

## **The Effect of Sex on Not Knowing Their Last Child's Birthday**

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**Abstract:** This paper examines the effect of an individual's sex on their likelihood of knowing their last child's birthday. 1998 Nicaragua Health Demographic Survey Data is used to help measure this relationship. I find that there exists literature over women's supposed roles as caretakers especially in developing countries that may lead to higher rates of not only taking care of the child but having a greater bond attached to the many caretaking tasks. I find that when tested without controls and with controls, being female increases the likelihood of knowing your last child's birthday by 1.1-1.5 percentage points. Interestingly, I also find that while sex does have some effect, the greater effects are driven by type of residence. Those who live in the countryside on average know their last child's birthday more than those who live in cities and towns. The effect for being female grows in magnitude when radio usage is tested individually and with controls to between 2.2 – 2.6 percentage points more likely to know this information. Overall, I find there to exist some relationship between sex and the likelihood of knowing your child's birthday information where women tend to know this information more than men.

- Added to prior literature: added information from studies about how women act during natural disasters and attitudes of men vs women when becoming parents
- Fixed sample sizes to match in all columns for each table
- Added Lines to tables and adjusted footnotes to fit in a single page
- Created table 3 and added discussion of results
- I removed age at first marriage and the missingness of age at first marriage variable because their coefficients were 0 and I already had the age variable with a coefficient of 0, so I decided I did not need two of the same 0 effect
- Added radio variable into analysis
- Adjusted the wording of confusing sentences and tried to tighten paper overall

## **Effect of Sex on Not Knowing Last Child's Birthday Information**

### **Introduction**

A child's birthday information is an incredibly useful and important piece of information for a parent to have and know. This information can and will be used for several activities throughout an individual as well as their child's life from schooling, receiving medication, and much more. Theoretically, each parent plays different roles and oversees multiple caretaking tasks – many of which require birthday information and are tied to the sex of the parent. So, depending on the relationship a parent has with their child and with their partner, one parent may be more likely to know their child's birthday information than the other because of their sex. This is a difficult relationship to measure because each household has their own unique household members and individuals who are the same in sex will not necessarily always play the same role in their respective household; however, often they do because of culture and tradition – implying that the effect of not knowing a child's birthday could also be related more to the specific caretaking tasks instead of just to the sex of the parent.

This paper examines the effect of the sex of the parent on not knowing their last child's birthday date or birthday month. I use data from the 1998 Nicaragua Demographic and Health Surveys to test this relationship. So, while men and women differ on many characteristics such as total number of children ever born and average age in 1998, I utilize the underlying assumption that there should be very little difference in women vs men's knowledge about their last child. I find the effect of sex on not knowing their last child's birthday, when tested without controls in table 2 (1), to be -0.015 which is statistically significant at the 5% level. This tells us that women on average are 1.5 percentage points more likely to know their last child's birthday compared to men. When sex is tested against not knowing their last child's birthday, but controls

are added, this effect rises to -0.009 – meaning that women are 0.9 percentage points more likely to know their last child’s birthday, however this effect is not statistically significant at any level.

Additionally, I look at the effect of listening to the radio every day on knowing their last child’s birthday information. Men and women in Nicaragua at the time were primarily using radios as their main medium of digital media according to Open Society Foundations’ Country Report for Nicaragua’s Digital Media use. This report finds that 80 percent of the population uses radios because much of the country does not have access to electricity or internet. I believe that the radio variable may give insight into how access to information alongside sex affects the likelihood of knowing your last child’s birthday information. Because Nicaragua is very susceptible to damage from natural events, I believe that listening to a radio everyday would allow an individual to better prepared before a storm or other natural disasters that often leave thousands homeless and without important documents that may contain birthday information.

I find that the effect of listening to the radio every day is not statistically significant when tested with and without controls. When tested without controls, this effect tells us that individuals who listen to the radio every day are 1.7 percentage points more likely to know their last child’s birthday than those who do not listen every day. When tested with the rest of the controls, this coefficient (2) remains negative however, the effect decreases to 1.5 percentage points more likely to know the birthday of their last child than those who do not listen to the radio. Although we find no statistically significant effect of listening to the radio every day on not knowing your last child’s birthday, this is still important information to have because it tells us that possibly there is something else outside digital media channels that could affect knowing your last child’s birthday information. This could give some direction to a policy maker trying to create policies around caretaking of children because there now exists both the information that

type of residence does contribute greatly to knowing your child's birthday information, effects found in table 2, but listening to the radio does not, indicating that receiving warning from a radio about possible disasters and theoretically being better prepared will not help an individual better retain their last child's birthday information.

## **Background**

Prior research on the effect of sex on different stages of life including entering parenthood have previously been conducted in the mid 1980s. Feldman and Nash conduct a cross sectional study on 31 American individuals ranging in ages from 23-40 for men and 21-35 for women. Men and women were given different questionnaires and rating scales to answer in separate rooms over attitudes surrounding their status as a parent: mood scale, social change ratings, anticipation/experience of parenthood, and satisfaction scale. Questionnaires were given during the last trimester of a pregnancy and again when the child turns 6 months old. Feldman and Nash find that there do exist some differences between men and women for satisfaction. They found that when expecting a child, men and women rated themselves similarly in level of satisfaction; however, once a child is born, women surpass men in their average ratings of satisfaction during parenthood, telling us that "women express more satisfaction than men over the relationship with their baby, particularly in the way they care for their infants' physical needs... and, to a lesser extent, emotional needs" (Feldman and Nash 68). I attempt to utilize these findings from Americans on the Nicaraguan individuals in my sample. I use the idea that women have a greater emotional bond, as self-reported, on average than men do with becoming a parent and caring for their child. If women have a greater tie to the different childcare taking tasks than men, it follows that women should on average, be more aware of information needed for these types of caretaking activities which can often require birthday information.

This paper examines the effect of sex on not knowing their last child's birthday in the context of Nicaragua 1998. According to BBC's Timeline of Nicaragua, in the 20 years leading to 1998, Nicaragua experiences continuing political turmoil: attacks from outside countries, changes of leadership, assassination of their president, and eventually a peace agreement in 1988. Nicaragua is also a central American country neighbored by the Caribbean Sea to the right and the Pacific Ocean to the left, leaving it vulnerable to frequent damage from natural disasters. Throughout the late 1980s and the 1990s, Nicaragua experiences several different natural events rendering many injured, dead, and homeless. In 1988, Hurricane Joan hits leaving more than 20,000 homes were destroyed. In 1993, tropical storm Bret hits leaving thousands homeless as well as heavily damaging infrastructure. And lastly, in 1996, Hurricane Cesar-Douglas hits leaving more than 100,000 homeless (BBC). Numerous natural disasters hit Nicaragua and the surrounding areas before and after this period, showing that this was a very real and on-going threat to the people of Nicaragua that could also easily affect their knowing of their child birthday depending on factors such as their locations and types of residence.

The international Journal of Disaster Risk Reduction studies how women act and react in natural disasters in Bangladesh. Alam and Rahman find that in developing countries, women receive less support overall in terms of resources and protections but that they must continue with their normal tasks and often feel an even larger burden because of traditional views that they need to care for the children regardless of the situation. However, this paper also finds that although women are at an incredible disadvantage when compared to men during times of natural disasters, they are given different opportunities because of such an event. Where women were previously not welcomed or encouraged, certain types of work for example, there is suddenly increased opportunities for women than before (78-80). This tells us that sex,

vulnerability to natural disasters, and the interaction between the two can change the lives of individuals with respect to their caretaking relationship with their children and partner because while women are still generally expected to care for the children no matter the situation, the occurrence of natural disasters, which we know to be frequent in the area, changes the dynamic of the household overall and could lead to a change in parent's role in caring for their children.

## **Data**

To examine the effect of sex on a parent not knowing their last child's birthday or birth month, I use Nicaragua's DHS data. This was collected in 1998 for both female and male respondents. The data is cross-sectional and has information over demographics as well as health for Nicaraguans in 1998: levels/trends of fertility, infant mortality, family planning, knowledge over sexually transmitted diseases, domestic violence, and more. The females and males given questionnaires are those between the ages of 15 and 49. Both questionnaires have similar questions pertaining to the topics above; however, the women's questionnaire has an additional section for pregnancy/breastfeeding, child health information over all children, and history of husband and wife's work whereas the male data is limited in that it has observations for only their last child's birthday month and birthday year. Women and men were chosen to be surveyed based on census information from the VII Population and Housing Census taken in 1995 which included 12,138 census segments each with a different number of households. Next, areas were created to separate these 12,138 census segments into groups. One census segment was selected in each area with probability equal to the proportion of its size to the area. Then, individual households were selected from each census segment using the same proportion across all segments. This resulted in 12,783 total households surveyed each with their own respective number of eligible men and women and their children.

The final data set used for analysis includes 2964 observations of which 1433 are women and 1531 are men. Observations included in the final sample for these, as well as other variables, include observations for matched couples from the male and female survey data and observations for any single parent living in a house with a matched couple. A matched couple are those observations for which a female and male respondent answer, have an observation, for the same child in the same household. Variables included in the baseline summary statistics are total children born, type of residence, years of education, number of members in the household, sex of the head of household, current age, number of sons at home, number of daughters at home, and daily radio usage.

Table 1 shows these calculated baseline statistics among men and women. First, total Children born refers to the total children ever born to a respondent. The average for this value tells us that on average, individuals have 4.003 total children. Type of residence is a categorical variable with four choices: lives in a large city, lives in a small city, lives in a town, and lives in the countryside. The overall average values for these variables are 0.102, 0.187, 0.216, and 0.496 respectfully, and they represent the average proportion of individual respondents that fit into each category of type of residence. Total years of education refers to the number of years of schooling an individual has had with an overall average value of 4.847 years. Number of members in the household refers to the total number of people residing in the house with an overall average of 6.648 total individuals. Head of house sex refers to the sex of the head of house with 1 equaling female and 0 equaling male. On average, 12.6 percent of households are run by women. Current age refers to the age of the respondent at the time of the survey with an average of 33.406 years old. Num. sons at home refers to the total number of respondent's sons residing in the same household. On average, individuals have 1.427 sons in their household.

Num. daughters at home refers to the total number of respondent's daughters residing in the same household. On average, individuals have 1.342 total daughters residing in their household. And lastly, radio is an indicator for uses radio daily with 0 equaling no and 1 equaling yes. The overall average tells us that 78.4 percent of individuals use radios every day.

Variables used in the analysis are female for treatment as well as don't know last child's birthday or birth month as the outcome variable. Don't know last child's birthday date or month is constructed differently depending on the sex of the parent. Since the woman's survey includes birthday date information for all their children whereas the male data only has information pertaining to the birthday month or birthday year of their last child, to be able to compare the effect of being female on not knowing their child's birthday date or month, analysis needs to be limited to specifically the information of the last child's birthday. A new variable, last\_bday, is generated and filled with the values pertaining to the birthday date of the last child for female respondents and birthday month for the last child for male respondents. If a female respondent does not know her last child's birthday date, the observation is coded as "98" and otherwise coded as the day of the month, 1-31, that they were born. If a male does not know his last child's birthday month, the observation is coded as "98" and otherwise coded as the month number, 1-12. Ultimately, the values of the variable 'last\_bday' are coded as "98" for respondents who do not know their last child's birthday information, a number from 1-12 pertaining to the month if a male respondent knows the birthday month of their last child, or a number from 1-31 pertaining to a specific day of a month if a female respondent knows the birthday date of their last child. Lastly, a new variable is created for 'don't know birth'. This variable is coded as "1" if the value in 'last\_bday', is 98 and 0 if the value in 'last\_bday' is between 1-31.

## **Empirical Approach**



To identify the casual effect of sex on not knowing their last child's birthday or birthday month, I utilize my underlying assumption that there should be very little difference in women vs men's knowledge about their last child and that sex of a respondent is random. The female indicator is constructed directly from the specific survey answered. Those who answered the individual respondent survey – all women – were coded in as female, or female = 1. And all of those who answered the men's survey – all men – were coded as male, or female = 0.

Table 1, Columns 2-4 present average baseline characteristics across females and males. I do not find any statistically significant differences among women and men for type of residence, years of education, and sex of household head. I find statistical differences in other baseline variables compared however, some of the magnitudes are minimal, so we consider men and women balanced in these characteristics: number of sons at home and number of daughters at home. The coefficient for number of sons at home is positive and statistically significant at the 5% level. This value tells us that on average, women have 0.117 more sons in their households than men do, however, 0.117ths of a child is not large enough in magnitude, so we consider men and women similar across number of sons in the household. The coefficient for number of daughters at home is positive and statistically significant at the 1% level: 0.123. However, for similar reasons to those given for number of sons in the household, we do not find this to be a true difference between females and males.

I find statistical difference at the 1% level in other baseline variables where the magnitude is large enough to show a sizable difference between men and women. Differences that could bias downward include total children born and current age. The coefficient for total children born is -0.433. On average, women have 0.433 less total children than men. The coefficient for current age is -5.268 indicating that on average, women are 5.268 years younger

than men. Additionally, I find one statistically significant difference at the 1% level that instead biases upward: total number of household members. The coefficient for total number of members in the household is 0.454. This tells us that on average, women have 0.454 more members in the house than men.

I believe that these differences exist because as studied by Alam and Rahman, women are often expected to continue with their caretaking tasks despite the situation they are put in, so there could exist an endless number of scenarios where a woman is left with the responsibility of taking care of a child instead of the father. The assumption that women are left with the responsibility of a child coincides with a higher overall average in number of household members. Similarly, if women are expected to take on the responsibility of caring for children and they are aware of this, I believe that it is feasible that women may want less children born to them in case they are left with the responsibility of caring for a child later. This could explain why on average women tend to have less children than men. I believe that the dynamic surrounding the expectation that women will and need to be caring for the child more than men are expected to can alter how a household runs, how many people are in the household, and how many children an individual may have.

### **Econometric Specification**

To estimate the effect of sex on not knowing their last child's birthday information, I estimate the following: (1)  $\text{Don't\_know\_last\_child's\_birthday}_i = \alpha + \beta \text{Female}_i + \varepsilon_i$ . This equation shows the effect of sex on not knowing their last child's birthday. Subscript  $i$  refers to the response of an individual respondent for each variable.  $\beta$  is the average effect of being female and  $\alpha$  is the average proportion of men that do not know their last child's birthday information. In addition, I also estimate (2) Equation 2 with controls:  $\text{Don't\_know\_last\_child's\_birthday}_i = \alpha$

+  $\beta_1 \text{Female}_i$  +  $\beta_2 \text{Large\_city}_i$  +  $\beta_3 \text{Small\_city}_i$  +  $\beta_4 \text{Town}_i$  +  $\beta_5 \text{Education}_i$  +  $\beta_6 \text{Num\_hh\_members}_i$  +  $\beta_7 \text{Hh\_sex}_i$  +  $\beta_8 \text{Age}_i$  +  $\beta_9 \text{Num\_sons}_i$  +  $\beta_{10} \text{Num\_daughters}_i$  +  $\beta_{11} \text{Radio}_i$  +  $\varepsilon_i$ . To estimate the differential effect of sex on knowing your last child's birthday information by radio usage, I estimate (3) Equation 3:  $\text{Don't\_know\_last\_child's\_birthday}_i = \alpha + \beta \text{Female}_i + \beta_1 \text{Radio}_i + \beta_2 (\text{Female} * \text{Radio})_i + \varepsilon_i$ . And lastly, I also estimate (4) Equation 4 with controls:

$\text{Don't\_know\_last\_child's\_birthday}_i = \alpha + \beta_1 \text{Female}_i + \beta_2 \text{Radio}_i + \beta_3 \text{Large\_city}_i + \beta_4 \text{Small\_city}_i + \beta_5 \text{Town}_i + \beta_6 \text{Education}_i + \beta_7 \text{Num\_hh\_members}_i + \beta_8 \text{Hh\_sex}_i + \beta_9 \text{Num\_sons}_i + \beta_{10} \text{Num\_daughters}_i + \varepsilon_i$ .

## Results

In table 2, equation (1) finds that on average, women are 1.5 percentage points more likely to know their last child's birthday than men. This effect is significant at the 5% level. In equation (2), the effect of being female remains negative but decreases in magnitude to 1.1 percentage points more likely to know their last child's birthday and we find this to remain significant but this time at the 10% level instead of 5%. Key control variables include total number of children, the categorical variable for type of residence, sex of household head, number of sons at home, and number of daughters at home.

The coefficient for total number of children says that for every additional child born to a respondent, the likelihood that they do not know their last child's birthday increases by 0.7 percentage points and we find this to be statistically significant at the 1% level. The coefficients for type of residence tell us that, compared to those who live in the countryside, those who live in a large city, small city, and town are 2.8, 3.0, and 2.5 percentage points respectively, more likely to not know their last child's birthday than those who live in the countryside. The coefficient for lives in a large city is significant at the 5% level while the coefficients for lives in a small city

and lives in a town are significant at the 1% level. The coefficients for the different categories of type of residence are the largest effects I find overall in terms of magnitude – almost double that of all other coefficients.

The coefficient for sex of household head tells us that if an individual is from a women led home, they are on average 1.7 percentage points more likely to know the birthday of their last child than an individual from a male led home and this is significant at the 10% level. The coefficient for number of sons at home tells us that for every additional son in the household, individuals are 0.7 percentage points more likely to know their last child's birthday and this is significant at the 5% level. The coefficient for number of daughters at home tells us that for every additional daughter in the home, individuals are 1.0 percentage point more likely to know their last child's birthday and we find this to be statistically significant at the 1% level. Lastly, the coefficient for radio tells us that those who use the radio daily are 0.7 percentage points more likely to know their last child's birthday than those who don't, but we do not find this to be statistically significant at any level.

In table 3, I look at the effect of everyday radio usage on not knowing your last child's birthday information. I utilize the radio variable because it is the most common form of media channel used in Nicaragua and I believe that there exists some relationship between hearing warning of a natural disaster over radio and using this information to plan accordingly and prevent losses of important documents that could contain vital information of a child. Equation (3) 3 gives us the strongest effect on being female with an increase of 2.6 percentage points in the likelihood of knowing your last child's birthday information when compared to men. In equation (3), I find that for individuals that use radio every day, the likelihood of knowing your last child's birthday increases by 1.7 percentage points however this is not statistically significant

at any level. When radio was tested with controls, the coefficient for female decreases to 2.2 percentage points more likely to know birthday information of their last child. This value tells us that when incorporating radio into the analysis, the effect of being a woman is stronger than when radios are not considered. The effect of radio also remains negative, when measuring likelihood of not knowing last child's birthday information, but decreases, showing that individuals who use the radio everyday are 1.5 percentage points more likely to know their last child's birthday than those who do not use the radio every day. Additionally, I find that the additional effect of using the radio and being a female to not be large enough in magnitude nor significance to make a difference in likelihood of knowing birthday information of your last child.

This analysis is limited in terms of both external and internal validity. Threats to external validity arise from the fact that the analysis was specific to a country with conditions that countries who are not heavily surrounded by seas and oceans experience, so these results may not be as applicable to countries that are landlocked. Threats to internal validity arise from the fact that there exist 2 variables that are not balanced for the treatment and control, women and men. Total children born and current age are variables that bias our results downwards; however, I find the effect of current age to be not statistically significant and 0, so this is not as large of a threat as is the effect of total children ever born which I do find to be significant at the 1% level. Similarly, there exists an opposite threat of upward bias from total number of members in household that is significant at the 1% level as well. These last two variables are both threats to internal validity that should be kept in mind; however, because both variables are opposite each other in direction of bias and have similar differences in terms of magnitude among men and

women, I proceed with caution because I am unable to know which effect will be stronger than the other.

## **Conclusion**

This paper examines the casual effect of sex on not knowing their last child's birthday information. Data examined comes from the DHS 1998 Nicaragua surveys and individuals are separated by sex. I find the effect of sex on not knowing their last child's birthday to be significant when tested alone, with control variables, and with interaction terms considering radio usage. The existing literature points to traditional roles of women and expectations of mothers versus expectations of fathers to explain that women are more attached to care taking activities than men and I use this to further state that as a result, women know their children's birthday more often because they would require that information more frequently than men.

I find that radio usage does not have a large effect on its own but that when female and radio are tested together, they tend to make the female effect larger than previously measured. Additionally, I find the greatest effects are tied to type of residence. These effects suggest that location of respondents and their children has a larger impact than the sex of the parent. Compared to those who live in the countryside, individuals in all other types of residences: large/small cities and towns, have a higher likelihood of not knowing their last child's birthday. Knowing that when tested with the interaction term, radio \* female, the likelihood of knowing your last child's birthday increases if you're female more than when tested without, we can use this information alongside types of residence to create better policies.

This is important because given these effects, policies can be put in place to help those who live in more urban areas in order to increase the likelihood that a respondent would know their last child's birthday information. For example, there could be a requirement put in place to

have some record of birthday information documented and saved online when a child is born to an individual in certain type of area to lower the risk of this information being lost because of damages to physical records or perhaps more public record offices can be built in areas that have higher rates of not knowing their last child's birthday. Additionally, more specific analysis pertaining to location and factors connected to location such as resources, like radio, can be conducted to better estimate these effects directly on a respondent not knowing their last child's birthday information. Once these affects are better estimated, location/residence types with the greatest affects can begin to create policies that will attempt to minimize differences found to be attributed to specific factors.

Table 1: Summary Statistics and Baseline Balance Between Women and Men

	All (1)	Female (2)	Male (3)	Difference (4)
Total Children Born	4.003 (2.987)	3.779 (2.690)	4.212 (3.227)	-0.433*** (0.110)
Lives in a Large City	0.102 (0.302)	0.104 (0.305)	0.099 (0.299)	0.005 (0.011)
Lives in a Small City	0.187 (0.390)	0.187 (0.390)	0.186 (0.389)	0.001 (0.014)
Lives in a Town	0.216 (0.412)	0.217 (0.412)	0.215 (0.411)	0.002 (0.015)
Lives in Countryside	0.496 (0.500)	0.492 (0.500)	0.500 (0.500)	-0.008 (0.018)
Years of Education	4.847 (4.290)	4.807 (4.091)	4.884 (4.469)	-0.077 (0.158)
Number of Household Members	6.648 (3.105)	6.883 (3.192)	6.429 (3.006)	0.454*** (0.114)
Sex of Household Head	0.126 (0.332)	0.134 (0.341)	0.118 (0.323)	0.016 (0.012)
Current Age	33.406 (9.880)	30.685 (8.486)	35.953 (10.402)	-5.268*** (0.350)
Number of Sons at Home	1.427 (1.353)	1.488 (1.338)	1.371 (1.366)	0.117** (0.050)
Number of Daughters at Home	1.342 (1.260)	1.406 (1.243)	1.283 (1.273)	0.123*** (0.046)
Radio	0.784 (0.412)	0.707 (0.455)	0.856 (0.351)	-0.149*** (0.015)
Observations	2964	1433	1531	

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . All values rounded to the nearest thousandth. Total children ever born refers to the total children ever born to a respondent. The difference (4) of 0.433 total children is significant at the 1% level. There exists a difference between men and women where women have 0.433 total children less on average. This will bias our results downward. Type of place of residence is a categorical variable with 4 choices: large city, small city, town, and countryside. All the coefficients for these categories are not statistically significant at any level in terms of difference. Years of education refers to the highest year of education and is not statistically significant at any level. Number of household members refers to the total number of individuals living in the household with a respondent. The difference (4) of 0.454 is statistically significant at the 1% level and tells us that women have 0.454 more members in their households than men. This could bias our results upwards. Sex of household head is coded as 1 being equal to female and 0 being equal to male. I do not find any statistical significance in difference (4) among men and women at any level. Current age refers to the age of the respondent at the time of the survey. I find a difference (4) of -5.268 that is statistically significant at the 1% level, indicating that on average women are over 5 years younger than men and this could bias our results downward. Next, number of sons at home refers to the total number of sons to a respondent that live in the household. I find the difference (4) of 0.117 to be statistically significant at the 5% level – telling us that women on average have 0.117 more sons at home than men. However, a tenth of a child is not realistic nor large, so we say that men and women are not difference in total number of sons at home. Similarly, I find a difference (4) of 0.123 for number of daughters at home this time significant at the 1% level; however, for similar reasons given for total number of sons at home, we do not find a difference in this variable among men and women. Lastly, radio is an indicator for listens to the radio every day. I find the difference (4) of -0.149 to be statistically significant at the 1% level and could bias our results downward because more men on average use radios every day than do women.

*Table 1: Summary Statistics and Baseline Balance Among Men and Women*



Table 2: Effect of Being Female on Not Knowing Your Last Child's Birthday Date or Month

	Don't Know Last Child's Birthday	
	(1)	(2)
Female	-0.015** (0.006)	-0.011* (0.007)
Total Children Ever Born		0.007*** (0.002)
Lives in Large City		0.029*** (0.012)
Lives in Small City		0.030*** (0.009)
Lives in a Town		0.024*** (0.008)
Total Years of Education		-0.004*** (0.001)
Number of Household Members		0.003** (0.001)
Sex of Household Head		-0.017* (0.010)
Current Age		-0.000 (0.000)
Num. Sons at Home		-0.007** (0.003)
Num. Daughters at Home		-0.010*** (0.003)
Radio		-0.007 (0.008)
Constant	0.035 (0.004)	0.011 (0.019)
Observations	2846	2846
R-squared	0.002	0.025
Mean of Dependent Var in Control Group	0.035	0.035

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

*Table 2: Effect of Sex on Not Knowing Your Last Child's Birthday*

Table 3: Effect of Being Female on Not Knowing Your Last Child's Birthday Information By Daily Radio Usage

	Don't Know Last Child's Birthday Information	
	(1)	(2)
Female	-0.026*	-0.022*
	(0.014)	(0.014)
Radio	-0.017	-0.015
	(0.012)	(0.012)
Lives in Large City		0.029**
		(0.012)
Lives in Small City		0.030***
		(0.009)
Lives in a Town		0.024***
		(0.008)
Total Children Ever Born		0.007***
		(0.002)
Highest Year of Education		-0.004***
		(0.001)
Number of Household Members		0.003**
		(0.001)
Sex of Household Head		-0.017*
		(0.010)
Current Age		0.000
		(0.000)
Number of Sons in Household		-0.007**
		(0.003)
Number of Daughters in Household		-0.010***
		(0.003)
Radio x Female	0.011	0.013
	(0.016)	(0.016)
Constant	0.050	0.028
	(0.012)	(0.019)
Observations	2841	2841
R-Squared	0.003	0.025

Notes: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1 . This table has 5 less observations than the previous tables all of 5 of which are introduced with the addition of the radio variable. The radio variable measures if an individual respondent listens to the radio every day.

Table 3: The Effect of Sex on Not Knowing Your Last Child's Birthday Information by Daily Radio Usage

## Works Cited

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