THE DIMINISHING MALE LABOR FORCE POPULATION: WHAT THE AMERICAN TIME USE SURVEY SUGGESTS ABOUT HOW MALE NONWORKERS ALLOCATE THEIR TIME

By

Rory F. Nizolek

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ABSTRACT

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The male labor force participation rate has been declining for decades, dropping from nearly 90% down to 69.3% as of now. Using survey respondent data from the 2003-2017 American Time Use Survey, this paper investigates how nonworking males choose to allocate their time in a day. This paper examines how the time allocation has changed over time for males ages 25-34 as well as for those who have less than a high school degree because these two samples shows significant changes in time allocation. For the other samples, ages 35-44 and 45-54 as well as all education levels higher than a high school degree, not much change in their time allocation was shown between males and females. This paper finds that when not participating in the labor force, males do not substitute market work with household production, but instead spend more time on leisure activities. Females who are not in the labor force instead increase their household production. Observing this trend over time, this paper finds that men contribute even less household production in 2017 than in earlier years. Focusing on leisure activities, this study finds that young and uneducated nonworking males are increasing the amount of time allocated for recreational computer use as well as for watching movies and TV.

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CHAPTER ONE

INTRODUCTION

A. Labor Market Data

Every month policy makers, economists, and many others around the world await the first Friday of the month for the Bureau of Labor Statistics (BLS) to release data regarding the current state of the labor market. This report includes data figures such as how many jobs were created by industry, changes in wages, labor force participation rates, and unemployment figures broken down by demographics. In general, the most notable figure of the data reported is the unemployment rate for all citizens, which indicates what percentage of the labor force is not employed but currently seeking work. The unemployment rate serves as an indicator for the strength of the economy, gives reasoning behind the changes in wages, and is one of the most important figures used by central banks for monetary policy. Typically, the lower the unemployment rate is, the more economic expansion one can expect because when it is low the labor market is much more competitive. As a result, this creates an upward pressure on wages which effectively causes an uptick in inflation. The Federal Reserve, whose responsibility is controlling monetary policy, monitors this labor force data very closely and adapts its monetary policy accordingly to keep inflation around their target by adjusting short term interest rates and other open market operations.

B. Decline in Labor Force Participation

While the data reported by the BLS is inclusive of those participating in the labor force, the unemployment rate does not accurately reflect the true unemployment rate due

to those that have chosen to not participate in the labor force. These individuals find more utility outside of the market place, at the cost of forgone wages. This trend of leaving the labor force has been particularly popular for males when compared to females. As can be seen in Figure 1 and Figure 2, the female labor force participation has been declining slightly since 2000 whereas the male labor force participation has been declining steadily for decades. Figure 3 shows the overall decline in the labor force participation since 2000 among all civilians. Abraham and Kearney (2018) credit the decline in the employment to population ratio to increased trade with China as well as the adoption of industrial robots in the U.S. Others (Leonard, 1979; Bound and Waidmann, 2002; Autor and Dugan, 2003; Frazis and Stewart, 2005) attribute that the substantial decline in the labor force has largely been due to the increase in social security disability benefits. Many workers who were in pain continued to participate in the labor force because they could not afford to forgo wages, but with the expansion of the Social Security Disability Insurance and associated benefits, more workers were leaving the labor force because they were sick or disabled (Frazis and Stewart, 2005). As disability insurance eligibility benefits eased and benefit levels have increased relative to earnings, more men have dropped out of the labor force (Leonard, 1979). The expansion of disability insurance allowed many workers that experienced pain or sickness to drop out of the labor force. Labor force participation has been declining for prime age men for decades and about half of prime age men not in the labor force have a serious health condition (Krueger, 2017). However, from 1990-2004, the amount of men that said they were leaving the labor force due to family care more than tripled (Frazis and Stewart, 2005). The wider availability of disability

insurance has given more opportunity for males experiencing health conditions to leave the labor force.

C. Contributions and Organization of this Study

The biggest question of the declining labor force participation rate is what do males who leave the labor force do in place of market work? Are men contributing to household production and substituting nonmarket production or is there an underutilization of human capital? Frazis and Stewart (2005) found that while male nonworkers spend only a small amount of time more on house work than workers, they still spend less time than female nonworkers and their typical day looks like a day off of work for a working male. In this paper, I build on this analysis and examine both how males in the labor force allocate their time as well as how nonworking, male time use has changed since 2003. Additionally, with the emergence of luxury leisure technologies, this paper also analyzes if there has been any changes in the time devoted to specific leisure activities. Using data from the 2003-2017 American Time Use Survey, this paper gives a clearer understanding on what young and uneducated males not in labor force choose to spend their time on as an alternative to market work.

The organization of this paper is as follows. Chapter Two provides a review of the existing literature regarding why males have been leaving the labor force, how they choose to allocate their time to substitute market work, and how technology has impacted leisure activities. Chapter Three describes the econometric model being used for the analysis, key independent and dependent variables, and estimation methods. Chapter Four provides a description of the American Time Use Survey data as well as descriptive

statistics for the data sample. Chapter Five will discuss the results of the analysis and Chapter Six will present the conclusions.

CHAPTER TWO

A REVIEW OF MALES EXITING THE LABOR FORCE AND THIER NONWORKER ACTIVITY

This chapter provides a review of the existing literature covering why males have exited the labor force and how they choose to allocate their time alternatively as nonworkers. In particular, this chapter reviews empirical studies that examine how nonworking males spend their time compared to female nonworkers, and how the advancement in technology has impacted leisure activities.

A. The Decline in the Male Labor Force

The male labor force participation rate has been declining steadily since the 1950s until the present. Leonard (1979) shows that the liberalization of Social Security Disability (SSD) eligibility requirements and increase in SSD benefits relative to potential labor market earnings is responsible for nearly one half of the decline in male labor force participation. He finds that the SSD program acts as an escape hatch for those suffering from poor labor conditions and with the expansion of the program it allows more men the opportunity to exit (Leonard, 1979). In agreement with Leonard, Autor and Duggan (2003) find that between 1984 and 2001 the number of nonelderly adults receiving Social Security Disability Insurance income rose by 60% to 5.3 million beneficiaries because of reduced screening, declining demand for less skilled workers, and an unforeseen increase in the earnings that Social Security offers. Bound and

Waidmann (2002) argue further that there is a nearly one to one association between changes in the fraction of the working aged population on disability insurance and the changes in the fraction that identified as 'limited' or 'out of work'. Alternatively, Juhn (1991) argue that increases in both unemployment and nonparticipation in the labor force are demand driven, and that wages simply are not high enough to keep laborers in the workforce. Furthering this argument, Abraham and Kearney (2018) focus on a different metric and analyze the decline in the U.S. employment-to-population ratio and suggest that labor demand factors are responsible for the decline in this metric from 1999-2016. They find that expanded trade with China as well as the adoption and implementation of industrial robots are the major contributing factors to the decline in the employment-to-population ratio. Frazis and Stewart (2005) turn their focus to a different hypothesis, and while they note that the amount of nonworkers is growing due to being sick or disabled, the number of nonworkers who reported leaving the labor force because of reasons other than being sick or disabled grew three times as fast. The economists find that between 1990-2004, the number of men that report Family Care as the reason for leaving the labor force has more than tripled.

B. What Male Nonworkers Do and Who Supports Them

Since so many males have been leaving the labor force over the past few decades, it is important to analyze how nonworking males allocate the time freed up by not working. Frazis and Stewart (2005) use American Time Use Survey data to examine how exactly male nonworkers spend their time and compare that to other demographics. They find that male nonworkers spend only a little more time in doing household work than

male workers and much less time doing household work than female nonworkers (Frazis and Stewart, 2005). Nonworking men spend about 6 hours less a day on work-related activities in comparison to men that do work and of those 6 hours nonworking males spend about 17% of that time doing household work, 58% in leisure activities, and 23% in personal care activities which is very similar to the day of a working male on a day off of work (Frazis and Stewart, 2005).

It is evident from Frazis and Stewart's analysis that males who leave the labor are not replacing market work with other forms of production and therefore need to rely on other sources of income. Stewart (2006) uses data from the Current Population Survey and National Longitudinal Survey of Youth to examine who provides economic support for nonworking males. Of nonworking males, 70% rely on at least one source of unearned income and those who are sick, disabled, or retired are the most likely to receive unearned income. Nonworking males who have little or no unearned income still rely on their parents for financial support (Stewart 2006). Since this lack of income is for the most part unsustainable, this paper will examine how nonworking males allocate their time since Frazis and Stewart's study in 2005 and observe if nonworking males have substituted market work with other activities that still yield production.

C. Leisure Luxuries and How Male Nonworkers Allocate Their Time Now

With the emergence of new technology and ever-changing social norms, nonworking males are allocating their times in different ways. Kimbrough (2018) concludes that shifts in social norms have made it more acceptable for older men to play video games, but that alone is not what is drawing them out of the labor force. Using

American Time Use Survey data, he notes that the Great Recession affected 21-30-year-old unskilled workers particularly hard. This demographic has shown the largest increase in gaming time, which is concentrated in those young men that are still living at home with their parents (Kimbrough, 2018). Also using American Time Use Survey data, Aguiar et al. (2017) notice that the changes in social norms has more young adults leaving the labor force to allow more time for luxury leisure since 23-46% of the decline in market work is credited to the growth in recreational computer activities. As males leave the labor force, they have spent additional time on leisure activities. Of the increased leisure time, 75% is spent on gaming and computer leisure (Aguiar et al., 2017).

D. This Paper's Contributions

This paper will build on Frazis and Stewart (2005) and not only examine how male nonworkers are spending their time, but also how their time allocation has changed over time from 2003-2017, using data from the American Time Use Survey. Additionally, with the strong emergence of luxury leisures brought forth by Aguiar et al. (2017), this paper will examine how nonworking males allocate their leisure time and how this trend has changed over time. Lastly, this paper will build on Kimbrough (2018) by analyzing these trends in young, 25-34 years old, and uneducated, less than a high school education, nonworkers.

CHAPTER THREE

ESTIMATING THE EFFECT OF SEX ON NONWORKERS' ACTIVITY

This chapter describes the econometric model used in the analysis. In addition to discussing each of the dependent and independent variables, the chapter outlines the statistical methodology used in this study.

A. Econometric Models Used to Estimate the Effects of Sex on Nonworkers' Activity

To examine the effects of sex on how nonworkers choose to allocate their time, this study uses the following econometric models:

Model 1:

$$Y_a = \beta_0 + \beta_1 NON\_YR + \beta_2 NONWORKER + \beta_3 MALE + \beta_4 PARTNER + \beta_5 MARRIED + \beta_6 HH\_WORKER + \beta_7 CHILD\_U18 + \beta_8 FINC010 + \beta_9 FINC1030 + \beta_{10} FINC3050 + \beta_{11} FINC5075 + \beta_{12} FINC75150 + \beta_{13} FINC150 + \beta_{14} DAY + \beta_{15} STATE + \beta_{16} MONTH + \beta_{17} YEAR + \beta_{18} NONMETRO + \beta_{19} METRO + \beta_{20} LESS\_HI + \beta_{21} HIGH\_SCH + \beta_{22} SOME\_COLL + \beta_{23} COLLEGE + \beta_{24} HOLIDAY + \beta_{25} BLACK + \beta_{26} HISPANIC + \beta_{27} ASIAN + \beta_{28} NATIVEAM + \beta_{29} OTHER + \beta_{30} AGE + \beta_{31} AGE\_SQ + \varepsilon$$

Model 2:

$$Y_a = \beta_0 + \beta_1 M\_YR + \beta_2 MALE + \beta_3 PARTNER + \beta_4 MARRIED + \beta_5 HH\_WORKER + \beta_6 CHILD\_U18 + \beta_7 FINC010 + \beta_8 FINC1030 + \beta_9 FINC3050 + \beta_{10} FINC5075 + \beta_{11} FINC75150 + \beta_{12} FINC150 + \beta_{13} DAY + \beta_{14} STATE + \beta_{15} MONTH + \beta_{16} YEAR + \beta_{17} NONMETRO + \beta_{18} METRO + \beta_{19} LESS\_HI + \beta_{20} HIGH\_SCH + \beta_{21} SOME\_COLL + \beta_{22} COLLEGE + \beta_{23} HOLIDAY + \beta_{24} BLACK + \beta_{25} HISPANIC + \beta_{26} ASIAN + \beta_{27} NATIVEAM + \beta_{28} OTHER + \beta_{29} AGE + \beta_{30} AGE\_SQ + \varepsilon$$

where Y_a denotes the different activities, β denotes the number of hours each variable affects the time spent on the activity, and ε is the standard error term.

Dependent Variables

Activity Category

LEISUREHR	Hours spent on leisure activities
HOUSEHR	Hours spent on house work
WORKHR	Hours spent work and work-related activities
PERSCAREHR	Hours spent on personal care
OTHERHR	Hours spent on other activities

Leisure Activities

RECCOMPHR	Hours spent on recreational computer use
SOCIALHR	Hours spent on social activities
MOVIETVHR	Hours spent watching movies and TV
OTHER_LHR	Hours spent on other leisure activities

Independent Variables

Interaction Terms

NON_YR	1 if respondent was nonworker in any given year; 0 otherwise
M_YR	1 if respondent was male in any given year; 0 otherwise

Dummy and Control Variables

MALE	1 if male; 0 otherwise
NONWORKER	1 if nonworker; 0 otherwise

Relationship Status: Single is reference group

PARTNER	1 if respondent is with partner but unmarried; 0 otherwise
MARRIED	1 if respondent is married; 0 otherwise
HH_WORKER	1 if there is a worker present in the household; 0 otherwise

Family Income: Reference group is Family Income not reported

FINC010	1 if family income is $0-9,999; 0 if otherwise
FINC1030	1 if family income is $10,000-$29,999; 0 otherwise
FINC3050	1 if family income is $30,000-$49,999; 0 otherwise
FINC5075	1 if family income is $50,000-$74,999; 0 otherwise
FINC75150	1 if family income is $75,000-$149,999; 0 otherwise
FINC150	1 if family income is greater than $150,000; 0 otherwise

Metropolitan Area: Reference group is metropolitan area not reported

METRO	1 if metropolitan area; 0 otherwise
NONMETRO	1 if nonmetropolitan area; 0 otherwise

Race: Reference Group is White

BLACK	1 if black; 0 otherwise
HISPANIC	1 if Hispanic; 0 otherwise

ASIAN	1 if Asian; 0 otherwise
NATIVEAM	1 if Native American; 0 otherwise
OTHER	1 if other race; 0 otherwise
Education: Reference group is more than college degree	
LESS_HI	1 if less than a high school degree; 0 otherwise
HIGH_SCH	1 if high school graduate; 0 otherwise
SOME_COLL	1 if some college education; 0 otherwise
COLLEGE	1 if college graduate; 0 otherwise
Additional controls	
DAY	Control for day of the week
STATE	Control for the state the respondent lives in
MONTH	Control for month
YEAR	Control for year
HOLIDAY	1 if surveyed on holiday; 0 if otherwise
AGE	Age of respondent
AGE_SQ	Age of respondent squared
CHILD_U18	No. of children under the age of 18

Several dependent variables are used in this study. The first dependent variable, *LEISUREHR*, is a variable that approximates how many hours in the day are spent on leisure activities. The second main dependent variable, *HOUSEHR*, aims to estimate the number of hours devoted to household production. *WORKHR* is another main dependent variable that estimates the amount of time devoted to work and work-related activities. Additionally, *PERSCAREHR* is a dependent variable that estimates how much time is spent on personal care activities. The last dependent variable, *OTHERHR*, is a variable that approximates the amount of time spent on other activities. This study also aims to observe how time is allocated specifically on leisure activities. The four dependent variables: *RECCOMPHR*, *SOCIALHR*, *MOVIETVHR*, and *OTHER_LHR*, estimate the hours spent on recreational computer use, social activities, watching movies and TV, and other leisure activities. Each of these dependent variables will be used in both regressions.

There are two key independent variables in each regression. Beginning with the first regression, the first major independent variable, *NONWORKER*, is a dummy variable that will estimate a baseline for how many additional hours nonworkers spend on activities than workers in the year 2003, the first year of survey data. The interaction term between nonworkers and the year, *NON_YR*, ranges from 2004 to 2017 and estimates the number of additional or less hours spent on an activity by nonworkers in any given year. Adding these two estimates together approximates how many total additional hours nonworkers spent on an activity than workers in a specific year. This regression will be used to estimate the time spent on activities for young and uneducated samples of males and females. These two key independent variables in the first regression make a trend in activity time observable. In the second regression, the two key independent variables are similar to those in the first but instead of comparing workers and nonworkers, these variables compare males and females. The dummy variable, *MALE*, approximates a baseline for the difference in time spent on activities between males and females in 2003. The interaction term, *M_YR*, which also ranges from 2004-2017, estimates the change in time spent on an activity in any given year compared to 2003. When combined, the dummy variable and interaction term estimate the amount of additional time men spend on an activity than women in any given year. This regression can only be used when the sample is divided between workers and nonworkers rather than sex, otherwise they are irrelevant. These separate regressions will indicate how time allocation trends have shifted over time by estimating time use for an activity in any given year as well as present if they are significant to a specific sex or employment status. Both regressions

also include many control variables to control the effects of familial, environmental, and individual factors.

B. Estimation Method

The study estimates the econometric models using ordinary least squares (OLS). Since this study is utilizing a linear regression model, OLS achieves the most accurate estimation for the effect of each independent variable on the number of hours spent on any given activity to show how this trend has changed over time. This is different from other papers because it examines how nonworkers allocate their time across all activities and how this has changed over time. Frazis and Stewart (2005) use an Oaxaca decomposition on the amount of time males and females spend doing housework to explain the gap between the two groups for a given year. Aguiar et al (2017) estimates a leisure demand system and approximates Engel curves to show how leisure activities vary with total leisure time and how this has trended over time. While these methods are effective for their respective studies, OLS is the best estimation method for this study.

CHAPTER FOUR

SELECTING THE SAMPLE FROM THE 2003-2017 AMERICAN TIME USE SURVEY

This chapter provides a description of the 2003-2017 American Time Use Surveys. It also presents the descriptive statistics and data set used for this analysis.

A. Overview of the American Time Use Survey

This study uses survey respondent data from the 2003-2017 American Time Use Surveys (ATUS) to investigate how nonworking males allocate their time. The data uses a random sample drawn from households that participated in the Current Population Survey (CPS). Sample households are selected based on the characteristics of the CPS reference person and the respondent is randomly selected from a list of adults within the household (Hamermesh, Frazis, and Stewart, 2005). The survey is administered using computer assisted phone interviewing where respondents are assigned an initial diary day and are called on the following day (Hamermesh et al., 2005). ATUS respondents record what they do from 4:00 AM of the day prior to 4:00 AM of their interview day and the ATUS collects an exact description of the activity, location of the activity, and who was with the respondent (Frazis and Stewart, 2005). The ATUS also collects labor force information that is comparable to the CPS, such as employment status and hours worked per week for respondents but only collects basic employment information for their spouse (Frazis and Stewart, 2005). Demographic information on household members who were present during the CPS is carried over but if there are new members at the time of the

ATUS, only age, sex, and relationship to the respondent is recorded (Hamermesh et al., 2005).

The responses of respondents are coded into a three-tier system, going from first-tier, or top-level activity, down to sub-categories, and finally to very specific descriptions of third-tier activity (Hamermesh et al., 2005). For each activity, the ATUS records either the ending time or the amount of time spent on the activity. The ATUS automatically deciphers the phone call and assigns every activity to one of the 17 different first-tier activities. The researcher is then able to aggregate the basic third-tier activities. After the survey has been completed, the ATUS asks questions regarding child care, paid work, and volunteering, which is not always available in the time diary (Hamermesh et al., 2005).

Similar to Frazis and Stewart (2005), this study collapses the ATUS data into 5 main first-tier categories: Work and Work-Related Activities, Household Work, Leisure Activities, Personal Care, and Other Activities. Work and Work-Related Activities include working, activities done for a job, and job searching. Household Work is composed of cleaning, meal preparation, shopping, yard work, household maintenance and repairs, and child care. Leisure Activities include watching TV, attending performances and sporting events, playing sports and games, shopping, hobbies, relaxing, and socializing. Personal Care is made up of the time spent sleeping and grooming. Lastly, Other Activities include other travel, eating and drinking, phone calls, correspondence, and religious activities (Frazis and Stewart, 2005). To examine how nonworkers spend their leisure time, this study also collapses the ATUS data into 4 leisure categories: Recreational Computer Use, Movies and TV, Socializing, and Other

Leisure Activities. Recreational Computer Use includes online shopping, streaming music, and other leisure computer use. Movies and TV includes watching movies and TV both at home and in theaters. Socializing is composed of socializing, communication, and attending social events. Other Leisure Activities include relaxing and leisure, attending arts and entertainment excluding movies, sports and exercise, and shopping in stores.

B. Descriptive Statistics

Table 1 presents the descriptive statistics for the analysis of respondents between the ages of 25-34. The table is organized with the main category dependent variables at the top, the dependent variables for leisure activity next, and the independent variables last. The sample size includes 30,991 respondents between the ages of 25 and 34. Of these respondents, 41.6% are males and 22.1% nonworkers. The average amount of time spent on leisure is 4.729 hours, which is composed of, on average, 0.332 hours of recreational computer use, 2.283 hours of movies and TV, 0.881 hours of social activities, and 1.225 hours of other leisure activities. Besides leisure, 25-34 year-olds also spend 3.413 hours on work and work-related activities, 3.11 hours of household production, 9.553 hours of personal care, and 2.723 hours of other activities. Of the sample 55.1% are married, 37.9% are single, and 7% have a partner. Broken down by racial demographics, 62.5% are White, 12.1% are black, 4.6% are Asian, 18.8% are Hispanic, 0.8% are Native American, and 1.3% are other. On average, respondents had 1.16 children in their household. Economically, 6.7% report a family income below $10,000, 20.7% report income in the range of $10,000 to $29,999, 22.5% report income of $30,000 to $49,999, 20.2% report income of $50,000 to $74,999, 20.7% report income

of $75,000 to $149,000, and 3.9% report income of or greater than $150,000. 71% of respondents live in a metropolitan area and 12.6% of 25-34 year-old's live in a non-metropolitan area. Lastly, 11.2% of respondents have a graduate degree or higher, 26.3% have a college degree, 29.9% attended some college, 23.3% have a high school degree, and 6.3% have less than a high school degree.

Table 2 presents the descriptive statistics for the analysis of respondents with less than a high school education. The table is organized the same as Table 1 and the sample size includes 5,734 respondents who do not have a high school degree. Of these respondents, 47.7% are males and 41.5% are nonworkers. Most notably, uneducated respondents spend approximately 5.633 hours on leisure activities, which is slightly more than young respondents. Apart from leisure activities, respondents with less than a high school education spend 2.648 hours on work and work-related activities, 2.989 hours on household work and production, 10.068 hours on personal care, and 2.401 hours on other activities. Their leisure time is composed of 0.247 hours on recreational computer use, 3.337 hours on movies and TV, 0.85 hours on social activities, and 1.188 hours on other leisure activities. For this sample 48.8% of respondents are married, 7% have a partner, and 44% are single. The average age for the group is 39.4 years old. Of the respondents, 37.9% are White, 17.9% are black, 1.5%% are Asian, 40.5% are Hispanic, 1.2% are Native American, and 1% are other. Respondents had approximately 1.29 children in their household. Economically, 18.9% of respondents report a family income below $10,000, 37.9% report income in the range of $10,000 to $29,999, 20.6% report income of $30,000 to $49,999, 9.7% report income of $50,000 to $74,999, 5.2% report income of

$75,000 to $149,000, and 0.6% report income of or greater than $150,000. Lastly, 66.7% of respondents live in a metropolitan area and 16.1% live in a non-metropolitan area.

CHAPTER FIVE

ESTIMATION RESULTS: HOW NONWORKERS ALLOCATE THEIR TIME

This chapter presents the results of the regression analysis and is divided into three subsections. The first subsection, Part A, analyzes the effects how the sex of nonworkers ages 25-34 impacts their time allocation and how this trend has changed over time. The second subsection, Part B, analyzes how the sex of nonworkers with less than a high school degree impacts their time allocation and how this trend has changed over time. The third subsection, Part C, analyzes how the sex of nonworkers impacts their leisure activities and how this trend has changed over time.

A. The Effect of Sex on Time Allocation of Nonworkers Ages 25-34

All the models in part A of this chapter are organized according to the following specifications: Column 1 through Column 6 displays the estimates for the effects of the key independent variables on the key dependent variable. In all three models, the key dependent variables are the hours spent on Leisure Activity, Household Production, Work and Work-Related Activities, Personal Care, and Other Activities. In the first two models, the key independent variables are those to estimate the effects of being a nonworker in any given year. In the last model, however, the columns remain the same but instead estimates the effects for being a male in any given year. The models include these key independent variables in order to analyze how time use patterns have changed over time between different samples. Lastly, all three models in part A include control

variables environmental, familial, and individual-level factors that will have an impact on the dependent variable.

Table 3 presents regression results for the effects of males between the ages of 25 and 34 including both workers and nonworkers. Column 1 presents a linear regression that analyzes how being a nonworking male in any given year affects the number of hours spent on leisure activities and presents evidence that 25-34 year-old nonworking males spend more time on leisure activities than those in the same demographic who work. Based on the Nonworker dummy variable, this regression estimates that nonworking males between the ages of 25-34 spend 0.748 more hours on leisure activities than a comparable group of workers in 2003. This regression also presents that as the years have gone on, age 25-34 nonworking males are, on average, increasing the amount of time spent on leisure activities. Young, nonworking males spent an additional 1.744 hours on leisure activities in 2010 and 1.659 additional hours for leisure in 2015 when compared to young male nonworkers in 2003, suggesting that nonworking young males are increasing leisure activity hours. With the addition of the baseline 0.748 additional hours of leisure time, this translates to an additional 10.38% and 10.03%, respectively, of the day spent on leisure activities. In Column 2, the same regression is estimated, however the dependent variable is hours spent on household production. Young male nonworkers spend significantly more time on household production than their working counterparts. The estimation suggests that although nonworking young males spend 1.184 more hours on household production in 2003, this amount declines through the years analyzed. In 2017 for example, young nonworking males spend 1.087 less hours on household production than they did in 2003. Column 3 illustrates how

young males leaving the labor force affects the number of hours they spend on work and work-related activities. This regression estimates that nonworking young males spend 3.335 less hours on work and work-related activities when compared to workers in 2003. Over time this trend has shown that young nonworking males are spending increasingly less time on work and work-related activities than working young males are. Columns 4 and 5 measure the same effect but the change between workers and nonworkers for this sample is not statistically significant, implying that this trend is not specific to nonworkers. Additionally, Column 4 suggests that time for personal care does not change much from 2003 over whereas Column 5 suggests that nonworking young males are spending less time on other activities. Overall, nonworking young males are spending increasingly more time on leisure activities rather than substituting market work with household production. To make up for the increase in leisure activities, young nonworking males are spending less time on household work, market work, and other activities.

In Table 4, the independent and dependent variables remain but the sample is changed. Rather than estimating the effect for male time use, this table estimates the effects of not working on females ages 25-34 years-old. Column 1 estimates the effect of being a nonworker on leisure time for young women between the ages of 25 and 34. This regression presents that young women nonworkers in fact spent 1.055 more hours on leisure than their comparable workers. in 2003 Over time, this trend has not changed much. Young women nonworkers do not show any statistically significant changes in their leisure hours as time passed. Column 2 estimates the same effect on household production for young women. This estimation suggests that nonworking young women

spend 1.492 additional hours, or 6.21% of the day, on household production compared to working young women in 2003. Observing this trend over time, young nonworking females began allocating significantly more time on household production in 2014. Column 3, which estimates nonworking young females time allocation for work and work-related activities, suggests that when a young female leaves the labor force, she receives an additional 3.334 hours of time in 2003, similar to the 3.335 hours males receive. Column 4 estimates the effects of nonworking on young female's personal care time and indicates that when leaving the labor force, they spend .293 more hours on personal care activities. Young females time allocation for other activities in Column 5, does not differ from that of 25-34 year-old females that work. Overall, when females between the ages of 25 and 34 decide to leave the labor force, the majority of their time is allocated toward substituting market work with household production.

Graph 1 presents the differing amounts of time spent on leisure activities by young nonworkers separated by male and female. This graph is composed of the results in Column 1 of Table 3 and Table 4 and assists in visualizing the change over time for both young male and female nonworkers. Young nonworkers in 2003 were the reference group for this sample and are displayed in Graph 1 through the vertical line at 0 hours, representing no change in hours since that point. The change in hours, shown on the x-axis, generally increases for males as the years progress whereas females' leisure hours do not change much since 2003, implying that young male nonworkers are spending more time on leisure time than young nonworking women are. Graph 2 shows the effects of sex on young nonworker's housework hours. The graph is made up of the estimates in Column 2 of Table 3 and Table 4 and has a reference group of nonworkers ages 25-34 in

2003 to show how this trend has changed over time. Of nonworkers ages 25-34, there is a big gap on the time spent on housework in the earlier years between males and females which begins to narrow. In 2009 however, the time spent on housework begins to diverge with males spending increasingly less time on house production and females increasing theirs. Lastly, Graph 3 displays the effects of sex on young nonworkers' work and work-related activity hours. This graph reflects the estimates in Column 3 of Table 3 and Table 4 and also has age 25-34 nonworkers in 2003 as the reference group. Graph 3 displays that in general there are not many changes in the amount of time young nonworkers devote to work and work-related activities. While there are some changes in certain years, the overall trend of time allocation does not exhibit the same changes shown in Graph 1 or Graph 2. These graphs allow one to better visualize that young nonworking males are spending more time on leisure activity while young nonworking females are increasing their household production.

Table 5 regresses the same dependent variables as Table 3 and Table 4 but uses different independent variables and sample. In Table 3 and Table 4, the dummy variable is for if the respondent is a nonworker or not and the interaction term estimates the additional hours nonworkers spent on different activities for any given year. Using the sample nonworkers, Table 5 estimates a dummy variable showing the additional time young males spend on activities compared to young females as well as an interaction term that estimates the amount of time young males spend on activities in any given year. Table 5 also controls for individual, environmental, and familial factors. Column 1 estimates the effect of being a male on leisure time. For young nonworkers, males only spend approximately 0.191 hours of additional time on leisure activities than females but

the difference is insignificant. Column 1 also estimates this trend over time. In later years, young nonworking males spend significantly more time on leisure activities than they did in 2003. Column 2, which estimates the number of hours spent on house work, shows that young nonworking males spend, on average, 1.193 less hours on housework than their comparable females in 2003. Similar to Column 1, this difference amplifies with time. Male nonworkers ages 25-34 spend less time on household production than they did in 2003. Column 3 estimates the amount of time allocation towards work and work-related activities and indicates that 25-34 year-old nonworking males spend about 1.007 more hours than females in the same demographic on these activities in 2003. Estimating personal care hours in Column 4, nonworking males in the sample spend 0.763 less hours than nonworking females in 2003. Although males spend significantly more time than they did in 2003 in 2015, this trend does not vary much over time. Lastly, estimating time spent on other activities in Column 5, young nonworking males spend only 0.652 more hours on other activities than young nonworking females in 2003. By 2017 however, this trend has changed, and young nonworking males are spending less time on average on other activities than they did in 2003, implying they are allocating more time elsewhere. Table 5 suggests that males are spending more time on leisure activities in later years than they did in 2003 while spending less time on substituting their market labor with household production.

B. The Effect of Sex on Time Allocation for Nonworkers Without a High School Degree

Estimates of the effects of sex on nonworkers with less than a high school education are displayed in Tables 4, 5, and 6. These tables implement the same

specifications outlined in part A but the sample is different. The sample for these estimates includes both male and female workers and nonworkers with less than a high school education.

Column 1 of Table 6 presents the number of hours spent on leisure by uneducated nonworking males and shows males have been increasing the number of hours spent on leisure activity since 2003. In 2013, uneducated nonworking males spent 3.001 additional hours, 12.5% of a day, on leisure activities than in 2003 and 2.626 additional hours in 2016. Column 2 presents the number of hours spent on household production by uneducated nonworking males. The estimates indicate that while this trend has not changed too significantly over time, males in this sample spend significantly less time on household production in 2016 than in 2003. Column 3 and Column 4 present the number of hours spent on work and work-related activities and personal care, respectively, by uneducated males. Nonworkers spend 3.562 less hours on work and work-related activities and 1.102 more hours on personal care than workers for uneducated males in 2003. Both estimates suggest that this trend has not changed over time. Column 5 presents the number of hours spent other activities by male nonworkers in the sample. While they do not allocate significantly different amounts of time to other activities than workers, the estimates suggest that nonworkers have been spending less time on these activities in recent years than in 2003. Based on these estimates, uneducated nonworking males are spending less hours on household production and other activities and are instead increasing the number of hours allocated for leisure activities since 2003.

Table 7 estimates the effects of being female on uneducated nonworkers' time allocation. Column 1 estimates that uneducated nonworking females do not spend

significantly more time on leisure activities than workers in the sample do but presents that nonworking females with less than a high school education have spent increasingly less time on leisure activities in later years than in 2003. Column 2 illustrates the effects of being an uneducated nonworking female on household hours and production. Females who do not work in the sample spend an additional 1.063 hours on household production than those who do work in 2003, and the estimates suggest that this has increased over time. In 2015, 2016, and 2017 nonworking uneducated females have spent significantly more time on house production than they did in 2003. The estimation for hours spent working in Column 3 presents that nonworking females without a high school degree spend significantly less time than their equivalent workers on this activity. Additionally, in recent years uneducated, nonworking females have generally been spending less time on work and work-related activities than in 2003. Column 4 suggests that in recent years nonworking females with less than a high school education have been allocating less time to personal care than in 2003. Column 5 estimates that there is no significant difference between how much time working and nonworking uneducated females spend on other activities and also suggests that there is not much change in this trend over time. For nonworking females with less than a high school degree, these estimates imply that females are spending an increasing amount of time on household production while decreasing the number of hours spent on different activities.

Graphs 4, 5, and 6 present the data from Table 6 and Table 7 and suggests that uneducated nonworking males are increasing their leisure hours at the cost of others while uneducated nonworking females are increasing their household production. Graph 4 shows the effects of sex of nonworkers with less than a high school degree on hours

spent on leisure activity by using estimates from Column 1 of Table 6 and Table 7. Males have increased the amount of time spent on leisure activities since 2003 whereas females have been decreasing the amount of time spent on leisure since 2003. In 2015 uneducated nonworking females began allocated significantly less time to leisure activities than in 2003. Using estimates from Column 2 of Table 6 and Table 7, Graph 5 displays the effects of sex of uneducated nonworkers on household production. Females have been spending additional time on household production in later years than in 2003. Male household production has not changed as much since 2003, but males did spend significantly less time on housework in 2016. Graph 6 uses estimates from Column 3 of Tables 4 and 5 to show the effect of sex of nonworkers with less than a high school education on hours spent on work and work-related activities. These estimates do not suggest any change in the trend of time allocation for work and work-related activities by nonworkers without a high school degree. In conclusion, regarding nonworkers with less than a high school education, males have been increasing the amount of time spent on leisure activities whereas females are increasing their household production.

Table 8 uses the sample of nonworkers with less than a high school degree. To estimate the effects between sex on nonworkers with less than a high school education, this table focuses on a dummy variable to observe a baseline comparison between males and females as well as an interaction term between males and the year to estimate the effects of sex on any given year. Column 1 estimates the effects of being an uneducated nonworking male and suggests that males spend 1.067 more hours on leisure activity than females do and additional time in later years, like 2013 and 2016. This estimate implyies that uneducated male nonworkers are spending more time on leisure activities since 2003.

Column 2 estimates that nonworking males without a high school degree spend 2.000 less hours on household production than nonworking females without a high school degree in 2003 and suggests that males are spending less time in later years than in 2003 on house work. Column 3 estimates the number of hours spent on work and work-related activities and implies that although uneducated nonworkers, males spend 1.198 more hours on work than comparable females in 2003. On average, males are spending less time on work than in 2003. Columns 4 and 5 suggests that nonworking males without a high school education do not spend a significantly different amount of time on personal care and other activities, respectively, than nonworking women without a high school degree in 2003. Column 5, however, suggests that uneducated nonworking males are decreasing the amount of time spent on other activities when compared to 2003. The estimates in Table 8 suggest that nonworking males with less than a high school degree are taking away from the amount of time spent on household production, work and work-related activities, and other activities in order to spend more time on leisure activities.

C. Estimating the Effects of Sex on Young and Uneducated Nonworkers' Leisure Activities

All the models in part C estimate the effects of sex on young and uneducated nonworkers leisure activities. Leisure activities are broken down into the following categories: Recreational Computer Use, Movies and TV, Socializing, and Other Leisure Activities. Other Leisure Activities were not significant for the purpose of these effects and were not included in Tables 9, 10, and 11. The sample for these estimates includes both male and female workers and nonworkers. Table 9 includes only those between the

ages 25-34, Table 10 includes those with less than a high school education, and Table 11 shows both those between the ages of 25 to 34 and those without a high school degree. All three tables use the same key dependent variables but Tables 9 and 10 utilize a nonworker dummy variable and interaction term whereas Table 11 utilizes a male dummy variable and interaction term.

Table 9 estimates the effects of sex on leisure activities for nonworkers between the ages of 25 and 34. Beginning with nonworking males, Column 1 measures the amount of time spent on recreational computer use by young, nonworking males and suggests that nonworkers do not spend significantly more time on this activity than working males. Nonworking males have shifted their time use over time, spending significantly more time on recreational computer use in later years when compared to in 2003. Column 2 estimates that young, male nonworkers do not spend significantly more time on social activities than young, male workers and indicates that this trend has not changed over time. Column 3 suggests that nonworking males ages 25-34 spend significantly more time on movies and TV than their working counterparts in 2003. These estimates suggest that while nonworking young males were spending much more time on movies and TV in the earlier years, the amount of time allocated for these activities has not changed. The estimates imply that young, nonworking males have changed the way they spend their leisure time, having originally spent more time on movies and TV but have now shifted towards recreational computer use. Table 9 also estimates the effects for females between the ages of 25-34. Column 4 estimates that for young females, nonworkers do not spend significantly more time on recreational computer use than workers in 2003 and suggests that there has been no significant change in this trend over

time. Column 5 indicates that nonworking females spend 0.179 more hours on social activities than working females in 2003 but there is no significant change in the trend of time allocation for social activities over time. Of age 25-34 year-olds, female nonworkers spend significantly more time on movies and TV than female workers in 2003, as be seen in Column 5. These estimates suggest that in recent years, such as 2014 and 2016, female nonworkers have been spending significantly less time on movies and TV than in 2003. Overall, for ages 25-34, nonworking males are increasing the amount of time they are spending on recreational computer use. While nonworking females' estimates do not suggest as many trends for changes in leisure activities, nonworking females are spending less time on movies and TV in recent years.

Table 10 estimates the effect of sex on nonworkers with less than a high school education. Column 1 presents that uneducated nonworking males do not spend more time on recreational computer use than uneducated working males in 2003 but suggests that in recent years nonworking males are spending less time on these leisure activities than they did in 2003. Column 2 estimates that nonworking males with less than a high school degree spend 0.744 more hours on social activities than comparable worker. The estimates also demonstrate that there has been a change in nonworkers time allocation having spent significantly less time on social activities in recent years than in 2003. Column 3 presents that uneducated males do not show a significant difference in the amount of time spent on movies and TV based on if they are a worker or nonworker in 2003. The estimates suggest, however, that since 2003, and more so in recent years, nonworking males have spent significantly more time watching movies and TV with 3.248 additional hours in 2013 and 3.293 more hours in 2016. Nonworking males with

less than a high school education are increasing the amount of time they spend on movies and TV while decreasing the amount of time spent on social activities and recreational computer use. For females with less than a high school degree, Column 4 estimates that there is no difference in the amount of time spent in recreational computer use between workers and nonworkers in 2003. Over time, nonworking females have generally increased the amount of time spent on recreational computer use when compared to 2003 but in recent years have begun to reduce the additional hours spent on the computer. Column 5 presents that of uneducated females, nonworkers spend 0.411 more hours on social time than workers in 2003 but suggests that nonworking females have been spending, on average, less time on social activities in later years than they did in 2003. Column 6 estimates the effects on hours allocated for movies and TV for nonworking females with less than a high school education. At a baseline, these nonworkers spend 1.129 more hours watching TV and movies than their working equivalents in 2003. Column 6 also presents that there has not been much change since 2003. Uneducated, nonworking females have generally increased the amount of time spent on recreational computer use at the cost of social activities.

Table 11 estimates the effects of being male on leisure activities for both those ages 25-34 and those with less than a high school degree that are nonworkers. The key independent variables are a dummy variable that estimates the time men spend on specific leisure activities compared to females and an interaction term that estimates how male time use has changed over time. Column 1 estimates that young males do not spend significantly more time on recreational computer use than young females in 2003. The estimates in Column 1, however, suggest that young nonworking males are increasing the

amount time spent on recreational computer use in recent years than they did in 2003. Column 2 presents that young males do not spend significantly more time on social activities than young females in 2003 and finds that the amount of time that young males allocate to social activities has not changed much throughout the years. Column 3 indicates that nonworking young males do not spend significantly more time watching movies and TV in 2003 but indicates that with the exception of 2017, young males have generally been increasing the number of hours spent on movies and TV in recent years. Overall, 25-34 year-old nonworking males at a baseline do not spend their time significantly different than equivalent females do, but over time young males have spent more time on recreation computer use, movies, and TV while not changing the amount of time they spend on social activities. Estimates for nonworkers with less than a high school degree are displayed in Columns 4, 5, and 6. Column 4 estimates the amount of time spent by uneducated nonworkers on recreational computer use and finds that males do not spend significantly more time on the computer than females in 2003. Over time, uneducated males are spending less time on recreational computer in recent years when compared to 2003. Uneducated nonworking males also do not spend significantly more time on social activities than uneducated nonworking females in 2003 as shown in Column 5. Column 5 also implies that uneducated nonworking males have spent less time on social activities in more recent years than in the earlier years. Column 6 presents that of those nonworkers without a high school degree, male and females spend about the same amount of time watching movies and TV in 2003. Column 6 implies that with the exception of 2017, males have spent significantly more time on movies and TV than they did in 2003, having watched 2.914 more hours in 2013, 1.986 more hours in 2015, and

3.156 more hours in 2016. Overall, uneducated male nonworkers spend approximately the same baseline amount of time on leisure activities as uneducated female nonworkers, but their time allocation has changed over time. Uneducated nonworking males are spending much more time in recent years on movies and TV while decreasing the amount of time allocated for recreational computer use and social activities.

CHAPTER SIX

CONCLUSIONS

A. Summary of the Findings

Using respondent data from the 2003-2017 American Time Use Surveys, this study investigates how nonworking males allocate their time. In contrast to previous literature, which only looks at one given point in time, this study transcends the span of several years from 2003 through 2017 and also observes what males choose to replace their market production with.

Beginning with male nonworker ages 25-34, this study finds that males who leave the labor force and market work do not substitute it with household production. Instead, they spend more time on leisure activities than in the past. Male nonworkers have been increasing their leisure hours since 2003, while young, nonworking females have not deviated much from their 2003 baseline. Similar to Frazis and Stewart (2005), this paper finds that while nonworking males between the ages of 25-34 spend more time on unpaid household production than comparable workers, the amount of time devoted to these activities has declined significantly from the 2003 baseline. Of 25-34 year-old nonworkers, males spend significantly less time on housework than females do and the amount of time allocated for these activities has declined even more in later years. Additionally, this paper finds that how young, nonworking males spend their leisure time has changed over time. Comparable to Aguiar et al. (2018), nonworking 25-34 year-old males are spending more time in later years than in 2003 on luxury leisure activities such as recreational computer time and streaming video content, while devoting less time for

social activities. These trends estimated for young, male nonworkers are shot shared by young, female nonworkers.

For nonworkers with less than a high school education, this paper finds that males are increasing the amount of time allocated for leisure activities while their hours devoted to household production has not deviated much from 2003, although there was a significant decrease in hours spent on housework in 2016. The additional time uneducated, nonworking males spend on leisure activities has increased from earlier years whereas uneducated, nonworking females' leisure time has generally been consistent, but has declined in later years. Lastly, this paper finds that uneducated, nonworking males have spent increasingly more time watching movies and TV while the amount of time allocated for social activities and recreational computer use has declined from the baseline number of hours in 2003. Conversely, nonworking females in this demographic have not deviated much from their time allocation in 2003.

In conclusion, this study finds that young and uneducated male nonworkers have increased the amount of time they have spent on leisure activities over time, while generally decreasing their household production. In contrast, young and uneducated females who leave the labor force substitute their market work with household production. Lastly, examining how nonworkers either 25-34 years old or those without a high school education have been foregoing social activities to allocate more time for recreational computer use and to watch movies and TV.

B. Limitations of the Study

This study was limited in examining how males spend their leisure time because the American Time Use Survey does not fully encapsulate some of the new technologies that are available in 2017 that were not in 2003. In creating dependent variables for leisure activities, the ATUS did not always have as many categories as necessary to accurately break down leisure activities. For example, when observing time spent on gaming, it was not clear what platform the games were being played on. If the study were to break gaming down to console video games, computer games, smartphone games, and board games the dependent variables could more accurately reflect the activities young and uneducated nonworkers are spending their time on. Additionally, the ATUS should implement more categories to classify social media. While they do highlight recreational computer use, the emergence of smartphones has led to more time being devoted to accessing social media websites through mobile platforms. Lastly, the ATUS responses, and subsequent dependent variables, were limited again by the lack of technology included in coding responses. This was especially important in categorizing movies and TV. The current coding process does not specify whether the respondent is streaming online content through a computer or smart TV, or if the respondent is using a standard cable television. Overall, the ATUS should consider including more technology into its coding responses which would allow for more specific and more efficient classification of luxury leisure technologies.

C. Policy Implications and Suggestions for Future Research

While this study does not call for any major policy implications, it does help economists understand if there are underutilizations of human capital in the labor market.

If the American Time Use Survey was able to update its codes to add more precise uses of technology, a study that replicates Aguiar et al. (2017) would give more insight into what appeals to nonworking males between the ages of 25-34 and with less than a high school education. This study also finds that males have spent more time on leisure activities in recent years while unemployment has been relatively low. A study that examines how time use preferences change when unemployment is much higher, and if nonworkers still choose leisure activities over household production and work-related activities would help economists more accurately examine how unemployment influences time use. Lastly, this study also finds that nonworking males are spending less time on social interaction than in years prior. A study that not only examines if this trend is consistent across all age groups, but also how this effects utility would be very insightful into what drives utility in different age groups and at different education levels.

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TABLES

Table 1: Descriptive Statistics for Respondents Ages 25-34

Variable	Mean	Std. Dev.	Min	Max
Main Activities (in hours)				
Leisure	4.729	3.231	0	21.733
Work	3.413	4.291	0	23
Household Work	3.110	3.083	0	19
Personal Care	9.553	2.296	0	24
Other	2.723	1.906	0	21
Leisure Activities				
Recreational Computer	0.332	1.076	0	17
Movies and TV	2.283	2.384	0	20.5
Social	0.881	1.723	0	16
Other	1.225	1.734	0	19
Dummy Variables				
Male	0.416	0.493	0	1
Nonworker	0.221	0.415	0	1
Married	0.551	0.497	0	1
Partner	0.070	0.255	0	1
Single	0.379	0.485	0	1
White	0.625	0.484	0	1
Black	0.121	0.326	0	1
Asian	0.046	0.208	0	1
Hispanic	0.188	0.390	0	1
Native American	0.008	0.091	0	1
Other	0.013	0.111	0	1
Children	1.164	1.196	0	9
Family Income $0-$9,999	0.067	0.250	0	1
Family Income $10,000-$29,999	0.207	0.405	0	1
Family Income $30,000-$49,999	0.225	0.418	0	1
Family Income $50,000-$74,999	0.202	0.402	0	1
Family Income $75,000-$149,999	0.207	0.405	0	1
Family Income $150,000+	0.039	0.194	0	1
Metropolitan	0.710	0.454	0	1
Non-Metropolitan	0.126	0.332	0	1
Less than High School	0.063	0.243	0	1
High School	0.233	0.423	0	1
Some College	0.299	0.458	0	1
College	0.263	0.440015	0	1
Graduate or More	0.112	0.316	0	1
No. of Obs	30,991			

Table 2: Descriptive Statistics for Respondents without High School Degree

Variable	Mean	Std. Dev.	Min	Max
Main Activities (in hours)				
Leisure	5.633	3.726	0	22.5
Work	2.648	4.026	0	22.75
Household Work	2.989	3.100	0	18.5
Personal Care	10.068	2.730	0	23.917
Other	2.401	1.941	0	20.4
Leisure Activities				
Recreational Computer	0.247	1.009	0	15.417
Movies and TV	3.337	3.212	0	21.017
Social	0.850	1.767	0	15.633
Other	1.188	1.955	0	22.25
Dummy Variables				
Male	0.477	0.500	0	1
Nonworker	0.415	0.493	0	1
Married	0.487	0.500	0	1
Partner	0.070	0.255	0	1
Single	0.444	0.497	0	1
Age	39.445	8.639	25	54
White	0.379	0.485	0	1
Black	0.179	0.383	0	1
Asian	0.015	0.120	0	1
Hispanic	0.405	0.491	0	1
Native American	0.012	0.108	0	1
Other	0.010	0.102	0	1
Children	1.292	1.317	0	8
Family Income $0-$9,999	0.189	0.392	0	1
Family Income $10,000-$29,999	0.379	0.485	0	1
Family Income $30,000-$49,999	0.206	0.405	0	1
Family Income $50,000-$74,999	0.097	0.296	0	1
Family Income $75,000-$149,999	0.052	0.222	0	1
Family Income $150,000+	0.006	0.076	0	1
Metropolitan	0.667	0.471	0	1
Non-Metropolitan	0.161	0.368	0	1
No. of Obs	5,743			

Table 3: Regression Estimates for Age 25-34 Males

VARIABLES	(1) Leisure Hours	(2) Household Work Hours	(3) Work Hours	(4) Personal Care Hours	(5) Other Hours
Nonworker in 2004	0.286	-0.150	-0.393	-0.187	0.204
	(0.573)	(0.570)	(0.711)	(0.450)	(0.393)
Nonworker in 2005	0.896	-0.848	0.015	-0.008	-0.458
	(0.722)	(0.566)	(0.695)	(0.487)	(0.382)
Nonworker in 2006	0.849	-0.722*	0.113	0.089	-0.566
	(0.890)	(0.435)	(0.852)	(0.490)	(0.421)
Nonworker in 2007	0.706	0.273	-0.611	0.134	-0.356
	(0.774)	(1.035)	(0.855)	(0.485)	(0.436)
Nonworker in 2008	1.404*	-1.137***	0.752	-0.010	-0.457
	(0.749)	(0.436)	(0.856)	(0.375)	(0.345)
Nonworker in 2009	0.702	-0.363	1.353	-0.425	-0.813**
	(0.736)	(0.504)	(1.053)	(0.451)	(0.350)
Nonworker in 2010	1.744***	-0.575	-0.690	-0.007	-0.099
	(0.620)	(0.454)	(0.681)	(0.500)	(0.429)
Nonworker in 2011	1.056	-0.579	-0.590	-0.014	-0.875***
	(0.729)	(0.435)	(0.706)	(0.449)	(0.322)
Nonworker in 2012	0.685	-0.108	-0.359	0.085	-0.585*
	(0.607)	(0.505)	(0.674)	(0.424)	(0.331)
Nonworker in 2013	1.464*	-0.751*	-1.844***	-0.157	-0.070
	(0.800)	(0.416)	(0.654)	(0.448)	(0.431)
Nonworker in 2014	0.534	-0.697	-0.542	0.696	-0.481
	(0.649)	(0.521)	(0.703)	(0.424)	(0.357)
Nonworker in 2015	1.659***	0.063	-1.321**	1.479***	-1.339***
	(0.590)	(0.630)	(0.672)	(0.567)	(0.333)
Nonworker in 2016	0.111	-0.703	-0.558	0.195	-0.299
	(0.690)	(0.482)	(0.792)	(0.507)	(0.658)
Nonworker in 2017	0.965	-1.087**	0.004	0.209	-0.529
	(0.819)	(0.457)	(0.791)	(0.529)	(0.387)
Nonworker	0.748**	1.184***	-3.335***	0.326	0.275
	(0.379)	(0.340)	(0.486)	(0.260)	(0.271)
Observations	11,265	11,265	11,265	11,265	11,265

R-squared	0.202	0.116	0.324	0.118	0.058

Note: Table only presents key independent variables
Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 4: Regression Estimates for Age 25-34 Females

VARIABLES	(1) Leisure Hours	(2) Household Work Hours	(3) Work Hours	(4) Personal Care Hours	(5) Other Hours
Nonworker in 2004	0.251	0.376	-0.309	-0.148	0.035
	(0.303)	(0.323)	(0.325)	(0.213)	(0.152)
Nonworker in 2005	-0.172	0.169	0.283	-0.247	0.134
	(0.291)	(0.292)	(0.332)	(0.219)	(0.154)
Nonworker in 2006	-0.451	0.274	0.224	-0.053	0.116
	(0.301)	(0.309)	(0.363)	(0.227)	(0.186)
Nonworker in 2007	0.225	0.295	-0.537*	0.198	-0.002
	(0.289)	(0.337)	(0.326)	(0.228)	(0.180)
Nonworker in 2008	-0.285	0.015	-0.325	0.271	0.280
	(0.334)	(0.322)	(0.342)	(0.242)	(0.212)
Nonworker in 2009	-0.314	0.214	-0.053	0.099	0.194
	(0.272)	(0.302)	(0.328)	(0.212)	(0.176)
Nonworker in 2010	-0.549*	0.254	0.257	0.183	-0.137
	(0.312)	(0.292)	(0.338)	(0.210)	(0.173)
Nonworker in 2011	0.074	0.277	-0.416	0.004	0.052
	(0.305)	(0.310)	(0.315)	(0.211)	(0.205)
Nonworker in 2012	0.272	-0.112	-0.409	0.316	-0.157
	(0.322)	(0.310)	(0.313)	(0.231)	(0.169)
Nonworker in 2013	-0.224	0.352	-0.610*	0.240	0.140
	(0.297)	(0.321)	(0.332)	(0.223)	(0.181)
Nonworker in 2014	-0.296	0.756**	-0.722**	0.143	0.028
	(0.313)	(0.333)	(0.332)	(0.238)	(0.166)
Nonworker in 2015	0.099	0.577*	-0.552	-0.058	-0.064
	(0.333)	(0.345)	(0.350)	(0.272)	(0.176)
Nonworker in 2016	-0.535	0.117	0.229	0.161	0.038
	(0.366)	(0.349)	(0.385)	(0.313)	(0.203)
Nonworker in 2017	0.058	0.508	-0.495	-0.129	0.074
	(0.301)	(0.354)	(0.355)	(0.241)	(0.196)
Nonworker	1.055***	1.492***	-3.334***	0.293**	-0.067
	(0.183)	(0.198)	(0.195)	(0.137)	(0.099)
Observations	15,971	15,971	15,971	15,971	15,971

R-squared	0.154	0.281	0.337	0.114	0.055

Note: Table only presents key independent variables
Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 5: Regression Estimates for Age 25-34 Nonworkers

VARIABLES	(1) Leisure Hours	(2) Household Work Hours	(3) Work Hours	(4) Personal Care Hours	(5) Other Hours
Male in 2004	0.006	-0.741	0.002	0.277	0.112
	(0.616)	(0.637)	(0.715)	(0.458)	(0.390)
Male in 2005	1.054	-0.347	-0.946	0.317	-0.711*
	(0.718)	(0.594)	(0.640)	(0.517)	(0.392)
Male in 2006	0.889	-0.846	-0.003	0.291	-0.811*
	(0.885)	(0.536)	(0.789)	(0.509)	(0.440)
Male in 2007	0.687	0.521	-0.300	0.136	-0.788*
	(0.762)	(0.992)	(0.766)	(0.525)	(0.451)
Male in 2008	1.354*	-0.544	0.277	0.281	-0.873**
	(0.799)	(0.495)	(0.851)	(0.408)	(0.376)
Male in 2009	0.888	-0.509	1.397	-0.437	-1.072***
	(0.720)	(0.554)	(1.041)	(0.468)	(0.364)
Male in 2010	1.851***	-0.556	-0.718	-0.309	-0.022
	(0.648)	(0.511)	(0.667)	(0.507)	(0.428)
Male in 2011	0.752	-0.411	-0.273	0.103	-1.217***
	(0.706)	(0.512)	(0.634)	(0.455)	(0.348)
Male in 2012	0.880	0.210	-0.532	-0.032	-0.712**
	(0.620)	(0.537)	(0.626)	(0.448)	(0.343)
Male in 2013	1.790**	-0.800	-1.150*	-0.373	-0.414
	(0.776)	(0.493)	(0.592)	(0.455)	(0.438)
Male in 2014	0.985	-1.023*	-0.287	0.542	-0.581
	(0.674)	(0.589)	(0.628)	(0.443)	(0.374)
Male in 2015	1.569**	-0.456	-0.813	1.424**	-1.260***
	(0.642)	(0.632)	(0.635)	(0.571)	(0.348)
Male in 2016	0.447	-0.254	-0.713	0.164	-0.455
	(0.724)	(0.568)	(0.749)	(0.556)	(0.666)
Male in 2017	1.139	-0.961*	0.109	0.265	-0.719*
	(0.778)	(0.570)	(0.755)	(0.534)	(0.407)
Male	0.191	-1.193***	1.007**	-0.763***	0.652**
	(0.395)	(0.376)	(0.488)	(0.281)	(0.279)
Observations	6,095	6,095	6,095	6,095	6,095

R-squared	0.170	0.330	0.112	0.113	0.082

Note: Table only presents key independent variables
Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 6: Regression Estimates for Males with Less than a High School Degree

VARIABLES	(1) Leisure Hours	(2) Household Work Hours	(3) Work Hours	(4) Personal Care Hours	(5) Other Hours
Nonworker in 2004	0.231	1.270*	-0.491	-0.469	-0.804
	(0.902)	(0.757)	(0.946)	(0.658)	(0.500)
Nonworker in 2005	0.244	-0.132	-0.148	0.477	-0.211
	(0.956)	(0.576)	(0.978)	(0.699)	(0.391)
Nonworker in 2006	1.507	0.136	-0.996	-0.280	-0.116
	(1.006)	(0.606)	(0.821)	(0.780)	(0.402)
Nonworker in 2007	1.623*	-0.386	-0.538	-0.123	-0.439
	(0.984)	(0.500)	(0.878)	(0.676)	(0.508)
Nonworker in 2008	0.129	-0.296	0.960	-0.359	-0.438
	(1.031)	(0.522)	(1.222)	(0.789)	(0.407)
Nonworker in 2009	0.446	0.125	-0.041	-0.190	-0.364
	(1.016)	(0.612)	(0.869)	(0.681)	(0.409)
Nonworker in 2010	1.042	0.948	-1.365*	-0.495	-0.309
	(0.901)	(0.580)	(0.806)	(0.626)	(0.413)
Nonworker in 2011	-1.005	0.048	2.345**	-0.524	-0.425
	(1.129)	(0.655)	(0.948)	(0.634)	(0.463)
Nonworker in 2012	0.099	0.124	-0.693	0.146	-0.164
	(0.892)	(0.555)	(0.877)	(0.666)	(0.385)
Nonworker in 2013	3.001***	-0.266	-1.214	-1.286*	-0.095
	(1.000)	(0.538)	(0.847)	(0.675)	(0.429)
Nonworker in 2014	-0.309	0.313	-0.916	0.043	-0.062
	(1.006)	(0.578)	(0.993)	(0.721)	(0.397)
Nonworker in 2015	1.018	0.576	-0.606	0.112	-1.190***
	(0.967)	(0.783)	(0.844)	(0.702)	(0.461)
Nonworker in 2016	2.626***	-1.394**	0.041	-0.548	-0.772
	(0.989)	(0.547)	(1.054)	(0.805)	(0.531)
Nonworker in 2017	1.483	0.203	-0.162	-0.358	-1.241**
	(1.597)	(0.798)	(1.276)	(1.171)	(0.531)
Nonworker	2.005***	0.529	-3.562***	1.102**	-0.124
	(0.634)	(0.368)	(0.629)	(0.465)	(0.299)
Observations	2,734	2,734	2,734	2,734	2,734

R-squared	0.302	0.146	0.422	0.136	0.116

Note: Table only presents key independent variables
Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 7: Regression Estimates for Females with Less than a High School Degree

VARIABLES	(1) Leisure Hours	(2) Household Work Hours	(3) Work Hours	(4) Personal Care Hours	(5) Other Hours
Nonworker in 2004	-0.804	1.034*	-0.353	-1.606***	0.041
	(0.500)	(0.558)	(0.757)	(0.566)	(0.315)
Nonworker in 2005	-0.211	0.253	0.290	-0.874	-0.022
	(0.391)	(0.580)	(0.622)	(0.542)	(0.336)
Nonworker in 2006	-0.116	0.862	-0.766	0.202	0.030
	(0.402)	(0.580)	(0.620)	(0.460)	(0.311)
Nonworker in 2007	-0.439	0.048	-0.896	-0.131	0.000
	(0.508)	(0.644)	(0.786)	(0.551)	(0.344)
Nonworker in 2008	-0.438	0.141	-0.708	0.252	0.138
	(0.407)	(0.647)	(0.719)	(0.520)	(0.312)
Nonworker in 2009	-0.364	0.667	-0.728	-0.548	0.651*
	(0.409)	(0.595)	(0.660)	(0.497)	(0.390)
Nonworker in 2010	-0.309	-0.246	0.404	-0.116	-0.242
	(0.413)	(0.623)	(0.673)	(0.510)	(0.335)
Nonworker in 2011	-0.425	0.154	0.324	-0.148	-0.136
	(0.463)	(0.622)	(0.741)	(0.521)	(0.361)
Nonworker in 2012	-0.164	-0.226	0.197	0.704	-0.237
	(0.385)	(0.706)	(0.696)	(0.592)	(0.312)
Nonworker in 2013	-0.095	1.050	-0.158	-0.027	-0.182
	(0.429)	(0.643)	(0.699)	(0.544)	(0.395)
Nonworker in 2014	-0.062	0.411	-1.243*	0.015	0.159
	(0.397)	(0.664)	(0.659)	(0.537)	(0.345)
Nonworker in 2015	-1.190***	1.769***	-0.417	-1.244**	0.171
	(0.461)	(0.635)	(0.784)	(0.582)	(0.343)
Nonworker in 2016	-0.772	1.446**	-0.502	-0.776	-0.293
	(0.531)	(0.620)	(0.678)	(0.584)	(0.359)
Nonworker in 2017	-1.241**	1.102*	0.337	-0.722	0.874**
	(0.531)	(0.666)	(0.805)	(0.638)	(0.411)
Nonworker	-0.124	1.063***	-3.547***	0.894***	-0.229
	(0.299)	(0.393)	(0.410)	(0.332)	(0.210)
Observations	2,734	3,000	3,000	3,000	3,000

R-squared	0.116	0.276	0.390	0.135	0.103

Note: Table only presents key independent variables
Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 8: Regression Estimates for Nonworkers with Less than a High School Degree

VARIABLES	(1) Leisure Hours	(2) Household Work Hours	(3) Work Hours	(4) Personal Care Hours	(5) Other Hours
Male in 2004	-1.159	1.248	-0.389	0.419	-0.348
	(0.878)	(0.845)	(0.822)	(0.710)	(0.429)
Male in 2005	0.144	0.635	-0.829	0.913	-0.780*
	(1.013)	(0.650)	(0.961)	(0.767)	(0.428)
Male in 2006	0.372	0.603	-0.667	0.191	-0.515
	(1.000)	(0.662)	(0.657)	(0.801)	(0.419)
Male in 2007	1.828*	0.937	-1.553*	-0.299	-0.629
	(0.944)	(0.640)	(0.838)	(0.721)	(0.502)
Male in 2008	-0.693	0.212	0.897	-0.244	-0.170
	(1.016)	(0.652)	(1.200)	(0.799)	(0.420)
Male in 2009	0.299	0.480	-0.513	0.370	-1.021**
	(0.936)	(0.705)	(0.713)	(0.709)	(0.495)
Male in 2010	0.385	1.689**	-1.157*	-0.418	-0.576
	(0.880)	(0.674)	(0.644)	(0.673)	(0.410)
Male in 2011	-0.583	0.544	0.784	-0.220	-0.388
	(1.041)	(0.794)	(0.879)	(0.683)	(0.440)
Male in 2012	0.019	0.604	-0.888	-0.451	-0.147
	(0.857)	(0.700)	(0.720)	(0.698)	(0.395)
Male in 2013	2.784***	-0.324	-1.079	-1.139	-0.661
	(0.955)	(0.663)	(0.721)	(0.749)	(0.434)
Male in 2014	-0.515	0.531	-0.540	0.234	-0.854**
	(0.962)	(0.763)	(0.731)	(0.718)	(0.423)
Male in 2015	0.474	-0.126	-1.146	1.620**	-1.247***
	(0.996)	(0.813)	(0.713)	(0.747)	(0.435)
Male in 2016	2.140**	-0.695	-0.743	-0.565	-0.487
	(1.037)	(0.726)	(0.737)	(0.928)	(0.477)
Male in 2017	0.943	-0.332	0.771	-0.103	-1.687***
	(1.481)	(0.916)	(1.132)	(1.190)	(0.585)
Male	1.067*	-2.000***	1.198**	-0.343	0.394
	(0.585)	(0.442)	(0.575)	(0.488)	(0.306)
Observations	2,378	2,378	2,378	2,378	2,378

R-squared	0.253	0.353	0.165	0.109	0.111

Note: Table only presents key independent variables
Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 9: Leisure Time Regression Estimates for Ages 25-34 by Sex

	Males			Females		
VARIABLES	(1) Recreational Computer Hours	(2) Social Hours	(3) Movies and TV Hours	(4) Recreational Computer Hours	(5) Social Hours	(6) Movies and TV Hours
Nonworker in 2004	0.491**	0.194	-0.385	-0.044	0.064	0.149
	(0.244)	(0.273)	(0.406)	(0.076)	(0.141)	(0.225)
Nonworker in 2005	0.265	-0.280	0.782	0.026	0.310	-0.281
	(0.296)	(0.220)	(0.566)	(0.091)	(0.192)	(0.213)
Nonworker in 2006	1.157	-0.222	-0.184	-0.070	-0.216	-0.052
	(0.828)	(0.276)	(0.467)	(0.082)	(0.150)	(0.203)
Nonworker in 2007	0.224	0.359	0.426	-0.062	-0.023	0.323
	(0.222)	(0.380)	(0.644)	(0.091)	(0.145)	(0.225)
Nonworker in 2008	0.819*	0.040	0.733	0.107	-0.231	0.020
	(0.497)	(0.295)	(0.651)	(0.169)	(0.151)	(0.288)
Nonworker in 2009	0.357	-0.027	0.859	0.054	0.142	-0.398*
	(0.475)	(0.256)	(0.629)	(0.097)	(0.156)	(0.218)
Nonworker in 2010	0.494*	0.810*	-0.044	-0.167	-0.192	-0.165
	(0.260)	(0.423)	(0.437)	(0.112)	(0.153)	(0.222)
Nonworker in 2011	0.934**	-0.127	0.550	-0.034	0.010	0.255
	(0.388)	(0.248)	(0.533)	(0.100)	(0.165)	(0.222)
Nonworker in 2012	0.384	0.080	0.245	0.033	-0.059	0.402
	(0.285)	(0.229)	(0.482)	(0.129)	(0.150)	(0.252)
Nonworker in 2013	0.291	0.206	0.626	0.118	-0.153	-0.029
	(0.264)	(0.307)	(0.542)	(0.130)	(0.153)	(0.232)
Nonworker in 2014	1.246***	-0.351	0.169	-0.042	0.174	-0.514**
	(0.481)	(0.250)	(0.559)	(0.108)	(0.179)	(0.226)
Nonworker in 2015	0.666*	0.289	0.532	0.093	-0.060	0.138
	(0.369)	(0.303)	(0.492)	(0.102)	(0.178)	(0.243)
Nonworker in 2016	0.262	0.023	0.129	0.152	-0.079	-0.523**
	(0.349)	(0.286)	(0.525)	(0.154)	(0.156)	(0.228)
Nonworker in 2017	1.494**	-0.202	-0.652	-0.139	-0.031	0.023
	(0.752)	(0.266)	(0.397)	(0.093)	(0.172)	(0.237)
Nonworker	-0.046	0.077	0.563**	0.098	0.179*	0.493***
	(0.139)	(0.160)	(0.283)	(0.066)	(0.097)	(0.131)
Observations	11,265	11,265	11,265	15,971	15,971	15,971
R-squared	0.080	0.065	0.128	0.039	0.094	0.076

Note: Table only presents key independent variables

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 10: Leisure Time Regression for Respondents with Less than a High School Degree

	Males			Females		
VARIABLES	(1) Recreational Computer Hours	(2) Social Hours	(3) Movies and TV Hours	(4) Recreational Computer Hours	(5) Social Hours	(6) Movies and TV Hours
Nonworker in 2004	0.180	-0.639	1.089	0.166	0.199	0.016
	(0.488)	(0.507)	(0.763)	(0.122)	(0.334)	(0.621)
Nonworker in 2005	-0.061	-0.480	0.432	0.037	-0.109	-0.051
	(0.343)	(0.448)	(0.741)	(0.185)	(0.318)	(0.550)
Nonworker in 2006	0.150	-0.367	1.651*	-0.060	-0.167	0.062
	(0.323)	(0.488)	(0.995)	(0.121)	(0.300)	(0.518)
Nonworker in 2007	-0.156	0.020	0.974	-0.057	-0.514	0.633
	(0.349)	(0.664)	(0.987)	(0.149)	(0.324)	(0.577)
Nonworker in 2008	-0.280	-0.882*	0.792	0.238	-0.248	0.202
	(0.254)	(0.461)	(0.826)	(0.242)	(0.317)	(0.541)
Nonworker in 2009	-0.105	-1.028**	1.821*	0.187	-0.069	-0.638
	(0.265)	(0.438)	(0.999)	(0.166)	(0.355)	(0.630)
Nonworker in 2010	-0.180	-0.430	1.412**	0.276**	-0.272	0.273
	(0.220)	(0.472)	(0.699)	(0.139)	(0.292)	(0.583)
Nonworker in 2011	0.663	-0.901**	0.432	0.395**	-0.404	0.020
	(0.556)	(0.442)	(0.758)	(0.166)	(0.320)	(0.612)
Nonworker in 2012	0.022	-1.125**	0.918	0.063	-0.762**	0.357
	(0.324)	(0.439)	(0.773)	(0.181)	(0.341)	(0.566)
Nonworker in 2013	0.034	-0.755	3.248***	0.112	-0.288	-0.232
	(0.261)	(0.478)	(0.910)	(0.152)	(0.312)	(0.530)
Nonworker in 2014	-0.368	-1.092**	1.795**	0.636	-0.082	0.516
	(0.310)	(0.497)	(0.833)	(0.433)	(0.314)	(0.651)
Nonworker in 2015	-0.268	-0.319	1.934**	0.027	-0.222	0.198
	(0.264)	(0.492)	(0.948)	(0.165)	(0.437)	(0.574)
Nonworker in 2016	0.117	-0.051	3.293***	0.036	0.257	-0.280
	(0.335)	(0.514)	(0.906)	(0.177)	(0.349)	(0.564)
Nonworker in 2017	-0.381*	-0.788*	0.143	-0.284*	-0.175	-0.766
	(0.227)	(0.441)	(1.026)	(0.168)	(0.293)	(0.607)
Nonworker	0.231	0.744*	0.740	0.072	0.411*	1.129***
	(0.201)	(0.396)	(0.474)	(0.082)	(0.221)	(0.353)
Observations	2,734	2,734	2,734	3,000	3,000	3,000
R-squared	0.113	0.099	0.222	0.135	0.119	0.174

Note: Table only presents key independent variables

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 11: Leisure Time Regression Estimates for Nonworkers

	Ages 25-34			Less than High School Degree		
VARIABLES	(1) Recreational Computer Hours	(2) Social Hours	(3) Movies and TV Hours	(4) Recreational Computer Hours	(5) Social Hours	(6) Movies and TV Hours
Male in 2004	0.399	0.172	-0.416	0.127	-0.726	0.046
	(0.248)	(0.285)	(0.448)	(0.535)	(0.558)	(0.835)
Male in 2005	0.136	-0.366	1.174**	-0.350	-0.598	0.930
	(0.289)	(0.271)	(0.578)	(0.392)	(0.505)	(0.824)
Male in 2006	1.134	-0.227	0.109	-0.026	-0.375	1.253
	(0.789)	(0.299)	(0.475)	(0.345)	(0.487)	(1.026)
Male in 2007	0.080	0.323	0.665	-0.139	0.146	1.076
	(0.239)	(0.390)	(0.661)	(0.364)	(0.670)	(1.025)
Male in 2008	0.584	0.060	0.708	-0.399	-0.921*	0.295
	(0.516)	(0.305)	(0.675)	(0.294)	(0.501)	(0.862)
Male in 2009	0.268	-0.108	1.092*	-0.413	-1.088**	2.173**
	(0.446)	(0.269)	(0.634)	(0.316)	(0.498)	(0.978)
Male in 2010	0.431	0.787*	0.239	-0.579**	-0.303	1.144
	(0.266)	(0.431)	(0.469)	(0.271)	(0.487)	(0.751)
Male in 2011	0.767**	-0.174	0.384	0.437	-0.743	0.532
	(0.376)	(0.273)	(0.557)	(0.547)	(0.467)	(0.813)
Male in 2012	0.353	0.059	0.455	-0.079	-0.639	0.460
	(0.299)	(0.255)	(0.511)	(0.336)	(0.469)	(0.809)
Male in 2013	0.182	0.498	0.915*	0.002	-0.679	2.914***
	(0.290)	(0.303)	(0.555)	(0.308)	(0.496)	(0.918)
Male in 2014	1.160**	-0.409	0.666	-0.844*	-0.852	1.270
	(0.470)	(0.283)	(0.573)	(0.506)	(0.519)	(0.882)
Male in 2015	0.536	0.269	0.485	-0.256	-0.573	1.986**
	(0.366)	(0.309)	(0.534)	(0.287)	(0.532)	(1.012)
Male in 2016	-0.170	0.198	0.675	-0.103	-0.431	3.156***
	(0.359)	(0.298)	(0.549)	(0.388)	(0.538)	(0.942)
Male in 2017	1.670**	0.078	-0.762*	-0.377	-0.717	-0.658
	(0.713)	(0.283)	(0.429)	(0.279)	(0.481)	(1.049)
Male	0.123	-0.157	0.214	0.220	0.520	-0.009
	(0.154)	(0.177)	(0.304)	(0.213)	(0.415)	(0.511)
Observations	6,095	6,095	6,095	2,378	2,378	2,378
R-squared	0.154	0.069	0.124	0.136	0.112	0.209

Note: Table only presents key independent variables

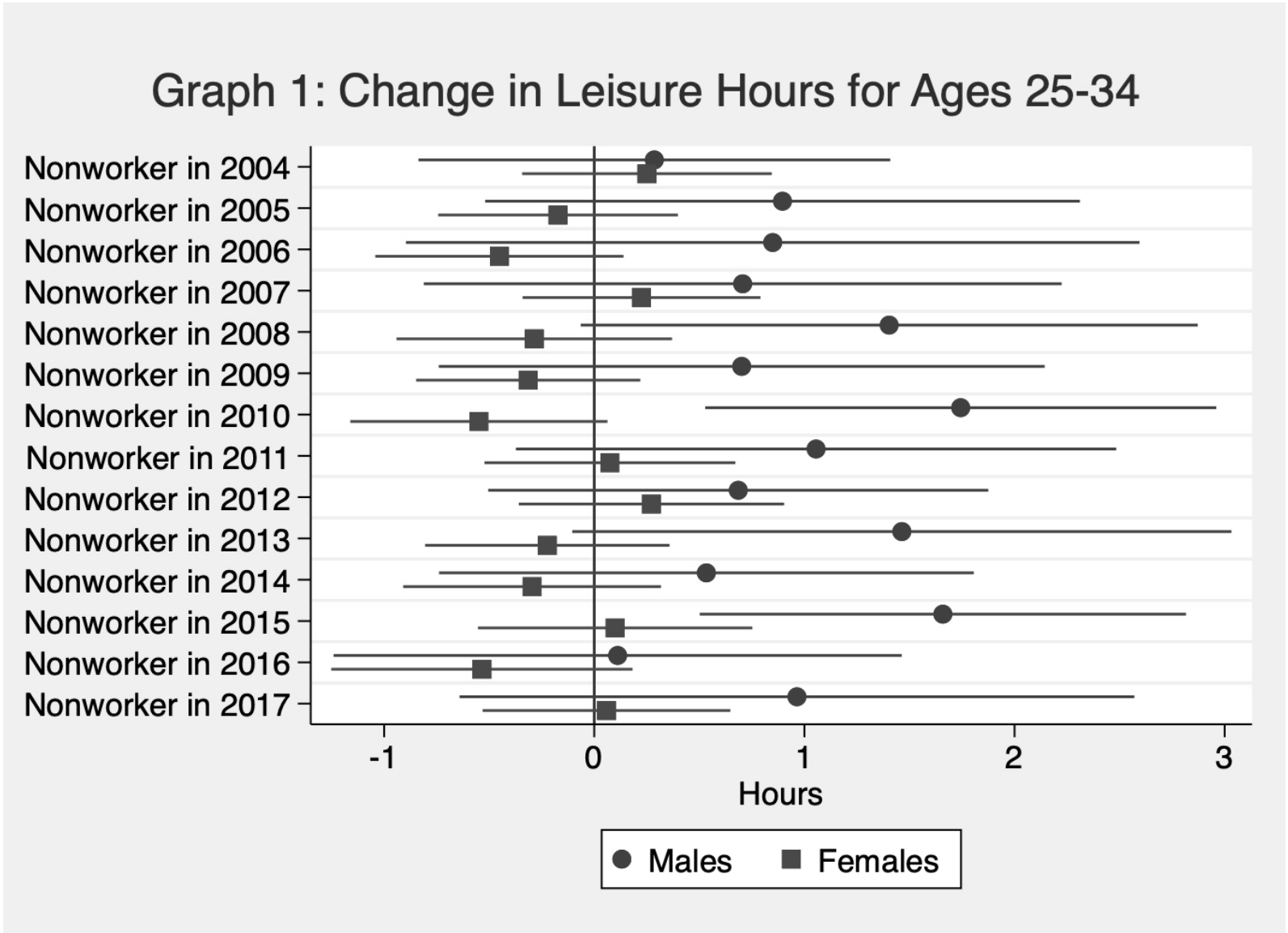
Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

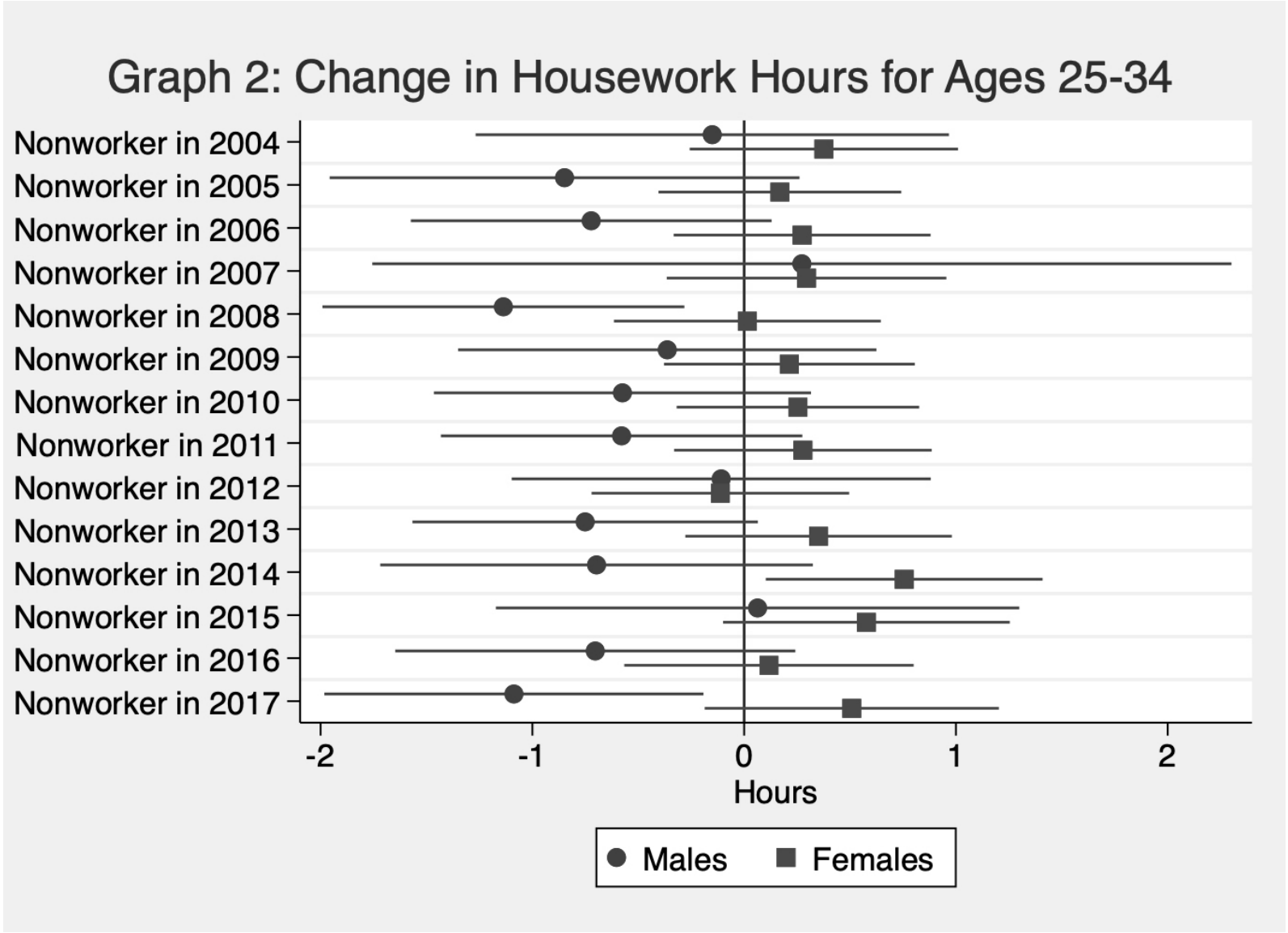
APPENDIX

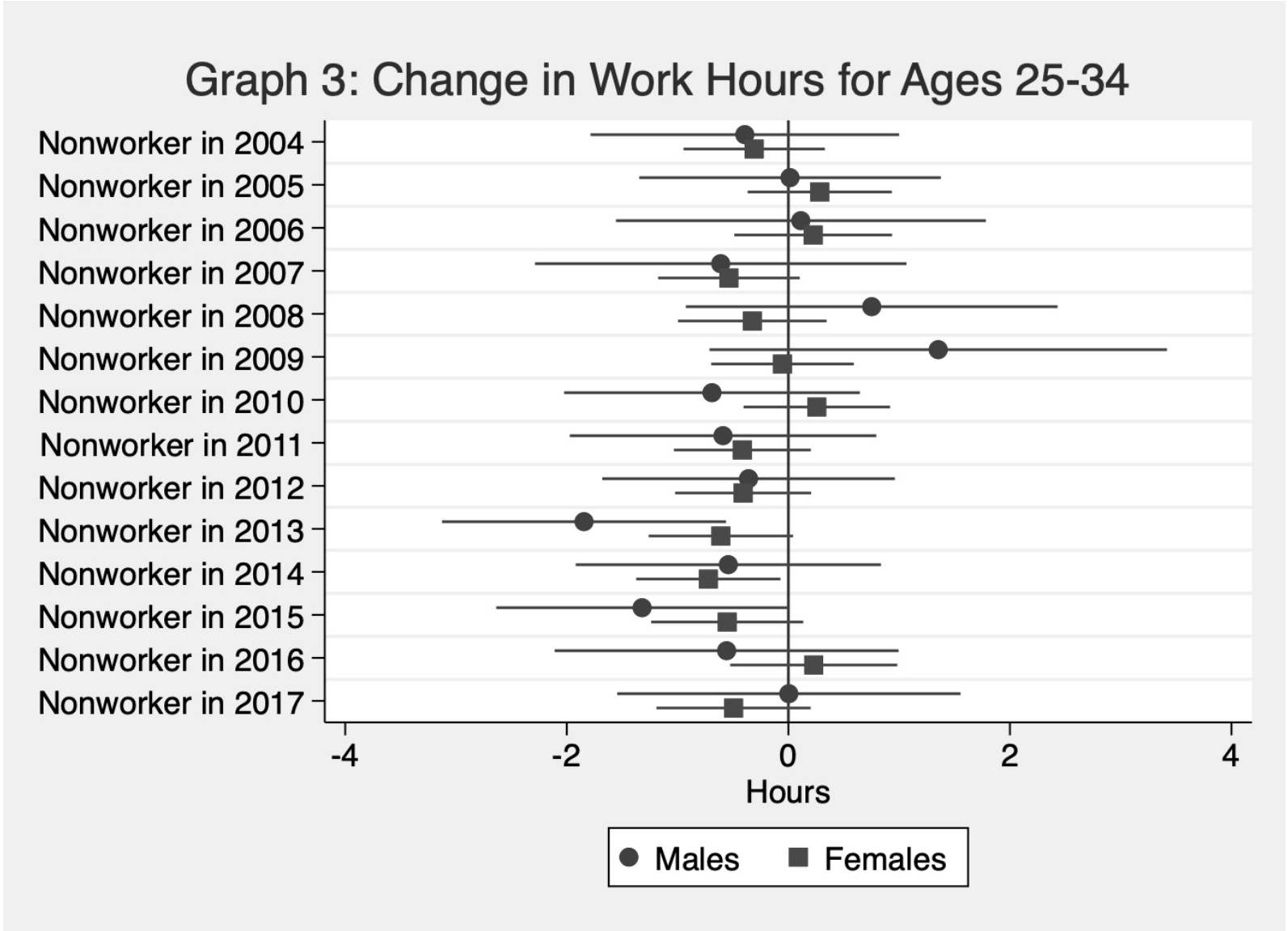
Figure 1: Female Labor Force Participation Rate

Figure 2: Male Labor Force Participation Rate

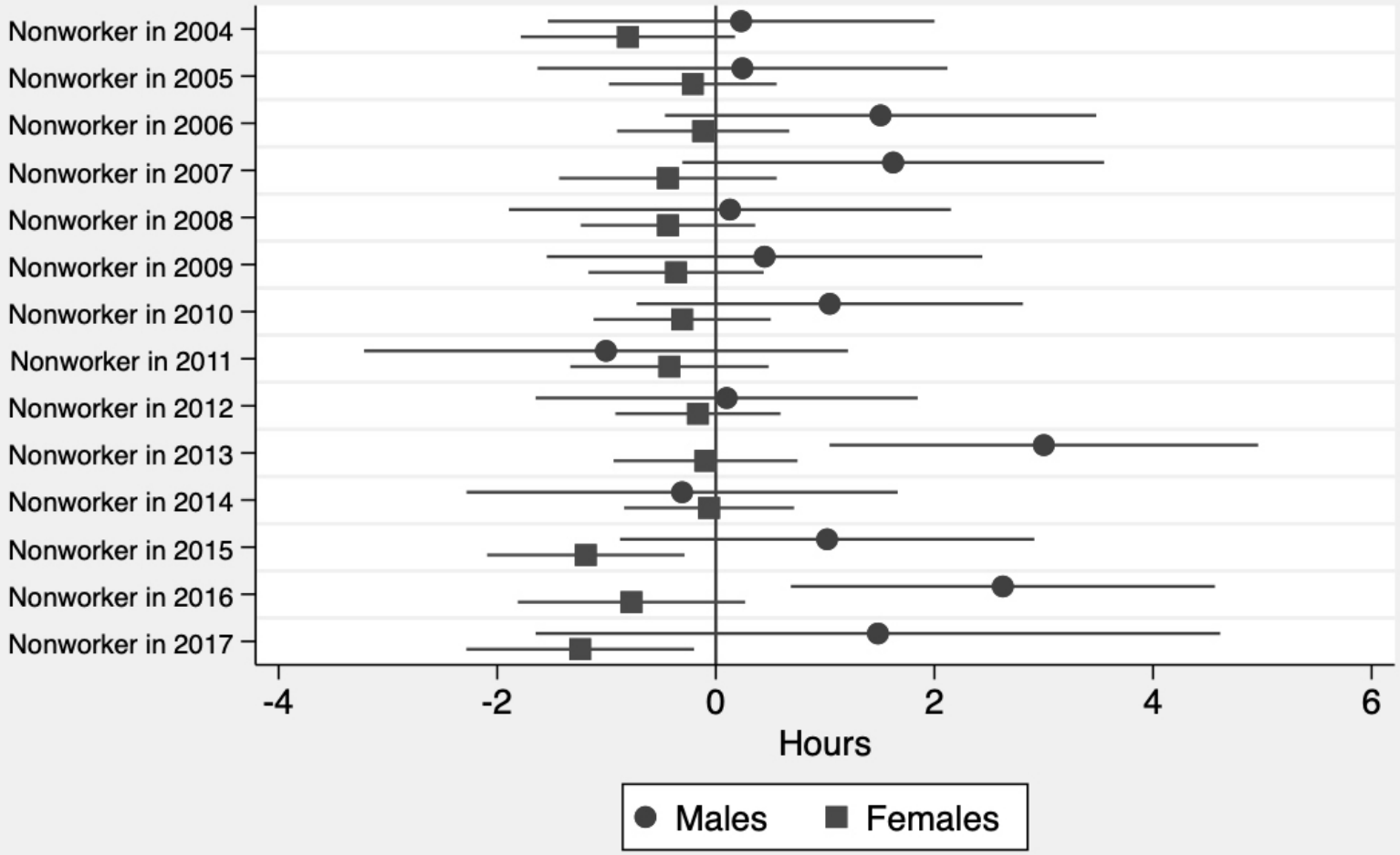
Figure 3: Labor Force Participation Rate


Graph 1: Change in Leisure Hours for Ages 25-34
Nonworker in 2004
Nonworker in 2005
Nonworker in 2006
Nonworker in 2007
Nonworker in 2008
Nonworker in 2009
Nonworker in 2010
Nonworker in 2011
Nonworker in 2012
Nonworker in 2013
Nonworker in 2014
Nonworker in 2015
Nonworker in 2016
Nonworker in 2017
-1
0
1
2
3
Hours
Males
Females

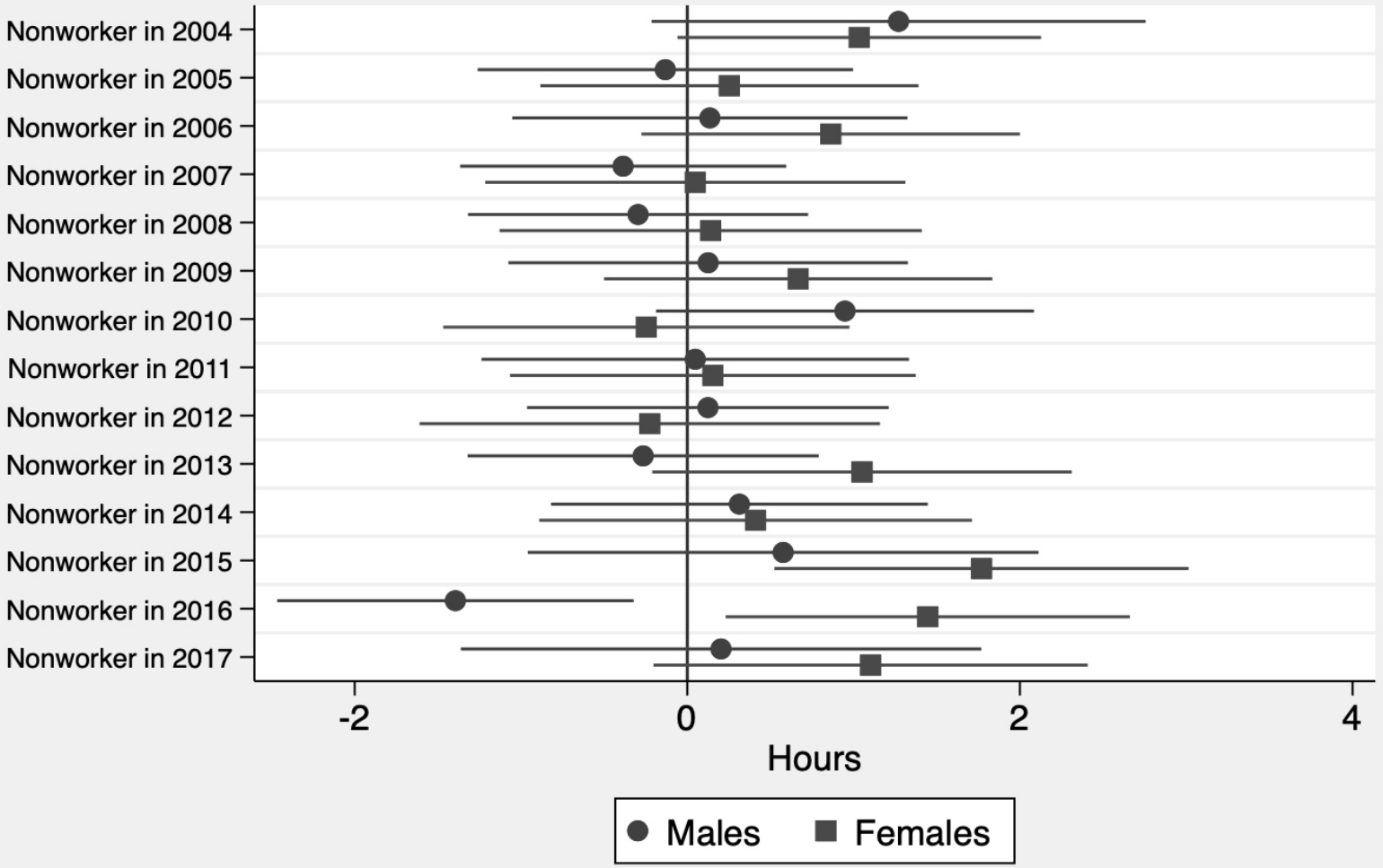

Graph 2: Change in Housework Hours for Ages 25-34
Nonworker in 2004
Nonworker in 2005
Nonworker in 2006
Nonworker in 2007
Nonworker in 2008
Nonworker in 2009
Nonworker in 2010
Nonworker in 2011
Nonworker in 2012
Nonworker in 2013
Nonworker in 2014
Nonworker in 2015
Nonworker in 2016
Nonworker in 2017
-2
-1
0
1
2
Hours
Males
Females


Graph 3: Change in Work Hours for Ages 25-34
Nonworker in 2004
Nonworker in 2005
Nonworker in 2006
Nonworker in 2007
Nonworker in 2008
Nonworker in 2009
Nonworker in 2010
Nonworker in 2011
Nonworker in 2012
Nonworker in 2013
Nonworker in 2014
Nonworker in 2015
Nonworker in 2016
Nonworker in 2017
-4
-2
0
2
4
Hours
Males
Females

Graph 4: Change in Leisure Hours for Less than High School Degree



Graph 5: Change in Housework Hours Less than High School Degree



Graph 6: Change in Work Hours for Less than High School Degree