey elicited information on why men and women perform different activities, and specifically why men participate in paid employment and women in unpaid household and care work. The respondents' reported that females' limited participation in employment activities is because their husbands refuse them to work because they believe that when a woman is working, she becomes "ungovernable". Indeed, many FGDs reported several cases of domestic violence and conflicts emanating from having women work. On why women participation in employment work causes domestic violence, the FGDs reported that most men think that working women overlook them because they are financially empowered and hence will not take orders from their husbands, secondly, men claim that women become promiscuous and get into other relationships either with their co-workers or their bosses at work, which sparks off accusation and counter-accusations leading to quarrels and conflicts at home. The other reason women do not work is because of discrimination against women at work. The FGD participants reported that there are many organizations such as sugar-cane companies which do not hire pregnant or breastfeeding women. In addition, women work conditions in factories are not favorable to women especially those which expose workers to chemicals.

The qualitative study also captured information on why women and not men participate in un-paid household and care work. The FGD participants reported that cultural norms and practices demand that women do unpaid household and care work, and not men. In fact, in many communities we visited, it is shameful for a man to participate in activities such as cooking, serving food, and laying the bed. Women themselves reported that they would not allow their husbands participate in un-paid household work because other community members would speak ill of her. Expressions such as "the man was bewitched", he is a "omudofu", "omudongole", and "sekibote" which all mean that the man is stupid are used to refer to men who do some domestic work. The groups reported that it was only in rare cases such as when the woman is sick that mem would par-

Table 17: Gender and Time allocation to different main activities

	Dependent Variable is the number of minutes in a day spend on:					
VARIABLES	Employment	Agric Prodn	Unpaid HH	Un-Paid Care	Socializing	Self-Care
	(1)	(2)	(3)	(4)	(5)	(6)
1 if female	-109.1***	6.011*	139.0***	24.35***	-81.57***	-14.98*
	(-17.17)	(1.676)	(33.93)	(13.72)	(-15.24)	(-1.841)
1 if in rural	-27.72***	35.93***	-23.69***	-6.683***	-22.21***	38.72***
	(-3.281)	(7.533)	(-4.346)	(-2.831)	(-3.120)	(3.577)
Age	6.407***	0.395	-0.968	-1.693***	2.784***	-5.876***
	(6.527)	(0.712)	(-1.529)	(-6.175)	(3.367)	(-4.671)
Age squared	-0.0745***	-0.0123**	-0.00421	0.0120***	-0.0289***	0.0907***
	(-7.431)	(-2.172)	(-0.651)	(4.286)	(-3.417)	(7.057)
Marital Status[a]						
1 if married	7.109	15.93**	25.83***	32.46***	-36.50***	40.90**
	(0.547)	(2.171)	(3.079)	(8.935)	(-3.332)	(2.455)
Divorced/widow/separated	18.94	7.832	7.144	28.18***	-25.25*	59.71***
	(1.131)	(0.829)	(0.661)	(6.024)	(-1.790)	(2.783)
Education Level[b]						
1 if not education	4.981	35.17***	-6.334	-10.81**	-27.61**	63.40***
	(0.309)	(3.864)	(-0.609)	(-2.400)	(-2.033)	(3.068)
Primary 1 to P7	1.145	23.53***	1.510	-4.808	-22.23*	47.31**
	(0.0771)	(2.808)	(0.158)	(-1.159)	(-1.778)	(2.487)
Senior 1 to S4	13.25	11.82	7.425	-6.102	-19.20	21.27
	(0.844)	(1.334)	(0.733)	(-1.392)	(-1.452)	(1.058)
Household Head age	-0.478	0.324*	0.682***	-0.180**	0.144	0.396
	(-1.622)	(1.952)	(3.593)	(-2.188)	(0.581)	(1.049)
Family Size (AEU)	-2.096	0.525	-2.555***	-0.00713	-0.328	3.425*
	(-1.445)	(0.641)	(-2.730)	(-0.0176)	(-0.268)	(1.842)
Dependence rate	1.061	1.192	4.841***	2.724***	-5.412**	-6.881**
	(0.392)	(0.781)	(2.775)	(3.606)	(-2.375)	(-1.986)
Region						
Central region	25.56***	-5.169	-2.658	2.888	18.50**	-76.48***
	(2.885)	(-1.034)	(-0.465)	(1.167)	(2.478)	(-6.737)
Western region	56.27***	-1.285	-18.41***	-1.028	-35.35***	-104.1***
	(7.355)	(-0.298)	(-3.729)	(-0.481)	(-5.484)	(-10.61)
Northern Region	37.59***	-3.302	16.04***	-1.014	-45.18***	-18.93*
	(4.691)	(-0.730)	(3.102)	(-0.453)	(-6.692)	(-1.844)
Constant	142.7***	-17.50	59.77***	40.90***	250.6***	879.8***
	(5.648)	(-1.227)	(3.665)	(5.793)	(11.77)	(27.17)
Observations	3,923	3,923	3,923	3,923	3,923	3,923
R-squared	0.117	0.042	0.295	0.130	0.112	0.099

Note: t-statistics in parentheses. *** is significant at 1%, ** at 5%, and * at 10%. The base category for [a] is single, and for [b] is University Education and above. Other variables controlled for include whether a person completed Senior 5 to S6, and Post Primary Education.

ticipate in domestic work. It should, however, be noted that youth and urban communities were more likely to believe that it was okay for a man to perform domestic work suggesting that cultural norms and practices were less observed by these two categories of people.

One way people rest is either by socializing with friends or by sleeping and relaxing (self-care). The results in specifications 4 and 5 show how gender is associated with the time spend resting and socializing. The findings reveal that being a female is associated with 82 less minutes spend on socializing and 15 less minutes spend on self-care such as sleeping and eating time compared to being a male. This means that females spend significantly less time resting and socializing with friends compared to males.

Other factors influencing time use include location (rural/urban), age of an individual, marital status and education. The results show that individuals in rural areas are more likely to spend less minutes on employment jobs but more time on agriculture production. Also, those in rural spend less time on both unpaid household and unpaid care work compared to those in urban areas. This might be explained by the stronger social networks which reduces the individual burden on unpaid domestic work in rural areas. People in rural areas also spend less time socializing compared but spend more time resting compared to those in urban areas. Young people spend more time on employment compared to old people. In addition, married people spend more time on both unpaid household and unpaid care work compared to those that are single. This makes sense because marriage comes with more responsibilities of child bearing and raising which increases participation in unpaid work. People in other regions spend more time on employment compared to those in eastern region. This suggests that there are fewer employment opportunities in eastern region compared to other regions.

6.2. **Gender and activity choice**

This sub-section presents the results on the activity choice at different times of the day. Table 18 presents the results on the determinants of activity choice between 5 and 8 Hours. The results show that being a female is associated with 17% less likelihood of participating in employment activity between 5 and 8 Hours compared to men. However, being a female is associated with 6 percentage higher likelihood of participating in agriculture compared to being a male.

Looking at gender and participation in unpaid work, the results show that being a female is associated with 36% significantly higher likelihood of participating in unpaid household work and 14% higher likelihood of participating in unpaid care work during the time period 5 and 8 Hrs, holding other factors constant. While the time interval 5-8 hrs is too early to socialize, the results show that being a female is associated with 2% less likelihood of participating in social activities, and the results are significant at 10% significance level.

Other factors influencing activity choice during early morning hours include location, age of the respondent, education, family size and region. Being in a rural area is associated with a higher probability of participating in employment and agriculture production in the early morning hours and a significantly less likelihood of participating in unpaid household and care work, and also a less likelihood of participating in social activities compared to those in urban areas. The results also show that young people are more likely to participate in employment activities, and that for the old, a one year increase in age is associated with a significant decline in the likelihood of participating in all the activities in the early morning.

Table 18: Determinants of different activities performed between 5 AM and 8 AM

	Dependent Variable Takes 1 if the person participate in the following activities:				
VARIABLES	Employment	Agric Production	Un-Paid HH Work	Un-Paid Care Work	Socializing
	(1)	(2)	(3)	(4)	(5)
1 if female	-0.171***	0.0615***	0.358***	0.140***	-0.0284*
	(-9.530)	(3.974)	(20.39)	(12.11)	(-1.736)
1 if in rural	0.0526**	0.102***	-0.100***	-0.0326**	-0.0442**
	(2.189)	(5.028)	(-4.057)	(-2.191)	(-2.031)
Age	0.0151***	0.00413	0.00210	-0.000887	0.0200***
	(5.246)	(1.636)	(0.730)	(-0.441)	(7.431)
Age squared	-0.000195***	-7.48e-05***	-5.28e-05*	-1.06e-05	-0.000175***
	(-6.451)	(-2.784)	(-1.765)	(-0.468)	(-6.312)
Marital Status[a]					
1 if married	0.00715	-0.000475	-0.0214	0.134***	-0.169***
	(0.193)	(-0.0149)	(-0.574)	(6.576)	(-4.660)
Divorced/widow/separated	0.0192	-0.00408	-0.00626	0.194***	-0.122***
	(0.404)	(-0.1000)	(-0.131)	(4.584)	(-3.036)
Education Level[b]					
1 if not education	0.0598	0.174***	-0.0524	-0.0702***	-0.123***
	(1.304)	(3.427)	(-1.127)	(-2.899)	(-3.278)
Primary 1 to P7	0.0816*	0.160***	-0.0120	-0.0194	-0.0737**
	(1.926)	(3.720)	(-0.277)	(-0.741)	(-1.997)
Senior 1 to S4	0.0234	0.0956**	-0.00204	-0.0291	-0.0343
	(0.522)	(1.963)	(-0.0446)	(-1.132)	(-0.899)
Household Head age	0.000904	0.00110	0.000833	-0.00156***	-0.000911
	(1.066)	(1.545)	(0.999)	(-2.771)	(-1.157)
Family Size using Adult Equivalent Units	-0.00903**	-0.00874**	-0.00190	0.00520*	-0.00544
	(-2.196)	(-2.412)	(-0.457)	(1.940)	(-1.459)
Dependance rate	0.0102	0.00727	0.00624	0.0219***	-0.00218
	(1.323)	(1.094)	(0.807)	(4.800)	(-0.307)
Region					
Central region	-0.0852***	-0.0846***	0.0838***	0.0510***	-0.0646***
	(-3.389)	(-4.136)	(3.232)	(3.093)	(-2.979)
Western region	-0.000890	-0.111***	0.0793***	0.0438***	-0.0282
	(-0.0409)	(-6.345)	(3.545)	(3.037)	(-1.477)
Northern Region	-0.0940***	-0.0843***	0.135***	-0.0126	-0.144***
	(-4.143)	(-4.592)	(5.784)	(-0.869)	(-7.304)
Observations	3,920	3,920	3,920	3,920	3,920

Note: t-statistics in parentheses. *** is significant at 1%, ** at 5%, and * at 10%. The base category for [a] is single, and for [b] is University Education and above. Other variables controlled for include whether a person completed Senior 5 to S6, and Post Primary Education.

Table 19 presents results on the factors influencing occupational choice during the time period (8-17 Hrs). Being female is associated with 6 percentage lower likelihood of participating in employment activities 8-17 hours compared to males. In addition, being a female is associated with a 20% higher probability of participating in agricultural production during the same time period compared to males. This suggests that females are less likely to be employed either because there are limited opportunities for them or because their hus-

Table 19: Determinants of different activities performed between 8 and 17 HRS

	Dependent Variable Takes 1 if the person participate in the following activities:				
VARIABLES	Employment	Agric Production	Un-Paid HH Work	Un-Paid Care Work	Socializing
	(1)	(2)	(3)	(4)	(5)
1 if female	-0.0588***	0.203***	0.530***	0.236***	-0.145***
	(-3.988)	(11.35)	(30.46)	(15.95)	(-8.639)
1 if in rural	0.0495**	0.203***	-0.0526**	-0.0177	0.0113
	(2.473)	(8.535)	(-2.217)	(-0.907)	(0.503)
Age	0.00847***	-0.00379	-0.00702**	-0.00956***	4.10e-05
	(3.830)	(-1.303)	(-2.561)	(-3.633)	(0.0158)
Age squared	-0.000119***	-2.35e-05	1.23e-05	4.00e-05	1.25e-06
	(-5.355)	(-0.778)	(0.455)	(1.360)	(0.0472)
Marital Status[a]					
1 if married	0.0170	0.0379	0.0857**	0.230***	-0.0396
	(0.569)	(1.012)	(2.206)	(8.871)	(-1.162)
Divorced/widow/separated	0.0401	0.0742	0.101**	0.303***	-0.0264
	(1.093)	(1.528)	(2.252)	(6.234)	(-0.592)
Education Level[b]					
1 if not education	-0.000797	0.225***	-0.0203	-0.0786**	-0.0984**
	(-0.0215)	(4.409)	(-0.458)	(-2.197)	(-2.155)
Primary 1 to P7	0.0201	0.192***	0.0233	-0.0276	-0.0817**
	(0.584)	(4.068)	(0.578)	(-0.769)	(-2.008)
Senior 1 to S4	0.00237	0.108**	0.0211	-0.0636*	-0.0649
	(0.0656)	(2.127)	(0.502)	(-1.801)	(-1.464)
Household Head age	0.000504	0.00153*	0.00218**	-0.00185**	-0.000658
	(0.736)	(1.816)	(2.571)	(-2.569)	(-0.849)
Family Size using Adult Equivalent Units	-0.00315	0.00216	-0.00572	-0.00226	-0.000951
	(-0.951)	(0.518)	(-1.425)	(-0.624)	(-0.247)
Dependence rate	0.000649	0.00289	0.00105	0.0315***	-0.00743
	(0.106)	(0.370)	(0.138)	(5.057)	(-1.047)
Region					
Central region	0.0250	-0.101***	-0.0450*	-0.00402	-0.0717***
	(1.262)	(-4.043)	(-1.762)	(-0.200)	(-2.869)
Western region	0.0701***	-0.105***	-0.0524**	-0.0535***	-0.187***
	(4.102)	(-4.907)	(-2.422)	(-3.063)	(-8.671)
Northern Region	0.0458**	-0.0620***	-0.0246	-0.0581***	-0.288***
	(2.544)	(-2.734)	(-1.090)	(-3.228)	(-12.71)
Observations	3,920	3,920	3,920	3,920	3,920

Note: t-statistics in parentheses. *** is significant at 1%, ** at 5%, and * at 10%. The base category for [a] is single, and for [b] is University Education and above. Other variables controlled for include whether a person completed Senior 5 to S6, and Post Primary Education.

bands prohibit them from participating in employment work. They instead work in agriculture during the 8-17 hours in Uganda.

The results also show that being a female is associated with a 53% higher likelihood of participating in unpaid household work during the working hours (8-17Hrs). In addition, being a female is associated with 24% higher likelihood of participating unpaid care work compared to males. This means that women are more likely to participate in unpaid work during the official working hours compared to males. The results also indicate that being a female is associated with 15% less likelihood of participating in social activities such as meeting with friends compared to males. This suggests that while women work on the farm, and engage in unpaid household and care work, males participate in employment and socialize with friends.

The results also show that being in a rural area is significantly associated with a higher probability of participating in employment and agricultural activities and less likelihood of participating in unpaid household work compared to those in urban areas. Higher participation in employment in rural areas might be explained by the relatively high unemployment rates in urban areas compared to rural area, while the participation in agriculture is explained by the abundance of agricultural land in rural areas.

Table 20 presents the results on the determinants of activity choice late evening during the time interval 17-23 Hrs. The results are consistent with those of activities during employment time. For instance, the findings show that being a female is associated with 3% lower likelihood of participating in employment activities late evening compared to males. The results also show that being a female is associated with a 10% higher likelihood of participating in agriculture compared to males. The results indicate that women role in agriculture stretches through the hours of the day till late evening. Hence, agriculture is largely a female activity.

In addition, being a female is associated with a 57% higher likelihood of participating in unpaid household work compared to males. Also, being a female is associated with 28% higher probability of participating in unpaid care work compared to being a male. It should be noted that the magnitude of the coefficients on these variable increase as we go through the day suggesting that females are much more likely to participate in unpaid work later in the evening than during day. The results in specification 5 show that being a female is associated with 10% less likelihood of participating in social activities in the evening compared to men. These results are also consistent with those above suggesting that males socialize more with friends compared to females.

Table A2 in the appendix shows that women's work on unpaid care work persists through sleep time in the night. The results in Table A2 show that being a female is associated with 6% higher likelihood of participating in unpaid care work compared to males during sleep time (23-5Hrs).

The results above clearly show that throughout the day, females are more likely to participate in agriculture, unpaid household, and unpaid care work compared to their male counterparts. On the other hand, being a female is associated with a significantly less likelihood of participating in employment work and in social activities compared to males.

Table 20: Determinants of different activities performed between 17 and 23 HRS

VARIABLES	Dependent Variable Takes 1 if the person participate in the following activities:				
	Employment	Agric Production	Un-Paid HH Work	Un-Paid Care Work	Socializing
	(1)	(2)	(3)	(4)	(5)
1 if female	-0.0323*	0.101***	0.570***	0.284***	-0.103***
	(-1.815)	(8.271)	(31.43)	(18.92)	(-6.512)
1 if in rural	-0.0489**	0.0302*	-0.0302	-0.0295	-0.0517**
	(-2.072)	(1.861)	(-1.129)	(-1.493)	(-2.450)
Age	0.00739***	-0.00474**	-0.00126	-0.00851***	0.00231
	(2.600)	(-2.322)	(-0.397)	(-3.360)	(0.947)
Age squared	-0.000104***	1.78e-05	-4.66e-05	3.96e-05	-4.71e-05*
	(-3.506)	(0.802)	(-1.406)	(1.421)	(-1.911)
Marital Status[a]					
1 if married	-0.00103	0.0116	0.0736*	0.218***	0.0227
	(-0.0282)	(0.483)	(1.795)	(8.380)	(0.683)
Divorced/widow/separated	0.0264	0.0201	0.0389	0.295***	0.0446
	(0.561)	(0.617)	(0.749)	(6.140)	(1.089)
Education Level[b]					
1 if not education	-0.0587	0.0519	-0.0780	-0.0915***	-0.104**
	(-1.312)	(1.291)	(-1.513)	(-2.602)	(-2.318)
Primary 1 to P7	0.00768	0.0520	-0.0467	-0.0301	-0.0711*
	(0.186)	(1.491)	(-0.975)	(-0.834)	(-1.789)
Senior 1 to S4	0.0545	0.0375	-0.0682	-0.0553	-0.0431
	(1.243)	(0.969)	(-1.352)	(-1.545)	(-0.994)
Household Head age	-7.92e-05	0.000354	0.000452	-0.00236***	0.00203***
	(-0.0954)	(0.647)	(0.486)	(-3.286)	(2.695)
Family Size using Adult Equivalent Units	-0.00504	0.00251	-0.0192***	-0.00366	0.00374
	(-1.236)	(0.902)	(-4.157)	(-1.007)	(1.022)
Dependence rate	0.00129	0.00711	0.0139	0.0291***	0.00273
	(0.169)	(1.390)	(1.625)	(4.635)	(0.401)
Region					
Central region	0.0887***	-0.0777***	-0.0720***	-0.0287	0.0125
	(3.570)	(-4.965)	(-2.576)	(-1.447)	(0.543)
Western region	0.0707***	-0.0325**	-0.00240	-0.0335*	-0.118***
	(3.297)	(-2.351)	(-0.0984)	(-1.902)	(-5.913)
Northern Region	-0.0141	-0.0481***	-0.0886***	-0.0610***	-0.0913***
	(-0.625)	(-3.353)	(-3.481)	(-3.380)	(-4.379)
Observations	3,923	3,923	3,923	3,923	3,923

Note: t-statistics in parentheses. *** is significant at 1%, ** at 5%, and * at 10%. The base category for [a] is single, and for [b] is University Education and above. Other variables controlled for include whether a person completed Senior 5 to S6, and Post Primary Education.

6.3. **Gender and Work Perceptions**

This sub-section presents results on the determinants of different work related perceptions. Table 21 shows that females, compared to males, strongly believe that boys and girls should spend same time on domestic work. Being a female is associated with 8% higher likelihood of believing in equal sharing of domestic work by boys and girls. This finding suggests that men are less likely to believe in equal sharing of domestic tasks across gender. The variation in perceptions suggests that conflict might arise in role allocation and since men are household heads, the status quo is likely to persist.

Table 21: Gender and Perceptions about work

	Dependent Variable takes 1 if:				
VARIABLES	*Boys & Girls Sh'd spend same time on domestic Work*	*Men Sh'd Help Women with Cooking*	*Woman's role is to take care of her home & Family*	*Taking Care of elderly is women's responsibility*	*Child Care is Mother's responsibility*
	(1)	(2)	(3)	(4)	(5)
1 if female	0.0770***	0.0162	0.0382***	0.0397**	0.0735***
	(4.565)	(0.969)	(2.693)	(2.220)	(4.610)
1 if in rural	0.0565**	-0.0341	0.0150	0.0386	0.0766***
	(2.502)	(-1.532)	(0.805)	(1.620)	(3.612)
Age	0.00392	-0.000123	0.00225	-0.00931***	-0.0108***
	(1.503)	(-0.0480)	(1.033)	(-3.315)	(-4.201)
Age squared	-2.50e-05	-7.04e-06	-1.87e-05	8.32e-05***	0.000108***
	(-0.937)	(-0.272)	(-0.840)	(2.870)	(3.996)
Marital Status					
1 if married	-0.0218	0.0885**	-0.0334	0.0216	0.0189
	(-0.638)	(2.546)	(-1.184)	(0.587)	(0.568)
1 if divorced/widow/separated	0.0119	0.0769*	-0.0260	0.0486	0.0509
	(0.267)	(1.826)	(-0.675)	(1.027)	(1.243)
Education Level					
1 if not education	-0.0659	-0.309***	0.0933***	0.262***	0.203***
	(-1.501)	(-6.111)	(3.068)	(6.008)	(6.322)
Primary 1 to P7	-0.0583	-0.180***	0.0764**	0.180***	0.149***
	(-1.481)	(-4.089)	(2.474)	(4.245)	(4.276)
Senior 1 to S4	-0.0515	-0.184***	0.0595*	0.128***	0.121***
	(-1.212)	(-3.729)	(1.958)	(2.890)	(3.641)
Household Head age	-0.000693	-0.000438	-0.000969	0.00203**	-0.000457
	(-0.894)	(-0.572)	(-1.482)	(2.407)	(-0.603)
Family Size using Adult Equivalent Units	0.00457	6.57e-05	0.00331	-0.00281	0.00128
	(1.184)	(0.0172)	(1.015)	(-0.684)	(0.352)
Dependence rate	0.00393	-0.0132*	0.00848	0.0193**	0.0138*
	(0.539)	(-1.872)	(1.367)	(2.500)	(1.955)
Region					
Central region	-0.0524**	0.0111	-0.0191	0.0823***	0.0174
	(-2.186)	(0.480)	(-0.989)	(3.326)	(0.821)
Western region	-0.135***	-0.0349*	0.0542***	0.118***	0.107***
	(-6.514)	(-1.752)	(3.275)	(5.549)	(5.836)
Northern Region	-0.00309	0.129***	0.0308*	0.0990***	0.0515***
	(-0.143)	(6.271)	(1.767)	(4.431)	(2.659)
Observations	3,924	3,924	3,924	3,924	3,923

Note: z-statistics in parentheses. *** is significant at 1%, ** at 5%, and * at 10%. The base category for [a] is single, and for [b] is University Education and above. Other variables controlled for include whether a person completed Senior 5 to S6, and Post Primary Education.

On relative roles of women and men, the results show that females believe that taking care of family, elderly, and child care are a woman's responsibility. These beliefs are significantly stronger among females than males. This means that traditional role allocation has been institutionalized and now females believe that it is their responsibility to do unpaid work. This suggests that changing time use and role allocation patterns in Uganda might require mindset change. Indeed, in the qualitative survey, women reported that they would not allow their husbands to participate in doing household work such as washing clothes, cooking and serving food, and laying the bed, or else they risk being ashamed by other community members. In most of the rural areas especially in eastern Uganda, when a man does household work, it is believed that the wife bewitched him "Yamuteka mu cupa", or he is stupid and is locally termed a "mudofu".

Other factors associated with work perception are age, and education. The results show that young people, an increase in age is associated with the less likelihood to believe that taking care of elderly and children is a woman's responsibility. However, the old people (captured by age squared), an additional one year is associated with the more likelihood to believe that child caring and taking care of elderly is a woman's responsibility. This suggests that the work related perceptions differ across generations. Also, the results indicate that young people are likely to hold perceptions that favor equal work allocation and time use across gender.

The results also show that education influences work allocation and time use perceptions. Those that have never been to school are less likely to believe that men should help women with cooking, and are more likely to believe that taking care of home, children, and elderly is a woman's responsibility compared to those that completed degree and above. This suggests that education is key in influencing gendered role allocation, and time use.

Table 22 presents more results on the work allocation and time use perceptions. The results show that females are more likely to believe that men do not know how to take care of toddlers compared to males. This suggests that females might be choosing to take care of children out of the belief that men cannot handle the responsibility. The other possible explanation for this finding is that women have been performing this role for a long time, that they feel men cannot handle it. The implication of this belief is that women will choose to keep doing unpaid work because of the belief that their husbands cannot do it. Indeed, during the qualitative survey, FGD participants reported that gender roles are cultural and have been institutionalized with a clear specifications of what men and women can and cannot do.

On women empowerment and how it is viewed by men and women, the results show that, compared to males, females do not believe that a man who does house work will be overpowered by his wife. This finding suggests that it is males who have insecurities of being overpowered by their wives if they do housework but females do not believe that. This perception has far reaching implications because males who feel that they'd be overpowered by their wives if they assisted with household work are less likely to help and hence leave all domestic work to women. Indeed, the participants in the focus groups discussions (FGDs) reported that men do not allow their wife to work because they think they will be insubordinate to them when they are financially empowered. It is the same reason men do not allow women own assets. For instance, men normally sell assets belonging to women without their consent, and this is one of the causes of domestic violence. While women claimed that this is done by men to keep their wives wholly dependent on them, men argued that women do not want to support the family with their property, that they instead spend the earned money on their clothes and on their parents' family. As a result, men have to forcefully sell their property. This, however, indicates that power relations are not balanced in the household and that men treat women as inferior who are not allowed to own assets and to make their own decisions. A large part of discrimination against women is inherited. Women do not inherit land, and where they do inherit, they receive much smaller proportions compared to their male siblings. The FGD participants reported that is done because women are expected to belong to the families they marry into and hence should not share property from their parents. The unfortunate bit is that women also are not allowed to own property in

Table 22: Gender and Perceptions about work

	Dependent Variable takes 1 if:					
VARIABLES	Men Don't Know how to take care of toddlers	Both Husband and wives should Earn	Most men would prefer house wives	Women face constraints to work outside home	Man who does house work will be over powered by wife	Men's work is more important that women's
	(1)	(2)	(3)	(4)	(5)	(6)
1 if female	0.0539***	0.0188*	0.0465***	-0.0254*	-0.0727***	-0.142***
	(3.478)	(1.783)	(2.714)	(-1.724)	(-4.156)	(-7.811)
1 if in rural	0.0240	0.0164	0.0387*	-0.0349*	-0.00913	-0.0162
	(1.163)	(1.124)	(1.700)	(-1.741)	(-0.394)	(-0.667)
Age	0.000749	0.00269*	-0.00148	-0.00325	-0.000846	-0.0104***
	(0.315)	(1.731)	(-0.558)	(-1.379)	(-0.317)	(-3.665)
Age squared	-9.64e-06	-2.74e-05*	1.15e-05	4.35e-05*	4.31e-06	8.67e-05***
	(-0.397)	(-1.761)	(0.425)	(1.758)	(0.158)	(2.987)
Marital Status						
1 if married	-0.00672	-0.00507	-0.0345	0.00965	-0.0324	0.0939**
	(-0.214)	(-0.243)	(-0.996)	(0.319)	(-0.906)	(2.521)
1 if divorced/widow/ separated	0.0233	-0.0372	-0.0768*	0.00120	0.0327	0.0752
	(0.579)	(-1.240)	(-1.668)	(0.0310)	(0.705)	(1.583)
Education Level						
1 if not education	0.0317	-0.0887**	0.160***	0.00498	0.299***	0.320***
	(0.852)	(-2.436)	(4.044)	(0.131)	(6.212)	(7.423)
Primary 1 to P7	0.0542	-0.0624**	0.0817**	0.0143	0.167***	0.266***
	(1.551)	(-2.202)	(2.096)	(0.402)	(3.876)	(6.219)
Senior 1 to S4	0.0155	-0.0491	0.0271	0.0115	0.198***	0.234***
	(0.428)	(-1.460)	(0.666)	(0.310)	(4.207)	(5.395)
Household Head age	0.000493	-0.000571	-0.000838	-0.000227	-5.26e-05	0.000874
	(0.690)	(-1.246)	(-1.059)	(-0.333)	(-0.0656)	(1.041)
Family Size using Adult Equivalent Units	-0.000611	0.00505**	-0.00179	-0.00317	-0.00239	0.00202
	(-0.173)	(2.084)	(-0.460)	(-0.942)	(-0.597)	(0.486)
Dependance rate	-0.00530	-0.00312	0.0180**	0.00675	0.0211***	-0.00811
	(-0.803)	(-0.695)	(2.441)	(1.067)	(2.853)	(-1.042)
Region						
Central region	0.00598	0.0707***	0.0540**	0.119***	0.0805***	0.127***
	(0.285)	(5.822)	(2.317)	(5.879)	(3.314)	(5.093)
Western region	0.0277	0.0295***	0.101***	0.0353**	0.0738***	0.0820***
	(1.537)	(2.714)	(4.964)	(2.016)	(3.537)	(3.792)
Northern Region	0.111***	0.0977***	-0.0629***	-0.149***	-0.174***	-0.246***
	(5.949)	(8.459)	(-2.916)	(-7.820)	(-8.018)	(-10.82)
Observations	3,923	3,923	3,923	3,923	3,923	3,923

Note: z-statistics in parentheses. *** is significant at 1%, ** at 5%, and * at 10%. The base category for a is single, and for b is University Education and above. Other variables controlled for include whether a person completed Senior 5 to S6, and Post Primary Education.

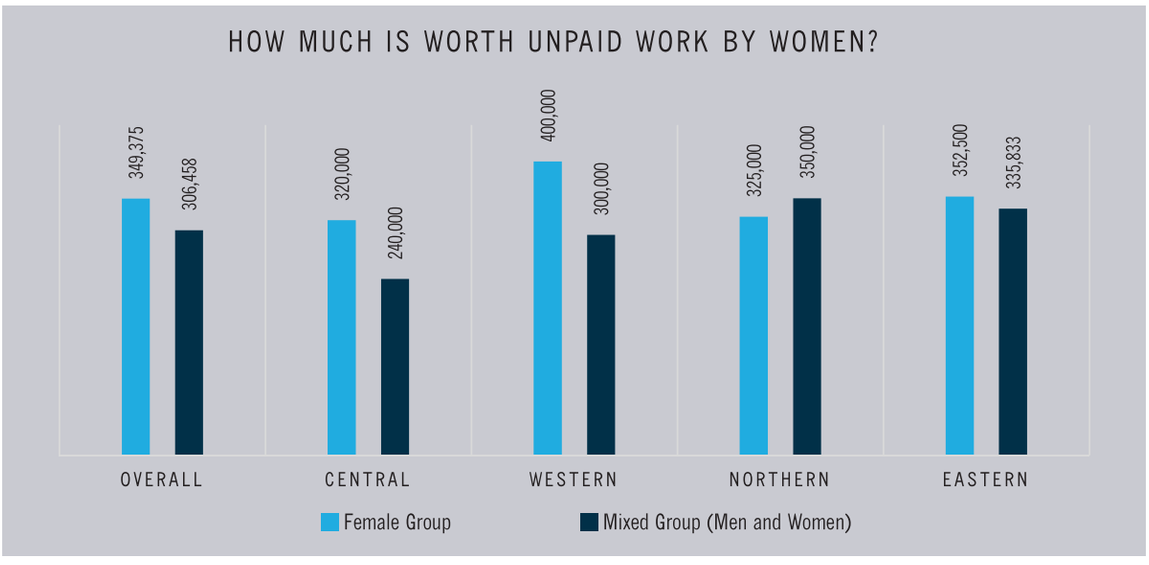
the home they are married into. This leaves them poor and vulnerable exacerbating the levels of exploitation. In addition, men beat their wives and this is justified as right by men and women. Many female FGD participants reported that it was justified for a man to beat his wife in case she is disrespectful, she is caught cheating, and she is not clean and leaves home without knowledge of their husbands. All this shows that men treat women not as equal partners but as subordinates and inferior to them.

In terms of attaching importance to work, the results show that women are less likely to believe that men's work is more important than that of women. However, men believe that their work is more important than that of women. This perception might be explained by the fact that women do unpaid household and care work while men participate in employment and other income generating activities from which money to sustain their families is generated. In addition, this perceptions might be influenced by the failure to quantify women's work in monetary terms since it does not accrue any pay, and hence husbands feel it is less important.

Figure 1 below confirms the findings on the perceptions about the value of work done by men and women. During the qualitative survey, focus group discussions were held with groups of women, and a mix of men and women separately. These groups were asked to state how much women should be paid per month for the unpaid household and care work they do. The results show that, overall, groups that had men attached a smaller value to the work done by women compared to groups of women. Overall, women groups think that women should be paid about 350,000 Uganda Shillings while groups with men thought that women should be paid 300,000 Uganda Shs for the the unpaid work they do. The results also show that there are regional variations of these results. The gap between the two groups is bigger in central and western Uganda where men attach the smallest value to women's work compared to women themselves. In northern region, the value attached by men to unpaid work performed by women is larger than that of women. This finding collaborates with the narratives in the focus groups discussions that women in northern Uganda perform most of the functions to take care of the family. The focus group participants in the region reported that after the man pays bride price, the woman shoulders the responsibility of taking care of the family. As a result, the range of jobs and work performed by women in northern Uganda was higher than that of other regions.

Other factors that influence these perceptions include the respondents' age, and education. The older people (captured by age squared) are less likely to believe that

Figure 1: Valuation of Unpaid work by groups of females and Males



both men and women should earn to support the family, and are more likely to believe that men's work is more important that of women. This is a generational issue where the older generation still believes that women are inferior to men and hence should be confined to domestic work. Education is also associated with varying perceptions about work. Those that have never been to school are more likely to believe that men do not know how to take care of toddlers and more likely to believe that men who do household work will be over powered by their wives. In addition, individuals with no formal education are more likely to believe that men's work is more important than that of women. These results suggest that education is important in changing people's perceptions about work and gender time use.

7. CONCLUSION AND POLICY RECOMMENDATIONS

This section provides a summary of key findings and draws some actions that have a likelihood to close the gender gap in time use and role allocation, and enhance gender empowerment.

There is still a huge gender gap in as far as time use, and occupation choice are concerned. The results show that while males are largely employed in government and private organizations, and for those not employed, are operating private business, females are involved in home duties, and are into agriculture. In addition, the results also showed that for the women in private businesses, they are doing petty jobs such as selling items along streets.

The study also found that across the day, Throughout these time periods, women were significantly more likely to do unpaid household work, unpaid care work such as taking care of children, elderly and the sick, and they were more likely to participate in agriculture. As for men, they were more likely to participate in employment work and on socializing with friends. Even during sleep time, women participated in unpaid care work suggesting that they slept for a shorter time compared to men. The regression results showed that being a female was associated with 3 hours less time allocated to employment jobs, but more 4 hours spent on unpaid household work compared to males.

The study also examines time use and work allocation perceptions by gender. The results show that women believe that doing unpaid household and unpaid care work is their responsibility. For instance, females were more likely to believe that taking care of children, cooking, and taking care of elderly is a woman's responsibility. This suggests that gender norms have been institutionalized that women believe some kinds of work is meant for them.

In order to enhance equality in time use and work allocation within and beyond the household, the following actions are proposed:

1. There is a need for awareness creation and mind set change in promoting women rights. This can be through use of role models, especially successful women from the respective communities. In addition, the awareness campaign should target and be channelled through political and traditional leaders, churches and mosques, and youth associations at the local level. This is because gender inequality is institutionalized that any change should start with institutional set up.
2. Promote education of girl child so as to empower them. This can be through addressing challenges that impede girl's access to education, and those that lead to high absenteeism especially in rural areas such as lack of access to sanitary pads, discrimination by resource constrained parents who choose to send boys to school and instead force girls into early marriages.
3. Enforce the constitutional rights such as right to inherit land which are not adhered to by many communities. The traditional practices that deny girls right to inherit land are still followed even when the constitution requires all children to equally share the property upon the death of their parents irrespective of sex.
4. Punish men who batter their wives to curb the vice. Women too should be encouraged to report the cases of domestic violence, and to report men who batter them to law enforcers. This is because many such cases go unreported because of community sanctions against women who report their husbands to policy for battering them.

8. REFERENCES

Bird, C. E., & Fremont, A. M. (1991). Gender, Time Use, and Health. *Journal of Health and Social Behavior, 32*(2), 114-129.

Blackden, M., & Wodon, Q. (2006). Gender, Time Use, and Poverty. *MPRA Paper No. 11080*.

Gove, W. (1984). "Gender Differences in Mental and Physical Illness: The Effects of Fixed Roles and Nurturant Roles. *Social Science and Medicine, 19*, 77-91.

Guloba, M., Katunze, M., Ssewanyana, S., Ahikire, Musiimenta, J., Boonabaana, P., . . . Ssennono, V. (2019). *Gender Roles and the Care Economy in Ugandan Households: The case of Kaabong, Kabale and Kampala districts.* Kampala: Oxfam.

Hirway, I., & Jose, S. (2011). Understanding Women's Work Using Time-Use Statistics: The Case of India. *Feminist Economics, 17*(4), 67–92.

Kes, A., & Swaminathan, H. (2006). *Gender and Time Poverty in Sub-Saharan Africa.* Washington DC: The World Bank.

Kongar, E., & Memiş, E. (2017). Gendered Patterns of Time Use over the Life Cycle: Evidence from Turkey . *Levy Economics Institute. Working Paper No. 884*.

Pinto, K. A., Griep, R. H., Rotenberg, L., Almeida, M. d., Barreto, R. S., & Aquino, E. M. (2018). Gender, time use and overweight and obesity in adults: Results of the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil). *PLoS ONE, 13*(3), https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0194190.

Ross, C., Mirowsky, J., & Huber, J. (1983). Dividing Work, Sharing Work, and In-Between: Marriage Patterns and Depression. *Journal of Health and Social Behavior, 25*, 189-97.

Sarah Gammage. (2010). Time Pressed and Time Poor: Unpaid Household Work in Guatemala. *Feminist Economics, 16*(3), 79-112.

Sent, E.-M., & Staveren, I. v. (2019). A Feminist Review of Behavioral Economic Research on Gender Differences. *Feminist Economics, 25*(2), 1–35.

Stevano, S., Kadiyala, S., Johnston, D., Malapit, H., Hull, E., & Kalamatianou, S. (2018). TIME-USE ANALYTICS: AN IMPROVED WAY OF UNDERSTANDING GENDERED AGRICULTURE-NUTRITION PATHWAYS. *Feminist Economics*, DOI: 10.1080/13545701.2018.1542155.

The World Bank. (2006). *Gender, Time Use, and Poverty in Sub-Saharan Africa.* (C. Blackden, & Q. Wodon, Eds.) Washington, D.C. 20433,, U.S.A: The International Bank for Reconstruction and Development/The World Bank.

Uganda Bureau of Statistics (UBoS). (2019). *Time Use Survey 2017/2018 Report.* Kampala: UBOS.

APPENDIX

Table A1: Gender and Time allocation to different simulatneous activities

Dependent Variable is the number of minutes in a day spend on simultaneous Activity:						
VARIABLES	Employment	Agric Prodn	Unpaid HH	Un-Paid Care	Socializing	Self-Care
	(1)	(2)	(3)	(4)	(5)	(6)
1 if female	-0.0282	-0.203*	4.411***	22.27***	-13.37***	-9.074**
	(-0.0719)	(-1.873)	(8.170)	(12.00)	(-3.758)	(-2.172)
1 if in rural	-0.774	0.119	-2.435***	0.424	3.952	0.213
	(-1.486)	(0.824)	(-3.390)	(0.172)	(0.835)	(0.0383)
Age	0.0512	0.00517	-0.0273	-1.794***	0.409	-0.845
	(0.846)	(0.309)	(-0.327)	(-6.253)	(0.744)	(-1.308)
Age squared	-0.000641	-0.000121	-0.000193	0.0128***	-0.00967*	0.00140
	(-1.038)	(-0.706)	(-0.227)	(4.373)	(-1.720)	(0.213)
Marital Status[a]						
1 if married	0.208	-0.0470	2.435**	31.34***	-11.47	8.127
	(0.259)	(-0.212)	(2.203)	(8.248)	(-1.574)	(0.950)
Divorced/widow/ separated	1.918*	-0.155	1.708	21.69***	-5.707	3.975
	(1.858)	(-0.545)	(1.200)	(4.432)	(-0.608)	(0.361)
Education Level[b]						
1 if not education	-0.738	-0.340	-4.697***	0.187	16.48*	7.741
	(-0.743)	(-1.238)	(-3.426)	(0.0396)	(1.824)	(0.730)
Primary 1 to P7	-0.430	-0.356	-3.547***	-3.113	0.906	-9.103
	(-0.470)	(-1.409)	(-2.811)	(-0.717)	(0.109)	(-0.932)
Senior 1 to S4	-0.276	-0.425	-3.062**	-3.563	-0.467	-3.545
	(-0.286)	(-1.590)	(-2.295)	(-0.777)	(-0.0531)	(-0.343)
Household Head age	-0.00540	0.00307	0.0145	-0.0284	0.175	0.135
	(-0.298)	(0.612)	(0.580)	(-0.330)	(1.059)	(0.697)
Family Size using Adult Equivalent Units	-0.0405	-0.0393	-0.196	-0.548	0.713	0.0940
	(-0.453)	(-1.592)	(-1.593)	(-1.291)	(0.878)	(0.0985)
Dependance rate	-0.183	0.0473	0.280	2.177***	1.673	3.988**
	(-1.097)	(1.027)	(1.219)	(2.754)	(1.104)	(2.242)
Region						
Central region	1.181**	-0.00759	-0.751	-5.538**	-8.247*	2.517
	(2.164)	(-0.0503)	(-0.998)	(-2.139)	(-1.661)	(0.432)
Western region	-0.399	0.0175	1.658**	-3.590	38.78***	48.26***
	(-0.846)	(0.135)	(2.550)	(-1.605)	(9.045)	(9.591)
Northern Region	-0.916*	0.200	0.129	-4.160*	-30.24***	-30.30***
	(-1.855)	(1.464)	(0.189)	(-1.776)	(-6.735)	(-5.749)
Constant	2.499	0.548	5.256**	27.14***	86.68***	130.6***
	(1.605)	(1.274)	(2.447)	(3.675)	(6.121)	(7.860)
Observations	3,923	3,923	3,923	3,923	3,923	3,923
R-squared	0.010	0.005	0.035	0.097	0.071	0.061

Note: t-statistics in parentheses. *** is significant at 1%, ** at 5%, and * at 10%. The base category for [a] is single, and for [b] is University Education and above. Other variables controlled for include whether a person completed Senior 5 to S6, and Post Primary Education.

Table A2: Determinants of different activities performed between 23 and 5 HRS (Sleep Hrs)

Dependent Variable Takes 1 if the person participate in the following activities:			
VARIABLES	Un-Paid HH Work	Un-Paid Care Work	Socializing
	(1)	(2)	(3)
1 if female	-0.000907	0.0627***	-0.00922
	(-0.220)	(8.769)	(-1.255)
1 if in rural	-0.0162***	-0.0119	-0.0453***
	(-2.692)	(-1.482)	(-4.488)
Age	-0.000343	-0.00383***	0.00223*
	(-0.554)	(-3.784)	(1.891)
Age squared	4.45e-06	2.42e-05**	-2.24e-05*
	(0.729)	(2.123)	(-1.822)
Marital Status[a]			
1 if married	0.0115	0.0761***	-0.00670
	(1.469)	(6.968)	(-0.436)
Divorced/widow/separated	0.0188	0.223***	0.0211
	(1.184)	(5.465)	(0.997)
Education Level[b]			
1 if not education	0.000807	-0.0143	-0.0263*
	(0.0766)	(-1.010)	(-1.838)
Primary 1 to P7	0.00533	0.00117	-0.0175
	(0.584)	(0.0816)	(-1.198)
Senior 1 to S4	0.0102	-0.00576	-0.00847
	(0.898)	(-0.398)	(-0.588)
Household Head age	-5.14e-05	-0.000198	0.000159
	(-0.252)	(-0.671)	(0.466)
Family Size using Adult Equivalent Units	-0.000663	-0.000259	0.00457***
	(-0.684)	(-0.169)	(2.939)
Dependence rate	0.00153	0.00993***	-0.00258
	(0.919)	(4.151)	(-0.814)
Region			
Central region	0.00169	0.0297***	0.0681***
	(0.329)	(3.132)	(5.592)
Western region	-0.0102**	0.0234***	0.0208**
	(-2.170)	(2.844)	(2.133)
Northern Region	-0.00533	-0.00310	-0.0238**
	(-1.123)	(-0.391)	(-2.315)
Observations	3,923	3,923	3,923

Note: t-statistics in parentheses. *** is significant at 1%, ** at 5%, and * at 10%. The base category for [a] is single, and for [b] is University Education and above. Other variables controlled for include whether a person completed Senior 5 to S6, and Post Primary Education.

Economic Policy Research Centre
Plot 51, Pool Road, Makerere University Campus
P.O. Box 7841, Kampala, Uganda
Tel: +256-414-541023/4, Fax: +256-414-541022
Email: eprc@eprc.or.ug, Web: www.eprc.or.ug