

# Effect of Parental Employment Status on Child Care

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## **Abstract**

Parents spend a significant amount of time and income on raising children. This paper finds evidence that employment status affects the amount of time parents spend with their children. Existing literature shows that parental unemployment has detrimental long-term effects on child development. My study focuses on the short-term impact of unemployed parents in their time investment. Using an instrumental variable approach, I study if individuals who were laid-off or have been unemployed reallocate the time that was spent at work by spending more time with their children. Using the American Time Use Survey (ATUS), I find that when unemployed, parents spend more time with their children than looking for new employment opportunities in the short-run.

# 1 Introduction

Business cycle changes causing an unemployment rise will lead to workers leaving the labor market, thus affecting their daily time schedules. Through this paper, I show that a change in employment status affects parental disposable time (time left after completion of necessary activities such as eating, sleeping and other personal chores), that is spent in various activities including childcare. I use state level unemployment rate as an indicator for business cycle changes. My study focuses on the short-term impact of unemployed parents in their time investment. I use an instrumental variable approach to study if individuals who were laid-off or have been unemployed reallocate the time that was spent at work by spending more time with their children. I find a 32 percentage points increase in time spent by parents when unemployed due to an economic slowdown. This is higher than the time spent searching for new employment.

Parental income and parental time are the two key ingredients for producing children (Becker (1988)). Here, parental time is defined as the time spent by parents with their children, and parental income is the income spent on children in terms of the goods and services provided to them. Higher parental income ensures access to high quality market goods such as education, health care and toys. Children also require a large investment in terms of parental time. Exogenous factors such as an unfavorable change in the business cycle, causing a loss of employment of the parent, will affect both parental income and parental time. It is important to study how parents address this change and alters their behavior towards their children. Parental time is an important factor in the development of children. It helps forming bonds, monitor growth and provide stability in a child's life. An efficient combination of income and time provides an appropriate environment for child development. Parents want to furnish such pertinent atmosphere in the

households. Hence, it is important and intriguing to study how parents adjust their level of care when faced with exogenous shocks such as unemployment.

In the short-run, expected or unexpected unemployment affects both parental income and parental time. There is a decline in income. If the unemployment is temporary then households tend to smooth their consumption by using their savings to compensate for the loss in current income. Parents are less likely to adjust spending on their children in the near future implying that the income effect of short-run unemployment is very small. Unemployed parents also have more time at their disposal to spend on other activities other than child care. Time, unlike income, is not subjected to inter-temporal substitution. Parents are more likely to spend more time with their children when unemployed than when employed because they have more time to allocate.

Sudden loss of employment would result in individuals with more disposable time. Because the wage rate equals the opportunity cost of the parent's time, an unexpected lay-off is equivalent to a reduction in opportunity cost. (The opportunity cost of the parent's time does not, of course, equal zero as the parent can also engage in alternative productive activities such as household chores). A reduction in the opportunity cost of the parent's time has two effects – an income effect and a substitution effect. Now if the layoff is considered to be short-term and temporary, as discussed above the overall effect on permanent income will be small. If we ignore the income effect, the overall affect become unambiguous. The temporary layoff only has a substitution effect, causing parents to spend more time with their children. Consequently, it is surprising that we find unemployment has little effect on the amount to time parents spend with their children using the OLS method <sup>1</sup>. OLS estimation method generates estimates which indicate that

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<sup>1</sup>The OLS estimates are very small in magnitude and statistically insignificant at conventional levels for most demographics. These analyses were conducted but excluded from the paper.

a change in business cycle conditions given by a unit increase in the state level unemployment rate is associated with a 0.02 percent points higher parental time with their children.

Comparing employed versus unemployed workers, I find very little difference in how parents allocate their time to childcare. One might imagine that because the unemployed have more time on their hands, that they would spend more time with their children – but they do not. One possible explanation is that the unemployed are different than the employed and that they have a different demand for leisure time and that this preference for leisure might carry over to their allocation of time for childcare.

If I could perform a randomized trial experience where employed workers are unexpectedly unemployed, I could observe the effect of unemployment on the allocation of time for childcare. Because such experiment is not possible, I propose the use of an instrumental variable to account for the possibility that employment status is endogenous.

During an economic slowdown, there is a rise in unemployment causing many workers to lose their jobs as a result. Some firms suffer the brunt of an economic slowdown more than others leading to some of their workers being fired while others holding on to their employment. These OLS estimates do not incorporate that employed workers are less likely to change their daily routine when compared with unemployed workers. There is a selection problem here. Unemployed workers are more likely to respond, in terms of their daily schedule, to an economic downturn than employed workers. Hence, OLS would not be informative about the effect of an economic slowdown on parental time. Business cycle conditions influence those individuals who have lost their jobs because of it. These unemployed workers now have additional disposable time which was earlier spent at work.

The IV estimation method allows me to analyze this relationship. The intuition of this approach is that the effect of losing employment on parental time is basically the effect of business cycle conditions (the IV), as measured by state level unemployment rate, on parental time (the outcome). Employed workers will not respond to business cycle conditions if their employment status is unaffected. The IV estimates are higher in magnitude and statistically significant at conventional levels. The effect of the business cycle condition (the instrument) on the treatment (employment status), that is the “first-stage regression” has statistically significant estimates which are high in magnitude <sup>2</sup>. In my analyses. Using the IV strategy helps recover a stronger effect of the treatment on the outcome which was not possible with the OLS approach. Therefore, I use the IV estimation technique for this study.

To summarize the results - I find that unemployed parents spend 32 percentage points more time with their children. The sign of this estimate is consistent across various demographics but the magnitude differs. The magnitude of this estimate is highest among the five groups of activities categorized in this study for all demographics. Parents change their time allocation with their children the most when compared to time spent in other activities like leisure, household chores and job search in a state of unemployment. In general, white parents spend more time with their children when unemployed as compared to black parents. Specifically, mothers spend more time than fathers and I find this result consistent among both the races. Unemployed fathers allot more time to job search than mothers. They also increase the time they spend engaging in household chores, a behavior which I do not observe among unemployed mothers. For this study, total time available in a day implies total disposable time.

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<sup>2</sup>These regression estimates are not included in the paper. However, the first stage regressions are strong and statistically significant at conventional levels.

My paper's contribution to the existing literature is three folds. First, this study confirms earlier empirical estimates of the effect of unemployment on the amount of time spent on childcare with a larger dataset and using an IV estimate. The resultant hypothesis is testing if individuals who became unemployed due to the declining business cycle increase the time they spent with their children. Aguiar *et al.* (2013) finds that after the 2008 recession, unemployment rose and the foregone work hours were re-distributed among other activities. They found a five percent increase in child care time. Similar behavior were observed by Edwards (2011). Both these papers used the ATUS but were constraint by a smaller dataset. Results from my study show that parents increase the time they spend with their children during a state of unemployment by 32 percent. This is relatively higher than the results found by other studies and consistent with the findings of Mork *et al.* (2014). Second, I find that in the short-run, parents try to compensate the loss in parental income by spending more time with their children to maintain similar level of care. Third, I find happier parents choose to spend more time with their children. Juster & Stanfford (1985) and Guryan *et al.* (2008) find that parents feel spending time with their children can be enjoyable and therefore, spend more time with them when stressed. Such a behavior may not be in the best-interest of the child. However, my estimates show that only black fathers respond to higher levels of stress by reducing parental time. Fourth and more importantly, I find that temporary economic slowdown comes with benefits. In the short run, parents can smooth their consumption by using their savings and hence are not worried about new employment. My results corroborate this hypothesis. I find unemployment encourages parents to spend more time with their children than looking for new jobs.

## 2 Background

Becker (1988) mentions that children are self-produced goods by each family, using market goods and services, and parental time. This implies that each family or individual decides the quantity of time and market goods to spend on their children. Some parents may choose not to have children and spend none of these resources while some children may need more resources than others. Hence, the cost of a child, in terms of time and income, differs with children and parents. Higher parental income ensures that the child has access to good and nutritious food, top quality education and better health facilities. Raising children is an extremely costly affair. Letablier *et al.* (2009) provides evidence that expenditure on children accounts for 20-30 percent of household budgets. Parental time is another important input for raising children. Spending quality time with the child is essential to ensure child development. Becker (1988) argues that mothers' time is a major part of child care. This is a main reason why mothers invest more time in child care than at the labor market.

Child care and development is a subject of concern for parents as well as policy makers. A loss of employment affects both - parental income and parental time. Involuntary or voluntary unemployment would result in a rise in disposable time but a fall in family income, both of which will have a significant effect on child development. A fall in household/parental income can lead to a loss of quality goods such as private schooling or health facilities, and socio-economic downgrade of the family, both of which influence child development. However, in the short-run the effect of fall in income is negligible as parents are more likely to smooth their consumption. The gain in time, resulting from unemployment which is more difficult to smooth, would be allocated to various activities including child care. As documented by Aguiar *et al.* (2013), after the 2008 recession, when

unemployment rate rose, foregone work hours were re-distributed among other activities including child care. Parental time is expected to rise as a result of unemployment as seen by Edwards (2011). Using an IV, I extend their analyses and study if unemployment caused by business cycle conditions changes time spent on various activities. Chronic or long-term unemployment can lead to a deterioration of home environment due to household conflicts. This may lead to a fall in the time spent with children (Mork *et al.* (2014)). My analyses focuses on the short-run and therefore, I find the opposite effect.

To summarize, a change in unemployment status can alter parental time. However, due to a lack of household data on time use information in the past, this relationship was difficult to explore. With the existence of the ATUS database, it is now possible to test if and to what extent, unemployment influences parental time.

Loss of jobs (causing long-term unemployment) can have adverse effects on worker's health (Sullivan & Von Wachter (2009)), mental well being (Eliason & Storrie (2009)), marital stability (Eliason (2011)) as well as socio-economic status (Stevens (1997) and Jacobson *et al.* (1993)), all of which can effect their parental behavior and influence the child negatively. Many studies have highlighted the negative impact of long-term unemployment on child care. According to Ström (2002), parental unemployment is positively associated with higher risks of children accidents. This study was conducted in late twentieth century in Sweden. Chronic unemployment can lead to feelings of depression and humiliation creating a strain on parental behavior towards children. Such children are more likely to suffer from long periods of hospitalization, less likely to graduate high school and face unemployment (Christoffersen (2000)). Pedersen *et al.* (2005) shows that high prevalence of psychosomatic symptoms and chronic illness is common among

children living in families with lower labor market participation. Parental unemployment has long term impact on children as seen in Oreopoulos *et al.* (2008). The authors find that adult earnings of children, with unemployed parents during their developing years, are 9 percent lower than otherwise.

As seen from the literature, parental long-term unemployment faced at early childhood can have long lasting effects on the child. It is essential for children to be in a peaceful and stable environment to ensure proper well being. Business cycle changes can disrupt this atmosphere. An unfavorable change in business cycle can effect the prevailing unemployment rate in the economy and influence labor force participation rate also. A change in the unemployment rate can influence the behavior of individuals affected by it. Parents' response to such a change can be directed towards their children. Both parental income and time is effected.

Following from the argument made by Becker (1988) that parental time and income are the two inputs for producing children, I assume that parent's utility is affected by the care they provide to their children (Appendix A shows the derivation and the analyses in detail). To simplify the model, I use a Cobb Douglas utility function. However, I have replicated the results using different specifications. Equation 1 depicts the relationship by which parental care affects their utility. Parent's utility consists of the care they provide to their children ( $C(X_c, L_c)$ ), in addition to their own leisure ( $L_p$ ) and consumption of market goods and services ( $X_p$ ).

$$U_p = U(C(X_c, L_c), X_p, L_p) \tag{1}$$

Parental care is a function of parental time ( $L_c$ ) and parental income ( $X_c$ ). Let this function be Cobb Douglas in nature as given below where a and b are constants

giving the share of time and income spent by parents on children, respectively.

$$C(X_c, L_c) = X_c L_c = abXL \quad (2)$$

Figure 1 shows the optimum allocation of resources chosen by parents to maximize the care given to their children. The indifference curves are downward sloping, convex to the origin, and well-defined. Parent's maximizes their utility (defined in equation 3), which incorporates the care given to their children subject to the budget constraint given by equation 4.

$$U_p = [C(X_c L_c)]^\alpha X_p^\beta L_p^{(1-\alpha-\beta)} = AX^{(\alpha+\beta)} L^{(1-\beta)} \quad (3)$$

$$24w - wL - X + I = 0 \quad (4)$$

Total available parental time is less than 24 hours as parents are expected to spend some amount of total available time on their own leisure. Total available parental time is effectively 24 hours minus time at work ( $t$ ) and leisure time ( $L_p$ ). Parents earn non-wage income,  $I$ , in addition to wage income earned at a rate of  $w$  per hour. They substitute between parental time in caring for their children and the time they spent at work (to earn income to buy consumption goods for them and their children). To provide a certain level of care to their children, parents choose an optimum  $X_c^*$  and  $L_c^*$ . This is obtained by maximizing parental utility (equation 3), which incorporates care provided to children, subject to the budget

constraint (equation 4) faced by parents.

$$L^* = \frac{(24w + I)(1 - \beta)}{(1 + \alpha)w} \quad (5a)$$

$$X^* = \frac{(24w + I)(\alpha + \beta)}{(1 + \alpha)} \quad (5b)$$

Employed parents consume at the equilibrium point A where the marginal rate of substitution between parental income and time coincide with the wage rate. These results are consistent with other functional forms of the utility function such as constant elasticity of substitution.

Unemployment, as discussed before, reduces parental income thus reducing income spent on the child from  $X_c^*$  to  $I$ . Parent's now consume at equilibrium point B (which is a short-run equilibrium) where their consumption of goods on children is equal to the non-wage income and substitute the fall in parental income by increasing parental time to  $L'_c$ , which is the time left after spending on parent's own leisure. However, due to a lack of resources, the level of care is now lower than before (from  $C_1$  to  $C_2$ ). Therefore, during unemployment, parents try to compensate the fall in income by a rise in parental time but are unable to compensate completely. This analyses explains how parental unemployment have a long term detrimental impact on child care.

Besides the two determinants mentioned above, there are many other factors which affect child care development such as parental education (Guryan *et al.* (2008)) and household and neighborhood characteristics. Some of these determinants are influenced by state unemployment rate changes. These factors are included in the production function and hence I will not discuss in details. For the purpose of this study, I will focus on the effect of state unemployment levels

on changes in parental time with children.

### 3 Data

I use two databases for this analyses, the American Time Use Survey (ATUS) and the Labor force participation data, both of which are administered by the Bureau of Labor Statistics (BLS). I use the unemployment rate which is an important indicator for measuring the current state of the business cycle/economic performance. Unemployment rate is a useful statistic because it serves to measure changes over time. Low unemployment rate suggests business cycle growth and higher levels depict an economic recession. Data on time diaries is obtained from the ATUS. It is a self-reported data which covers individual level information across state and over time. ATUS contains detailed information regarding the amount of time an individual spends engaging in various activities. I have divided a typical parental day into five groups: time with children; time at work; time for leisure; time doing household chores; and time spent searching for a job. The aggregate data covers 50 states over the time period of 2004 and 2015. The reason for such a short data series is attributed to the unavailability of the ATUS database for prior years.

Table 1 gives the descriptive statistics of the labor force participation variables. Mean unemployment rate has been high at 6.25 percent, and the labor force participation has been slightly less than two thirds of the total working population (65 percent). Labor force participation is higher for men (71 percent) than that for women (59 percent), and the respective unemployment rate is also higher for men (6.58 percent) than that for women (5.89 percent). Similarly, we see a huge difference in the unemployment rate of the two races as well. Though the labor

force participation rate between the two races differs slightly with white population having a higher rate, the difference between their unemployment rate is much larger. The white population has an average unemployment rate of 5.45 percent and the black population faces an average of 12.17 percent. It is important to notice that the two demographics face very different labor market conditions.

There is a statistically significant difference between the mean of time spent by parents, as a ratio of total time, in various activities when employed versus unemployed (table 2). Employed parents spend 24 percent of their time with their children and 29 percent at their workplace. Unemployed parents spend 5 percentage points more time with their children and 1.3 percentage points more at leisure. Unemployed parents also spend more time working on household chores and looking for new employment. The characteristics of this sample of observation is given in table 3. There is a significant difference between unemployed and employed parents. Unemployed parents are slightly younger and less educated. They have lower spousal income than employed parents. Fifty percent of unemployed parents have employed spouses while 63 percent of employed parents have working spouses.

## **4 Empirical strategy**

Parents change their daily schedules as a response to a change in their employment status. Business cycle changes affect employment status of workers by either gaining employment or getting laid-off. Employment status affects time diaries by affecting working hours. During a boom, employment opportunities are lucrative and the opportunity cost of spending time with the children can be huge in terms of foregone wages. Thus, a business cycle change can influence the

employment status, hence substituting time spent at work with other activities like child care and job search. This is tested using the Instrumental Variable (IV) estimation method where I use the business cycle indicator as an instrument for employment status to find the effect on the time an individual tend to spend with their children. Business cycle changes are reflected by changes in the unemployment rate prevailing in the economy<sup>3</sup>. The second stage equation is represented as follows

$$Time\_A_{ist} = \alpha + \gamma Emp_{ist} + \rho X_{ist} + \tau Z_{ist} + e_{ist} \quad (6)$$

The first stage is given below

$$Emp_{ist} = \alpha + \beta X_{st} + \tau Z_{ist} + \eta_s + \delta_t + \mu_{ist} \quad (7)$$

where,  $Emp_{ist}$  gives the employment status of individual  $i$  at year  $t$  and state  $s$ ; coded 1 if employment status is unemployed but looking for a job or laid-off;  $X_{st}$  gives the state of the business cycle in state  $s$  and over year  $t$  - namely the state unemployment rate;  $Time\_A_{ist}$  is the time spent engaging in one of the five activities,  $A$ , as a percentage of total time available in a day (namely, time with children, time at work, time doing household chores, time for leisure and time spent while searching for new employment opportunities), by individual  $i$  living in state  $s$  and over year  $t$ ;  $Z_{ist}$  gives individual characteristics such as age, family income level, educational achievement (the respondent's highest completed level of education), and spousal employment status, coded as 1 if spouse/partner is

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<sup>3</sup>To study if the business cycle changes directly impact individual time allocations, I use an OLS estimation method to estimate the effect of state level unemployment rate on time diaries. I study how state level unemployment rate changes the time spent by parents on five different activities. The OLS estimates are very small in magnitude and statistically insignificant for most demographics. For this reason, I have excluded them from the paper.

employed;  $\delta_s$  gives the state fixed effects;  $\gamma_t$  gives the time fixed effects; and  $\epsilon_{st}$  gives the error term.

Here, a single parent is defined as those who are married but their spouse is absent; that is, windowed; divorced or separated; or never been married. A parent, who is married with a spouse present, is considered not single. Family income includes the income of all members of the household who are 15 years of age or older. Income includes money from jobs; net income from business, farm or rent; pensions; dividends; interest; Social Security payments; and any other monetary income received by family members. Both marital status and family income were drawn from the final Current Population Survey (CPS) interview, conducted 2-5 months before the ATUS interview. Spousal employment status reports the employment status of the respondent's spouse or unmarried partner.

Further, to understand the extent to which a change in the business cycle effects various demographics, separate regressions are run for each by segregating individuals as per their race and sex.

## 5 Results

Figures 2 and 3 give the time trend of the national unemployment rate for various demographics. Both figures mirror a typical business cycle change graph with adjacent peaks and valleys. The unemployment rate for all demographics has been lowest in 2007 and then peaking in 2010. Comparing the two sexes, the unemployment rate has been fairly similar with the rate for men being slightly higher than that for women. However, figure 3 shows that the unemployment rates are starkly different for the two races. An unfavorable business cycle is more adverse to the black demographics who are already suffering from low employment

opportunities. The national average is closer to the white population unemployment rate. Nevertheless, consistent with the previous figure, unemployment rate is lowest in 2007 before reaching its peak in 2010, just after the global financial crises, and then falling again.

My estimates are divided into two races- white and black. Since the state level unemployment rate varies much between the two races and sexes, it was essential to study each demographic independently.

Tables 4, 5 and 6 give the estimates for all the six demographics. Table 4 shows, for the whole sample, unemployed parents spend 11 percentage points less time at the work place and 32 percentage points more time with their children and 3.9 percentage points more time looking for new employment. The sign of the estimates are consistent across the sexes and two races. These estimates are statistically significant at conventional levels. The magnitude of these estimates differ across various demographic groups. White mothers increase their time with their children by 31 percentage points and job search time by 2.8 percentage points as a response to being unemployed, while white fathers increase their time with their children by 28 percentage points but increases job search time by 5 percentage points (table 5). White father also increases their contribution to household chores by spending 23.3 percentage points more time engaging in housework, a behavior not replicated by white mothers. All these estimates are statistically significant at 1 percent level of significance. During unemployment, white parents decrease their leisure time by 21 and 30 percentage points for fathers and mothers, respectively.

Black parents, in general, face a higher level of state unemployment rate than white parents (table 1). They react to an unemployed status in the same manner but with a different magnitude. Black unemployed fathers spend 13.8 percentage points more time with their children than their employed counterparts. The

magnitude of response of black mothers differ much from their white counterparts. Black mothers spend only 14.7 percentage points more time with their children when subjected to unemployment. Black fathers, similar to their white counterparts, increase their time engaged in household chores by 10 percentage points. Leisure is another important activity which occupies a significant time of the day. However, unlike white parents, black parents do not change their time allocation to leisure.

Black mothers reduce time at work by 15 percentage points while white mothers do not reduce hours at work significantly at conventional levels (table 5). This is an interesting observation seen among the two demographics who also differ in their employment characteristics. Even though more white mothers are employed (93 percent) as compared to black mothers (86 percent) and they earn higher mean wages, time spent at work when employed is 4 percentage points smaller for white mothers as compared to black mothers. White mothers spend less time at work when they are employed as compared to black mothers. This difference is statistically significant at 1 percent level of significance <sup>4</sup>.

Appendix B gives the regression estimates for each demographic including the estimates of control variables. The estimates show that single white parents spend less time with their children by 1.4 and 1.9 percentage points for mothers and fathers, respectively. Such a behavior is not seen among black parents. They do not change their parental time in the absence of a spouse or partner. Single white fathers allocate less time for work but more for household chores (table B5). Black single fathers mimic their white counterparts in their time allocation for household chores. White single mothers spend more time at work and leisure while black single mothers spend less time engaging in household chores.

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<sup>4</sup>The descriptive statistics given by race and sex is not shown in the paper.

Higher educational achievement causes higher allocation in parental time. Here the omitted group are those with a college degree. There is a direct relationship between educational achievement and parental time. Parents with higher educational degree spend more time with their children. Higher education also allows parents to spend lesser number of hours at work as they earn a higher wage. Table B2 shows that all high school graduate fathers with no college degree spent 6 percentage points less time with their children while those with lower educational qualification spend 9 percentage points less time with their children when compared to college graduate fathers. Lower educated mothers are more likely to be engaged in housework than those with more education. Mothers with less than a high school degree spend 10 percentage points less time with their children and 4.4 percentage points more engaging in housework (table B3).

White fathers (table B5) and black fathers (table B8) mimic each other in their parental behavior when I compare their educational qualification but the magnitude of the estimates differ. With only a high school degree, black and white fathers spend 3 and 6.4 percentage points less time with their children, respectively. However, those with lower education level spend 3 and 9.7 percentage points less parental time as compared to college graduates for black and white fathers, respectively. Less educated white fathers also spend less time engaging in household chores. A behavior not mimicked by black fathers. Similar trend is seen among white (table B6) and black (table B9) mothers but with different magnitudes for the regression estimates. There is a 3 percentage points drop in parental time when educational qualification falls from college graduates to high school level and an additional 3 percentage points from high school level to below for black mothers. The corresponding estimates for white mothers are 6.5 and 11 percentage points, respectively.

Spousal employment status acts as an important factor in determining parental time allocation with their children. Individuals supported by employed spouses should have more time to spend with their children. Such behavior is seen among white parents but not among black parents. White parents spend more time with their children and engaging in household chores; and lesser hours at work when they have employed spouse. They also lower job search time when supported by employed partners (table B4). Black mothers are not affected by their partner's employment status when allocating time in different activities (table B9). Black fathers only adjust their contribution in household chores when they have a working partner (table B8).

Family income plays a significant role in defining parental time. It specifies the purchasing power and the standard of living of the household. In my analyses, annual family income is divided into four categories - those receiving less than \$30000, those receiving between \$30000 and \$50000, those receiving between \$50000 and \$100000, and those receiving more than \$100000. As families move to higher income brackets, they spend more time with their children. Families in the lowest income bracket spend 2.6 percentage points less time with their children (table B1). Individuals in the next higher income bracket spends 1.1 percentage points less time with their children. Individuals with family income between \$50000 and \$100000 spend 1.3 percentage points more time with their children, and individuals with family income above \$100000 spends 5 percentage points more time with their children.

A similar trend is seen among white parents (table B4). At the lowest income bracket, white mothers spend 3.8 percentage points less time with their children and at the highest income bracket of family income, they spend 4.4 percentage points more time with their children (table B6). White fathers behave in the

similar manner. The corresponding estimates for this demographic is -2 and 5 percentage points, respectively (table B5).

Black parents living in a rich household spend more time with their children as compared to black parents living in a poor household (table B7). Black fathers allocate 5.6 percentage points more time when they live in the lowest income bracket household. In the middle income range, they increase the time with their children by 4 percentage points. Fathers belonging to the highest income bracket (above \$100000) spend 7 percentage points more time with their children (table B8). Unusually, black mothers are not affected significantly by their household income level (table B9). The coefficient estimates of all income groups are statistically insignificant at conventional levels except for the lower-middle income group. Black mothers living in a household with a family income of \$30000-\$50000 allocate 2 percentage points more time than their counterparts.

## **5.1 Anticipated versus Unanticipated Unemployment**

An individual can become unemployed for multiple reasons. In this section, I compare the workers who are unemployed for one of the following reasons: being laid-off, voluntarily resigned, new or re-entrants in the labor market and temporary or seasonal workers. I used the state level unemployment rate as an IV for the employment status of individuals. One would assume that the reason for unemployment plays a significant role in deciding time allocation by parents. Temporary or seasonal workers are expecting unemployment in the near future. They can plan their daily schedules accordingly. These workers will work more hours before their contract ends and spend greater hours at leisure and other activities after their contract ends. On the other hand, laid-off workers face unexpected unemployment. They are unprepared for the change in their daily schedule, and

hence their reaction to a job loss is predicted to be different from parents with expected unemployment. Other types of workers, such as new/re-entrants, have voluntarily entered the labor force and remain unemployed while they look for a job. However, my results does not support this hypothesis. Parental time does not differ by the reason for unemployment, thus corroborating the previous argument for no or negligible income effect.

Table 7 shows that the interaction between employment status and the reason for unemployment is statistically significant at conventional levels. All types of unemployed workers increase the time they spend for job search. In this section, I do not provide the results for each demographics due to the problem of missing data for questions regarding the type of unemployment. Separating the regressions for each demographics reduces the observation size significantly giving unreliable regression estimates. Hence, I have used the whole sample and used a dummy variable depicting race and sex, respectively.

Workers who are unemployed due to being new/re-entrants in the labor market reduce parental time by 40 percentage points. Effectively, the gain in parental time for children with such type of unemployed parents is 7 percentage points (estimate from employment status + new/re-entrants + interaction between the two terms). Unemployed parents who are laid-off spend 38 percentage points (effectively 6.9 percentage points) less time with their children. Seasonally or temporary unemployed parents spend 37 percentage points (effectively 8 percentage points) less and voluntarily resigned parents spend 39 percentage points (effectively 4 percentage points) less time with their children. Leisure time increases for all types of unemployed parents by 45 percentage points.

There is a slight difference in the parental time spent by parents unemployed for various reasons. Parental time differs slightly based on the reason of unem-

ployment.

## 5.2 Long term versus short term unemployment

Long-term unemployed parents are expected to behave differently than parents who have been unemployed in the short term. The ATUS records individuals who have been unemployed for more than four weeks. The data also provides the current population survey collected 2-5 months before the ATUS interviews which asked the respondents' employment status in the last 4 weeks before the interview. Based on the two sources of information, the data provides those individuals who have been unemployed for at least a total of 3-6 months. I consider this medium-term unemployment instead of long-term unemployment. There is a small subset of the sample who responds to this question which explains the lower number of observations.

Tables 8, 9 and 10 compares individuals with short-term and medium-term unemployment for all, white and black individuals, respectively. I use state level unemployment rate as an instrument for the employment status of individuals. A dummy variable is used to depict those individuals who have been unemployed for more than 3-6 months.

Very few demographics are effected by medium-term unemployment. White mothers spend 12.3 percentage points less parental time. Time allocation to leisure is 8.7 percentage points more for this demographic if they have been unemployed for 3-6 months (table 9). Time allocated to engaging in job search is higher by 5 percentage points for white fathers. Though table 10 shows that black parents are more likely to spend more time with their children, this behavior is not reflected when I examine mothers and fathers separately in this demographic group. Black

mothers are more likely to spend greater time for job search and lower time engaging in household chores when faced with a medium-term unemployment. Being unemployed for a few months versus immediate unemployment causes very limited behavioral changes from each demographic. Some demographics, like white mothers are more likely to increase leisure time while others, like black mothers, increase job search time. This section further supports the negligible income effect argument in the short and medium run.

### 5.3 Mood indicators

This section discusses the effect of self-reported mood indicators on the amount of time parents spend with their children as a percentage of total time in a day. The mood indicators are reported on a discrete scale with 0 being the lowest. This data is available for only three years in my sample - 2010, 2012 and 2013. I use unemployment rate as an IV for parental employment status and incorporate interaction between employment status and the level of mood reported by parents in the regression analyses. Table 11, 12 and 13 give these estimates for happiness, sadness and stress scale, respectively. I report the estimates of the main explanatory variables because none of the interaction terms are statistically significant at conventional levels.

I find that a small subset of the 6 demographics studied here, are affected by these indicators. Happier parents tend to share their happiness by spending an additional 4.7 percentage points time with their children (table 11). This result is consistent with white parents but not black parents. White parents spend an additional 5 percentage points more time with their children when they report 1 unit higher on the happiness scale. Black parents do not change their parental time if they report to be happier.

Intriguing, black parents response to parental time when they report a high value on the sadness scale. Fathers and mothers spend 1.6 and 2.3 percentage points less time, respectively, with their children when they report to be upset (table 12). I do not observe such behavior among white parents. Lastly, table 13 shows that only stressed black fathers reduce parental time by 2 percentage points. All other demographics are non-responsive to higher levels of stress.

## 5.4 Elasticities

Employment status changes individual time allocation on different activities. Time allocation to certain activities are more elastic than others when the employment conditions of parents change. More formally, I estimate the elasticity of time use category  $A$  when employed with respect to when unemployed using the following expression

$$e^A = \hat{\beta}^A \frac{\tau_{empt}^A}{\tau_{unempt}^A} \quad (8)$$

where  $\tau_{empt}^A$  gives average time allocated to activity  $A$  when employed;  $\tau_{unempt}^A$  gives average time allocated to activity  $A$  when unemployed;  $\hat{\beta}^A$  denotes the estimated responsiveness of time use in activity  $A$  to changes in the employment status. Using the estimates of the employment status variable from tables 4, 5 and 6 for all six demographics, I find the elasticities for each demographic shown in table 14.

Elasticity of parental time is 0.27 for all individuals. It is slightly higher for white parents (0.29) and lower for black parents (0.137). Also, elasticity is higher for mothers than fathers. This is consistent with both races. Allocation of work time is highly elastic for all demographics but much higher for men than women.

Elasticity of job search is perfectly inelastic. Time allocation to household chores is inelastic also but statistically significant for only fathers.

## 6 Conclusion

Patterns of daily time schedules show that there is a behavioral response of parents to the conditions of business cycle. This paper attempts to find evidence to support the hypothesis that business cycle changes affect the amount of time a parent spends with his/her children. Using unemployment rate as an indicator for business cycle conditions, I look at the effect of its change on the total amount of time, as a percentage of total time in a day, individuals spend with their children doing various activities such as helping in household chores, assisting in school work and child care.

I find that when unemployed, parents spend 32 percentage points more time with their children. Looking for a new job is the other significant activity engaged by unemployed parents. However, time allocation to job search is much lower than that allocated to their children. This result is consistent across various demographics. Though the regression estimates seems large in magnitude, the important implication is the direction or the sign of these estimates. When parents lose their employment, children welfare takes a higher priority than looking for new jobs. Unemployed fathers also spend more time engaging in household chores. White unemployed parents significantly reduce their leisure time. Such a change is not seen among black parents. Demographic characteristics play an important role in determining parental time. Single parents and those with unemployed spouses from some demographics spend less time with their children. As families move to higher income brackets, parents spend more time with their

children. Mood and well being of parents also play a small but important role in determining their behavior towards their children. Happier white parents tend to share their happiness by spending more time with their children. White parents are more responsive when they are happier but unresponsive to parental time in other states of emotions. I find that black parents are more responsive to parental time when they are sad. Only black fathers respond to stressed emotions by reducing parental time.

The amount of time parents spend with their children is positively related to child care. However, my results cannot provide evidence to show how changes in parental time is associated with the long-term well-being of children. A broader implication of my study is that an economic slowdown, or specifically a rise in state level unemployment rate, comes with costs and some unexpected benefits. The gain in disposable time by losing employment seems to expand parental time, possibly because parents now have more energy, greater social interaction or lesser money to spend on professional child care, In the short run, they seem to focus on their children more than job search.

The positive relationship between child care and future development is much explored in the existing literature. Changes in business cycle affect household and individual incomes as well as other socio-economic conditions. Such a change can alter the time an individual spends on child care and eventually impact child development. Employed parents are more likely to substitute parental time for work and compensate for their time with income spent on professional child care. When unemployed, the opportunity cost of spending time with children falls. While income effect is negligible in the short-run, substitution effect is the driving force. I find evidence to suggest that loss of employment causes potential changes in household dynamics. Parents are likely to spend more time with children and fathers

contribute more in household chores while continuing to look for new employment opportunities. Short-run unemployment might actually be beneficial for children even though long-run is not. Business cycle changes does not seem all bad.

Short-run business cycle changes may be a blessing in disguise to strengthen the bond between parents and children. These results create a vital need to explore these relationships and provide suitable policy measures at the school level where parents can be educated appropriately regarding the importance of their time in the welfare and future development of their children, so that they do not wait for an economic slowdown or temporary unemployment to spend more time with their children.

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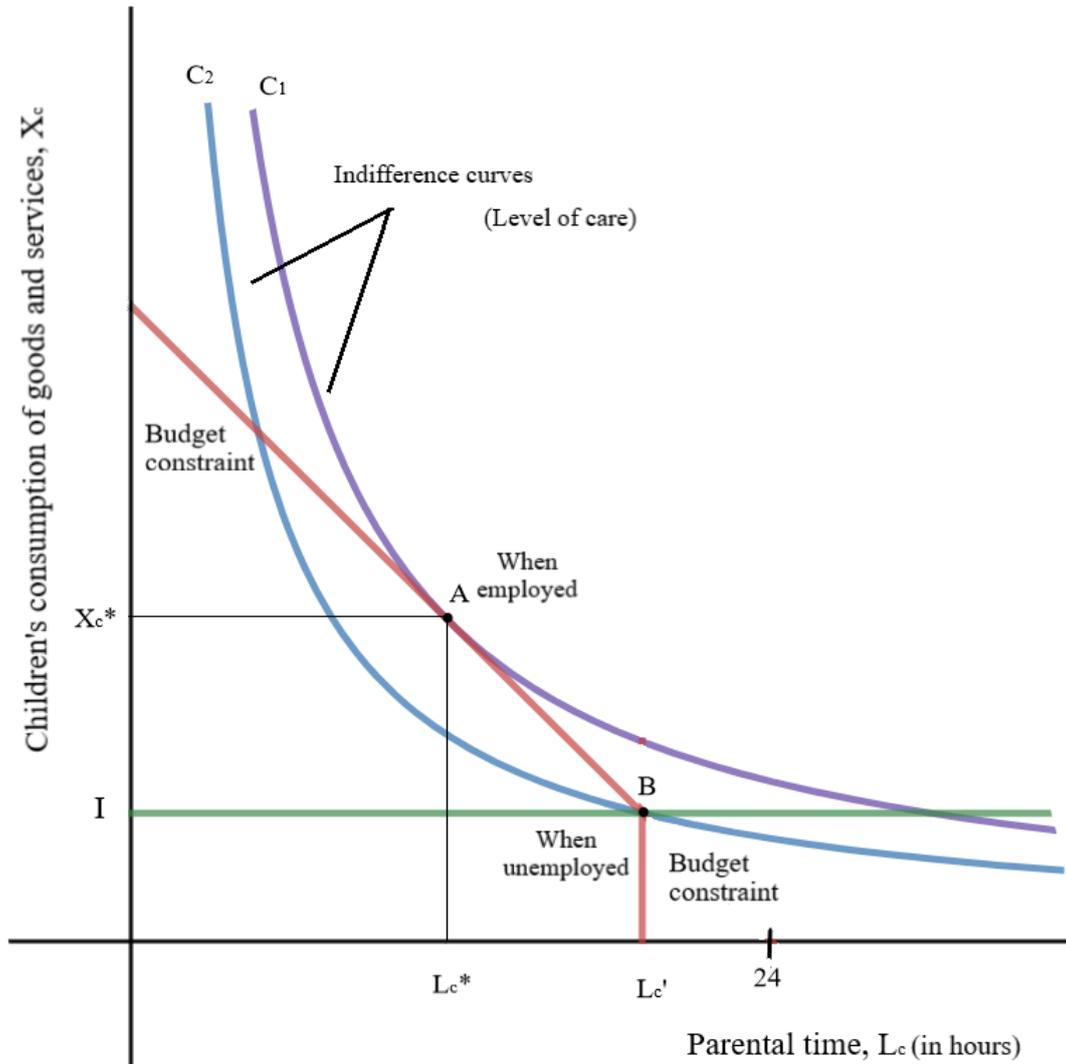
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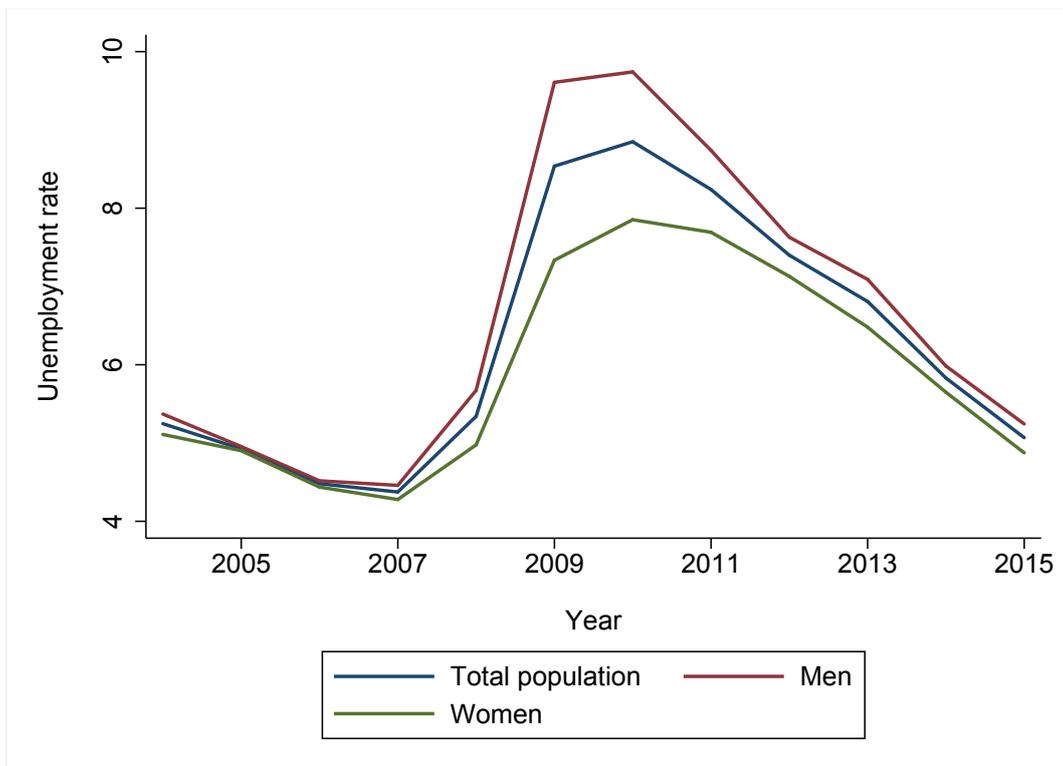
Bureau of Labor Statistics, U.S. Department of Labor, Occupational Employment Statistics, [accessed on August 12, 2017] [[www.bls.gov/oes/](http://www.bls.gov/oes/)].

Figure 1: Parental Resource Allocation



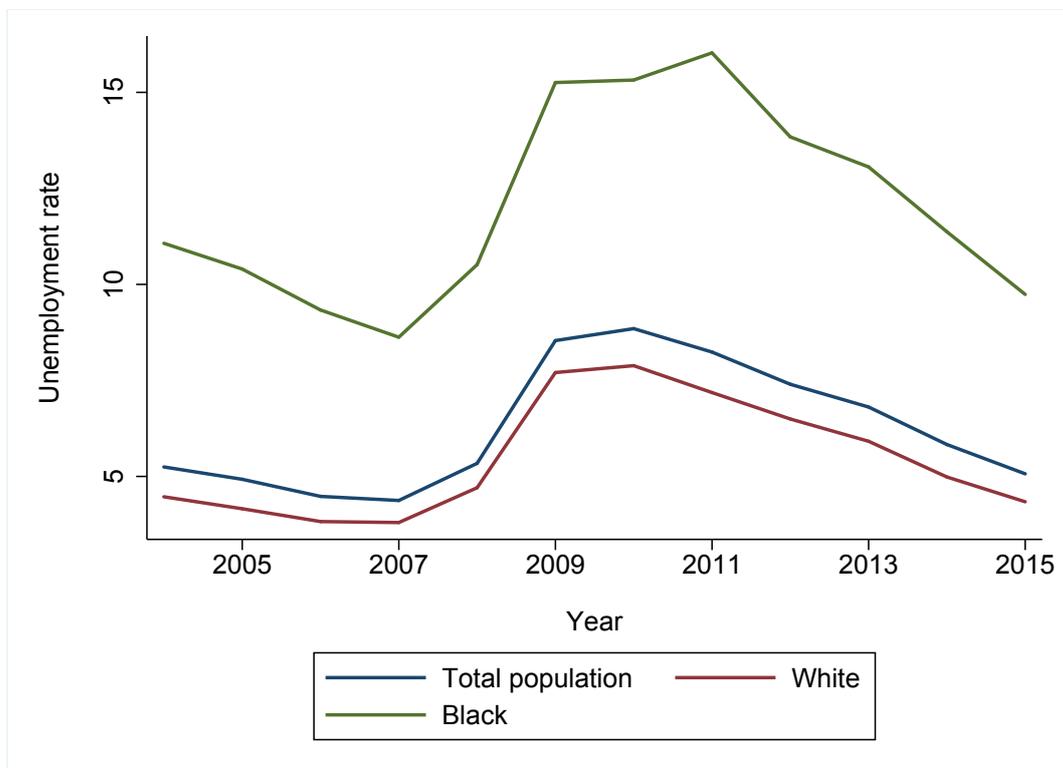
Two good model: Parental income (in terms of goods and services provided to the child,  $X_c$ ) and parental time ( $L_c$ ). Level of care is given by Cobb Douglas indifference curves which satisfy all the properties of a well-defined indifference curve. The budget constraint is kinked at the non-wage income, given by  $I$ . Employed parents consume at the equilibrium point A, where the marginal rate of substitution of the two goods coincide with the wage rate  $w$ ; and unemployed parents consume at point B which is a corner solution. During unemployment, parents provide goods and services equal to their non-wage income.

Figure 2: Time trend of national average unemployment rate.



Source: Bureau of Labor Statistics.

Figure 3: Time trend of national average unemployment rate: White and black population



Source: Bureau of Labor Statistics.

Table 1: Description Statistics: Unemployment rate

Variable	Observations	Mean	Std. Dev
All individuals			
Unemployment rate	612	6.25	2.12
Labor force rate	612	65.65	4.19
Men			
Unemployment rate	612	6.58	2.41
Labor force rate	612	71.81	4.21
Women			
Unemployment rate	612	5.89	1.90
Labor force rate	612	59.86	4.44
All White individuals			
Unemployment rate	612	5.45	1.99
Labor force rate	612	66.10	4.71
White Men			
Unemployment rate	612	5.75	2.30
Labor force rate	612	72.63	4.75
White Women			
Unemployment rate	612	5.11	1.72
Labor force rate	612	59.82	5.35
All Black individuals			
Unemployment rate	507	12.17	3.98
Labor force rate	507	63.96	5.23
Black Men			
Unemployment rate	441	13.36	4.70
Labor force rate	441	66.56	5.99
Black Women			
Unemployment rate	428	11.40	3.81
Labor force rate	428	60.96	4.78

Source: Bureau of Labor Statistics. Unit of observation: state/year.

Table 2: Descriptive Statistics: Time allocated to various activities

Variable	When employed			When unemployed			Mean Difference
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	
Children	408,314	0.247	0.431	29,428	0.296	0.457	-0.049***
Work	408,314	0.168	0.374	29,428	0.007	0.081	0.161***
Leisure	408,314	0.327	0.469	29,428	0.340	0.474	-0.013***
Chores	408,314	0.257	0.437	29,428	0.326	0.469	-0.069***
Job Search	408,314	0.001	0.026	29,428	0.031	0.173	-0.038***

Source: American Time Use Survey.\*\*\* $p < 0.01$  for the difference in mean. The mean difference between the two are statistically significant.

Table 3: Descriptive Statistics: Control variables

Variable	When employed			When unemployed			Mean Difference
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	
Age (in years)	408,314	40.215	9.149	29,428	37.291	10.425	2.924***
Below high school	408,314	0.059	0.235	29,428	0.167	0.373	-0.109***
High school	408,314	0.216	0.412	29,428	0.298	0.457	-0.082***
College	408,314	0.725	0.446	29,428	0.535	0.499	0.190***
Single	408,314	0.257	0.437	29,428	0.454	0.498	-0.197***
Spousal employment status	408,314	0.636	0.481	29,428	0.495	0.500	0.142***
Spousal income (weekly in log)	408,003	6.409	3.909	29,391	5.016	4.314	1.393***

Source: American Time Use Survey.\*\*\* $p < 0.01$  for the difference in mean. The mean difference between the two are statistically significant.

Table 4: Estimates from an IV estimation: All individual

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
All individuals					
Employment status					
1 if unemployed	0.324*** (0.0556)	-0.111** (0.0562)	-0.301*** (0.0563)	0.0489 (0.0438)	0.0390*** (0.00316)
Observations	437742	437742	437742	437742	437742
All men					
Employment status					
1 if unemployed	0.271*** (0.0755)	-0.288*** (0.0772)	-0.198*** (0.0727)	0.163** (0.0714)	0.0510*** (0.00708)
Observations	172037	172037	172037	172037	172037
All women					
Employment status					
1 if unemployed	0.267*** (0.0547)	-0.000568 (0.0537)	-0.291*** (0.0539)	-0.00468 (0.0410)	0.0286*** (0.00563)
Observations	265705	265705	265705	265705	265705

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Ratio of time spent in one of the five activities to total time available in a day. Standard errors are robust and clustered at state level.

Table 5: Estimates from an IV estimation: White

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
White individuals					
Employment status					
1 if unemployed	0.358*** (0.0621)	-0.179** (0.0697)	-0.300*** (0.0568)	0.0793* (0.0458)	0.0416*** (0.00414)
Observations	367333	367333	367333	367333	367333
White men					
Employment status					
1 if unemployed	0.280*** (0.0759)	-0.352*** (0.0848)	-0.211*** (0.0783)	0.233*** (0.0820)	0.0504*** (0.00803)
Observations	148465	148465	148465	148465	148465
White women					
Employment status					
1 if unemployed	0.317*** (0.0610)	-0.0593 (0.0665)	-0.301*** (0.0593)	0.0151 (0.0450)	0.0282*** (0.00551)
Observations	218868	218868	218868	218868	218868

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Ratio of time spent in one of the five activities to total time available in a day. Standard errors are robust and clustered at state level.

Table 6: Estimates from an IV estimation: Black

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Black individuals					
Employment status					
1 if unemployed	0.164*** (0.0446)	-0.122** (0.0519)	-0.112* (0.0663)	0.0219 (0.0588)	0.0478*** (0.0100)
Observations	41667	41667	41667	41667	41667
Black men					
Employment status					
1 if unemployed	0.138** (0.0623)	-0.208*** (0.0800)	-0.0992 (0.0931)	0.106** (0.0522)	0.0632*** (0.0144)
Observations	11715	11715	11715	11715	11715
Black women					
Employment status					
1 if unemployed	0.147*** (0.0564)	-0.155*** (0.0541)	-0.0589 (0.0500)	0.0255 (0.0624)	0.0408*** (0.00913)
Observations	29952	29952	29952	29952	29952

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Ratio of time spent in one of the five activities to total time available in a day. Standard errors are robust and clustered at state level.

Table 7: Anticipated versus unanticipated unemployment: IV estimates

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Employment status					
1 if unemployed	0.443*** (0.110)	-0.135 (0.109)	-0.454*** (0.0814)	0.113* (0.0639)	0.0336*** (0.00662)
New/re-entrants	0.0399** (0.0177)	-0.00872 (0.0130)	-0.0365** (0.0183)	-0.0000544 (0.0137)	0.00541*** (0.00208)
New/re-entrants $\times$ Employment status	-0.403*** (0.111)	0.00114 (0.102)	0.460*** (0.0857)	-0.0430 (0.0644)	-0.0152* (0.00805)
Laid-off	0.00825 (0.0120)	-0.00191 (0.0157)	-0.0166* (0.0100)	0.00710 (0.0106)	0.00316*** (0.00101)
Laid-off $\times$ Employment status	-0.382*** (0.109)	-0.0340 (0.115)	0.450*** (0.0801)	-0.0521 (0.0668)	0.0185* (0.0104)
Temporary job ended	-0.0149 (0.0252)	-0.0218 (0.0177)	0.00914 (0.0177)	0.0229 (0.0257)	0.00471* (0.00269)
Temporary job ended $\times$ Employment status	-0.377*** (0.104)	-0.0126 (0.115)	0.444*** (0.0907)	-0.0622 (0.0759)	0.00682 (0.00891)
Resigned	-0.00396 (0.0232)	0.0160 (0.0201)	-0.0288 (0.0211)	0.00925 (0.0177)	0.00750* (0.00433)
Resigned $\times$ Employment status	-0.398*** (0.118)	-0.0470 (0.114)	0.455*** (0.0932)	-0.00792 (0.0699)	-0.00159 (0.0115)
Observations	437742	437742	437742	437742	437742

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. emp = employment status which is 1 if individuals are unemployed. Standard errors are robust and clustered at state level.

Table 8: Comparing long-term versus short-term unemployment: All individuals

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
All individuals					
Employment status					
1 if unemployed	0.0771 (0.0516)	-0.0348 (0.0358)	-0.0463 (0.0482)	-0.0191 (0.0400)	0.0231* (0.0118)
Unemployed for past 3-6 months	-0.0558 (0.0390)	-0.0586** (0.0253)	0.0670** (0.0341)	0.0276 (0.0299)	0.0197** (0.00954)
Observations	38955	38955	38955	38955	38955
All men					
Employment status					
1 if unemployed	0.110 (0.0801)	-0.203*** (0.0620)	0.0132 (0.0731)	0.0361 (0.0645)	0.0446* (0.0262)
Unemployed for past 3-6 months	-0.0396 (0.0601)	0.0103 (0.0452)	-0.0190 (0.0590)	0.0342 (0.0501)	0.0141 (0.0238)
Observations	7365	7365	7365	7365	7365
All women					
Employment status					
1 if unemployed	0.0740 (0.0551)	-0.0178 (0.0362)	-0.0669* (0.0358)	-0.00330 (0.0323)	0.0140 (0.0120)
Unemployed for past 3-6 months	-0.0540 (0.0401)	-0.0591** (0.0251)	0.0676*** (0.0240)	0.0269 (0.0269)	0.0186** (0.00927)
Observations	31590	31590	31590	31590	31590

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Ratio of time spent in one of the five activities to total time available in a day. Standard errors are robust and clustered at state level.

Table 9: Comparing long-term versus short-term unemployment: White individuals

	(1) Children	(2) Work	(3) Leisure	(4) HH chores	(5) Job search
White individuals					
Employment status					
1 if unemployed	0.140*** (0.0511)	-0.0804** (0.0387)	-0.0957** (0.0426)	0.0100 (0.0437)	0.0260** (0.0116)
Unemployed during for past 3-6 months	-0.0966** (0.0402)	-0.0277 (0.0277)	0.0962*** (0.0318)	0.00903 (0.0331)	0.0191** (0.00875)
Observations	29725	29725	29725	29725	29725
White men					
Employment status					
1 if unemployed	-0.0261 (0.0802)	-0.178** (0.0706)	0.0793 (0.0765)	0.115* (0.0681)	0.00911 (0.0253)
Unemployed for 3-6 months	0.0839 (0.0629)	-0.00922 (0.0550)	-0.0845 (0.0694)	-0.0399 (0.0553)	0.0498** (0.0246)
Observations	5529	5529	5529	5529	5529
White women					
Employment status					
1 if unemployed	0.123** (0.0544)	-0.0796** (0.0352)	-0.100*** (0.0375)	0.0361 (0.0347)	0.0208* (0.0108)
Unemployed during for past 3-6 months	-0.0886** (0.0419)	-0.0188 (0.0252)	0.0872*** (0.0259)	0.00840 (0.0291)	0.0118 (0.00792)
Observations	24196	24196	24196	24196	24196

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Ratio of time spent in one of the five activities to total time available in a day. Standard errors are robust and clustered at state level.

Table 10: Comparing long-term versus short-term unemployment: Black individuals

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Black individuals					
Employment status					
1 if unemployed	-0.131** (0.0660)	-0.136*** (0.0438)	0.127* (0.0720)	0.147*** (0.0522)	-0.00737 (0.0238)
Unemployed during for past 3-6 months	0.0754* (0.0413)	0.00151 (0.0278)	-0.0308 (0.0404)	-0.0778** (0.0340)	0.0318* (0.0172)
Observations	6519	6519	6519	6519	6519
Black men					
Employment status					
1 if unemployed	0.121* (0.0663)	-0.251*** (0.0531)	0.00281 (0.113)	0.0805 (0.0853)	0.0465** (0.0234)
Unemployed for past 3-6 months	-0.0704 (0.0464)	0.0451* (0.0251)	0.0255 (0.0701)	0.00736 (0.0657)	-0.00750 (0.0216)
Observations	1225	1225	1225	1225	1225
Black women					
Employment status					
1 if unemployed	-0.135* (0.0780)	-0.130** (0.0605)	0.150** (0.0678)	0.137*** (0.0426)	-0.0232 (0.0190)
Unemployed for past 3-6 months	0.0762 (0.0496)	0.00484 (0.0380)	-0.0499 (0.0421)	-0.0722** (0.0304)	0.0409*** (0.0149)
Observations	5294	5294	5294	5294	5294

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Ratio of time spent in one of the five activities to total time available in a day. Standard errors are robust and clustered at state level.

Table 11: Estimates from mood indicators: Happiness scale

	(1)	(2)	(3)
	All individuals	Men	Women
Employment status			
1 if unemployed	1.308 (1.218)	1.368 (1.400)	0.616 (1.256)
Happiness scale	0.0479** (0.0218)	0.0515*** (0.0200)	0.0321 (0.0252)
Observations	16556	7298	9258
White individuals			
Employment status			
1 if unemployed	1.130 (1.234)	1.211 (1.391)	2.244 (1.374)
Happiness scale	0.0420** (0.0165)	0.0508*** (0.0189)	0.0502*** (0.0179)
Observations	13616	6227	7389
Black individuals			
Employment status			
1 if unemployed	0.495 (0.403)	-0.202 (0.622)	0.133 (0.527)
Happiness scale	0.0256 (0.0163)	0.0125 (0.0113)	0.0120 (0.0240)
Observations	1832	573	1253

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Using unemployment rate as the IV for employment status of individuals. Standard errors are robust and clustered at state level.

Table 12: Estimates from mood indicators: Sadness scale

	(1)	(2)	(3)
	All individuals	Men	Women
All individuals			
Employment status			
1 if unemployed	0.292*	0.390**	0.0101
	(0.172)	(0.183)	(0.143)
Sadness scale	-0.00157	-0.0103	-0.00446
	(0.00629)	(0.00747)	(0.00679)
Observations	16569	7308	9261
White individuals			
Employment status			
1 if unemployed	0.221	0.617**	-0.133
	(0.185)	(0.249)	(0.137)
Sadness scale	0.00207	-0.00750	-0.000379
	(0.00740)	(0.0105)	(0.00788)
Observations	13620	6233	7387
Black individuals			
Employment status			
1 if unemployed	0.362***	0.178	0.130
	(0.130)	(0.139)	(0.127)
Sadness scale	-0.0163***	-0.0161***	-0.0236***
	(0.00436)	(0.00498)	(0.00669)
Observations	1833	573	1254

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Using unemployment rate as the IV for employment status of individuals. Standard errors are robust and clustered at state level.

Table 13: Estimates from mood indicators: Stress scale

	(1)	(2)	(3)
	All individuals	Men	Women
Employment status			
1 if unemployed	0.367*	0.399**	0.00130
	(0.223)	(0.199)	(0.210)
Stress scale	-0.000767	-0.00704	-0.00395
	(0.00541)	(0.00712)	(0.00496)
Observations	16572	7313	9259
White individuals			
Employment status			
1 if unemployed	0.179	0.457*	-0.208
	(0.264)	(0.257)	(0.209)
Stress scale	-0.00238	-0.00512	-0.00547
	(0.00631)	(0.00875)	(0.00531)
Observations	13624	6237	7387
Black individuals			
Employment status			
1 if unemployed	0.343**	0.168	0.158
	(0.155)	(0.156)	(0.168)
Stress scale	-0.000791	-0.0203***	-0.00511
	(0.00756)	(0.00466)	(0.00902)
Observations	1834	574	1254

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ 

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Using unemployment rate as the IV for employment status of individuals. Standard errors are robust and clustered at state level.

Table 14: Elasticities

Activity	Children	Work	Leisure	HH chores	Job Search
All individual	0.271***	-2.804**	-0.289***	0.039	0.001***
All men	0.226***	-7.275***	-0.190***	0.128**	0.001***
All women	0.223***	-0.014	-0.280***	-0.004	0.001***
White individuals	0.299***	-4.522**	-0.288***	0.062*	0.001***
White men	0.234***	-8.892***	-0.203***	0.183***	0.001***
White women	0.265***	-1.498	-0.289***	0.012	0.001***
Black individuals	0.137***	-3.082**	-0.108*	0.017	0.001***
Black men	0.115**	-5.254***	-0.095	0.083**	0.001***
Black women	0.123***	-3.915***	-0.057	0.020	0.001***

\* $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

# Appendices

## A Parental Resource Allocation: Theoretical Analyses

### A.1 Simple 3 good model: Parental time with children, leisure time, market goods

Parents allocate their time between work and non-work activities. Individuals earn a wage rate of  $w$  for every hour spent at work. They earn a utility from consuming goods and services bought from the income earned, and the time they spend with their children and on their leisure. Parental utility function,  $U_p$ , consists of the time they spend with their children ( $C_t$ ), time spent on their personal leisure ( $L_p$ ) and total goods and services consumed by them ( $X$ ).

$$U_p = U(C_t, X, L_p) \tag{A1}$$

where  $C_t$  is the time spent with children,  $X$  is the total amount of goods and services consumed by the parents, and  $L_p$  is the time spent on leisure by parents. Parents' face the following budget constraint

$$wt = P_x X$$

Let  $P_x =$  price of consumption goods  $= 1$  and  $t =$  total working hours, the budget constraint become

$$\begin{aligned} t &= 24 - L_p - C_t \\ w(24 - L_p - C_t) &= X \end{aligned}$$

$$24w - wL_p - wC_t - X = 0 \quad (\text{A2})$$

where total time spent at work is the difference between total time available, which is 24 hours, and the time spent in other non-income earning activities ( $L_p$  and  $C_t$ ), and assuming price of consumption goods to be unity. I maximize parental utility  $U_p$  (equation A1) subject to their budget constraint (equation A2) using the Lagrange's multiplier. For simplicity, I assume the parental utility function,  $U_p$  to be Cobb-Douglas with unit elasticity.

$$U_p = U(C_t, X, L_p) = C_t^\alpha X^\beta L_p^{1-\alpha-\beta} \quad (\text{A3})$$

Using Lagrange's optimization, I obtain the following equilibrium values

$$L_p^* = 24(1 - \alpha - \beta) \quad (\text{A4a})$$

$$C_t^* = 24\alpha \quad (\text{A4b})$$

$$X^* = 24w\beta \quad (\text{A4c})$$

## A.2 Integrating child's utility in parent's utility function

In this section, I change parent's utility function to include consumption of goods and services by children. Instead of gaining utility from spending time with children, parent's utility is affected by the total care provided to their children. As Becker (1988) mentions, parental income and time are the two key ingredients for producing children. To incorporate children's utility, I change the parent's utility to

$$U_p = U(C(X_c, L_c), X_p, L_p) \quad (\text{A5})$$

where  $C(X_c, L_c)$  gives the care given by parents which is a function of the goods and services consumed by their children,  $X_c$  and the parental time spent with them,  $L_c$ . Also, parental consumption of goods and services is given by  $X_p$  and their leisure is depicted by  $L_p$ . For this model, I assume that parents spend a fixed share of their income on  $X_c$  and a fixed share of their non-working hours on their children,  $L_c$ . Therefore,

$$X_c + X_p = X \quad \& \quad L_c + L_p = L \quad (\text{A6})$$

I assume  $X_c = aX$  and  $L_c = bL$  where  $0 < a, b < 1$ . This implies  $X_p = (1 - a)X$  and  $L_p = (1 - b)L$ . Let the care given by parents function also be Cobb-Douglas in nature with the following expression

$$C(X_c, L_c) = X_c L_c = abXL \quad (\text{A7})$$

Now, the new utility function of parent's is defined as below

$$U_p = U(C(X_c, L_c), X_p, L_p) = [C(X_c L_c)]^\alpha X_p^\beta L_p^{(1-\alpha-\beta)} = AX^{(\alpha+\beta)} L^{(1-\beta)} \quad (\text{A8})$$

Maximizing the utility function of parents given by equation A8 subjected to a new modified budget constraint given as,

$$24w - wL - X = 0 \quad (\text{A9})$$

The equilibrium values are as follows

$$L^* = \frac{24(1-\beta)}{(1+\alpha)} \quad (\text{A10a})$$

$$X^* = 24w \frac{(\alpha+\beta)}{(1+\alpha)} \quad (\text{A10b})$$

Optimum consumption of parents

$$L_p^* = (1-b) \frac{24(1-\beta)}{(1+\alpha)} ; X_p^* = 24w(1-a) \frac{(\alpha+\beta)}{(1+\alpha)}$$

Optimum consumption of children

$$L_c^* = b \frac{24(1-\beta)}{(1+\alpha)} ; X_c^* = 24wa \frac{(\alpha+\beta)}{(1+\alpha)}$$

### A.3 Including Non-Wage Income

In the previous two sections, I analyzed a model for parental behavior which focused only on parental wage income. The primary and only source of income, for parents, was wage income, earning at a rate of  $w$  per hour. In this section, I explore the conditions under which parents earn both wage and a non-wage income which is a lump sump amount given by  $I$ . Parental utility function remains the same as given in equation A8. The budget constraint is modified to include a non-wage income along with a wage income. Here, the non-wage income is independent of his/her employment status. Non-wage income can be obtained from savings, spousal income and gifts and bequests or family income for which an individual does not spend any hours working. The budget constraint changes to

$$24w - wL - X + I = 0 \tag{A11}$$

The new optimum values are

$$L^* = \frac{(24w + I)(1 - \beta)}{(1 + \alpha)w} \tag{A12a}$$

$$X^* = \frac{(24w + I)(\alpha + \beta)}{(1 + \alpha)} \tag{A12b}$$

Consumption of goods and services increases while the change in hours spent on leisure is ambiguous when wage rate,  $w$ , increases. When parents lose their jobs and become unemployed, the whole 24 hours of time is divided into own leisure and parental time.

## B Estimates from the IV regressions for various demographics

Table B1: All individuals

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Employment status					
1 if unemployed	0.324*** (0.0556)	-0.111** (0.0562)	-0.301*** (0.0563)	0.0489 (0.0438)	0.0390*** (0.00316)
Age	-0.00889*** (0.000151)	0.00182*** (0.000128)	0.00362*** (0.000131)	0.00336*** (0.000104)	0.0000891*** (0.0000121)
Below HS	-0.107*** (0.00576)	0.0420*** (0.00388)	0.0673*** (0.00522)	0.000657 (0.00483)	-0.00338*** (0.000712)
High School	-0.0669*** (0.00307)	0.0182*** (0.00232)	0.0507*** (0.00239)	-0.000865 (0.00182)	-0.00119*** (0.000297)
single	-0.00124 (0.00391)	-0.0283*** (0.00309)	-0.0167*** (0.00326)	0.0462*** (0.00218)	-0.0000853 (0.000397)
Family income <30K	-0.0261*** (0.00703)	-0.0133* (0.00688)	0.0271*** (0.00703)	0.0121** (0.00618)	0.000151 (0.000646)
Family income 30-50k	-0.0112** (0.00450)	-0.00400 (0.00394)	0.0133*** (0.00490)	0.000961 (0.00393)	0.000973** (0.000486)
Family income 50-100K	0.0130*** (0.00418)	-0.00419 (0.00372)	-0.00462 (0.00497)	-0.00488 (0.00380)	0.000711** (0.000344)
Family income >100k	0.0477*** (0.00346)	-0.00407 (0.00338)	-0.0287*** (0.00429)	-0.0151*** (0.00398)	0.000248 (0.000368)
Spousal emp status					
1 if employed	0.0128*** (0.00268)	-0.0402*** (0.00210)	-0.0315*** (0.00197)	0.0600*** (0.00181)	-0.00109*** (0.000322)
Observations	437742	437742	437742	437742	437742

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Standard errors are robust and clustered at state level.

Table B2: All Men

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Employment status					
1 if unemployed	0.271*** (0.0755)	-0.288*** (0.0772)	-0.198*** (0.0727)	0.163** (0.0714)	0.0510*** (0.00708)
Age	-0.00700*** (0.000178)	0.00163*** (0.000141)	0.00338*** (0.000185)	0.00194*** (0.000120)	0.0000578** (0.0000268)
Below HS	-0.0901*** (0.00485)	0.0561*** (0.00552)	0.0606*** (0.00560)	-0.0246*** (0.00407)	-0.00211* (0.00115)
High School	-0.0614*** (0.00434)	0.0209*** (0.00377)	0.0447*** (0.00328)	-0.00228 (0.00340)	-0.00191*** (0.000531)
single	-0.0241*** (0.00448)	-0.0177*** (0.00434)	0.00111 (0.00437)	0.0393*** (0.00372)	0.00133 (0.000914)
Family income <30K	-0.0149 (0.00913)	-0.00508 (0.00945)	0.0247*** (0.00870)	-0.00725 (0.00722)	0.00250** (0.00125)
Family income 30-50k	-0.00589 (0.00660)	-0.00870 (0.00731)	0.0111 (0.00753)	0.00271 (0.00661)	0.000821 (0.000881)
Family income 50-100K	0.0224*** (0.00710)	-0.0198*** (0.00652)	-0.0172** (0.00773)	0.0142** (0.00578)	0.000270 (0.000627)
Family income >100k	0.0582*** (0.00732)	-0.0256*** (0.00681)	-0.0437*** (0.00794)	0.0116** (0.00575)	-0.000471 (0.000603)
Spousal emp status					
1 if employed	-0.00355 (0.00236)	-0.0154*** (0.00328)	-0.00636** (0.00254)	0.0259*** (0.00249)	-0.000563 (0.000420)
Observations	172037	172037	172037	172037	172037

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Standard errors are robust and clustered at state level.

Table B3: All Women

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Employment status					
1 if unemployed	0.267*** (0.0547)	-0.000568 (0.0537)	-0.291*** (0.0539)	-0.00468 (0.0410)	0.0286*** (0.00563)
Age	-0.00982*** (0.000214)	0.00172*** (0.000157)	0.00321*** (0.000166)	0.00483*** (0.000131)	0.0000668*** (0.0000145)
Below HS	-0.0999*** (0.00751)	0.00739 (0.00730)	0.0522*** (0.00727)	0.0444*** (0.00722)	-0.00415*** (0.00108)
High School	-0.0609*** (0.00339)	0.00715** (0.00310)	0.0432*** (0.00309)	0.0116*** (0.00218)	-0.000964*** (0.000317)
single	-0.0166*** (0.00520)	0.00815** (0.00395)	0.0185*** (0.00432)	-0.0111*** (0.00375)	0.00107*** (0.000364)
Family income <30K	-0.0333*** (0.00684)	-0.0154** (0.00686)	0.0328*** (0.00783)	0.0158** (0.00614)	0.000127 (0.000815)
Family income 30-50k	-0.0113* (0.00581)	-0.00262 (0.00432)	0.0108** (0.00533)	0.00235 (0.00451)	0.000803* (0.000458)
Family income 50-100K	0.0106** (0.00533)	0.00128 (0.00425)	-0.00160 (0.00554)	-0.0110** (0.00428)	0.000776*** (0.000300)
Family income >100k	0.0455*** (0.00469)	0.00236 (0.00434)	-0.0264*** (0.00507)	-0.0221*** (0.00554)	0.000596 (0.000369)
Spousal emp status					
1 if employed	0.000836 (0.00391)	-0.0213*** (0.00336)	-0.0131*** (0.00406)	0.0341*** (0.00381)	-0.000503 (0.000336)
Observations	265705	265705	265705	265705	265705

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ 

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Standard errors are robust and clustered at state level.

Table B4: All White individuals

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Employment status					
1 if unemployed	0.358*** (0.0621)	-0.179** (0.0697)	-0.300*** (0.0568)	0.0793* (0.0458)	0.0416*** (0.00414)
Age	-0.00912*** (0.000181)	0.00170*** (0.000128)	0.00373*** (0.000152)	0.00360*** (0.000125)	0.0000824*** (0.0000143)
Below HS	-0.117*** (0.00626)	0.0545*** (0.00423)	0.0683*** (0.00508)	-0.00263 (0.00596)	-0.00333*** (0.000840)
High School	-0.0706*** (0.00312)	0.0216*** (0.00239)	0.0502*** (0.00258)	0.000371 (0.00216)	-0.00144*** (0.000295)
single	0.00192 (0.00440)	-0.0280*** (0.00288)	-0.0246*** (0.00416)	0.0505*** (0.00249)	0.000140 (0.000438)
Family income <30K	-0.0301*** (0.00777)	-0.0112 (0.00818)	0.0306*** (0.00768)	0.0106 (0.00693)	0.0000338 (0.000728)
Family income 30-50k	-0.0174*** (0.00479)	-0.00483 (0.00471)	0.0205*** (0.00525)	0.00125 (0.00416)	0.000552 (0.000470)
Family income 50-100K	0.00973** (0.00430)	-0.00619 (0.00439)	0.00195 (0.00551)	-0.00627 (0.00447)	0.000781** (0.000360)
Family income >100k	0.0435*** (0.00388)	-0.00595 (0.00382)	-0.0200*** (0.00464)	-0.0178*** (0.00452)	0.000270 (0.000404)
Spousal emp status					
1 if employed	0.0134*** (0.00296)	-0.0409*** (0.00230)	-0.0321*** (0.00237)	0.0607*** (0.00233)	-0.00109*** (0.000349)
Observations	367333	367333	367333	367333	367333

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ 

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Standard errors are robust and clustered at state level.

Table B5: All White Men

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Employment status					
1 if unemployed	0.280*** (0.0759)	-0.352*** (0.0848)	-0.211*** (0.0783)	0.233*** (0.0820)	0.0504*** (0.00803)
Age	-0.00726*** (0.000266)	0.00175*** (0.000146)	0.00344*** (0.000246)	0.00200*** (0.000133)	0.0000720** (0.0000281)
Below HS	-0.0971*** (0.00466)	0.0638*** (0.00603)	0.0653*** (0.00576)	-0.0297*** (0.00471)	-0.00231* (0.00121)
High School	-0.0641*** (0.00444)	0.0255*** (0.00377)	0.0460*** (0.00355)	-0.00489 (0.00379)	-0.00247*** (0.000494)
single	-0.0193*** (0.00527)	-0.0173*** (0.00493)	-0.00643 (0.00466)	0.0416*** (0.00370)	0.00133 (0.000892)
Family income <30K	-0.0206** (0.00906)	-0.000870 (0.0101)	0.0277*** (0.00915)	-0.00908 (0.00805)	0.00282** (0.00138)
Family income 30-50k	-0.0112* (0.00663)	-0.00665 (0.00789)	0.0163** (0.00750)	0.000798 (0.00699)	0.000697 (0.000834)
Family income 50-100K	0.0168** (0.00743)	-0.0187*** (0.00685)	-0.0110 (0.00717)	0.0127** (0.00605)	0.000221 (0.000769)
Family income >100k	0.0506*** (0.00725)	-0.0241*** (0.00684)	-0.0354*** (0.00646)	0.00961* (0.00566)	-0.000691 (0.000760)
Spousal emp status					
1 if employed	-0.00238 (0.00280)	-0.0145*** (0.00287)	-0.00658** (0.00276)	0.0239*** (0.00249)	-0.000391 (0.000424)
Observations	148465	148465	148465	148465	148465

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Standard errors are robust and clustered at state level.

Table B6: All White Women

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Employment status					
1 if unemployed	0.317*** (0.0610)	-0.0593 (0.0665)	-0.301*** (0.0593)	0.0151 (0.0450)	0.0282*** (0.00551)
Age	-0.0101*** (0.000212)	0.00139*** (0.000161)	0.00339*** (0.000167)	0.00524*** (0.000148)	0.0000522*** (0.0000140)
Below HS	-0.114*** (0.00951)	0.0209*** (0.00727)	0.0492*** (0.00816)	0.0475*** (0.00901)	-0.00399*** (0.00105)
High School	-0.0654*** (0.00371)	0.00912*** (0.00283)	0.0414*** (0.00322)	0.0157*** (0.00211)	-0.000894*** (0.000313)
single	-0.0149*** (0.00531)	0.00714* (0.00370)	0.0100** (0.00496)	-0.00363 (0.00356)	0.00142*** (0.000430)
Family income <30K	-0.0384*** (0.00785)	-0.0151* (0.00841)	0.0397*** (0.00819)	0.0137** (0.00701)	-0.00000882 (0.000865)
Family income 30-50k	-0.0189*** (0.00678)	-0.00400 (0.00488)	0.0207*** (0.00610)	0.00188 (0.00460)	0.000410 (0.000496)
Family income 50-100K	0.00824 (0.00530)	-0.00113 (0.00508)	0.00586 (0.00653)	-0.0139*** (0.00493)	0.000951*** (0.000360)
Family income >100k	0.0441*** (0.00537)	0.000117 (0.00520)	-0.0178*** (0.00585)	-0.0271*** (0.00594)	0.000677* (0.000400)
Spousal emp status					
1 if employed	-0.00247 (0.00418)	-0.0229*** (0.00311)	-0.0105*** (0.00407)	0.0363*** (0.00393)	-0.000399 (0.000399)
Observations	218868	218868	218868	218868	218868

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Standard errors are robust and clustered at state level.

Table B7: All Black individuals

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Employment status					
1 if unemployed	0.164*** (0.0446)	-0.122** (0.0519)	-0.112* (0.0663)	0.0219 (0.0588)	0.0478*** (0.0100)
Age	-0.00772*** (0.000345)	0.00186*** (0.000283)	0.00373*** (0.000375)	0.00194*** (0.000319)	0.000195*** (0.0000636)
Below HS	-0.0595*** (0.0101)	0.000493 (0.00947)	0.0556*** (0.0115)	0.00859 (0.0120)	-0.00519** (0.00256)
High School	-0.0432*** (0.00531)	0.00693 (0.00628)	0.0430*** (0.00742)	-0.00533 (0.00738)	-0.00137 (0.00102)
single	0.00837 (0.00897)	-0.0110 (0.00773)	-0.0117 (0.00874)	0.0159* (0.00845)	-0.00159 (0.00191)
Family income <30K	0.0142 (0.0100)	-0.00189 (0.0104)	-0.0198* (0.0116)	0.00733 (0.00927)	0.000151 (0.00184)
Family income 30-50k	0.0200** (0.00947)	0.0117 (0.0108)	-0.0207* (0.0111)	-0.0159 (0.00982)	0.00498** (0.00206)
Family income 50-100K	0.0171* (0.00944)	0.0130 (0.0111)	-0.0288** (0.0123)	-0.00236 (0.0126)	0.00106 (0.00129)
Family income >100k	0.0332*** (0.0126)	0.0102 (0.0123)	-0.0504*** (0.0136)	0.00481 (0.0136)	0.00215 (0.00154)
Spousal emp status					
1 if employed	0.00114 (0.00667)	-0.0136* (0.00754)	0.00253 (0.00689)	0.0113 (0.00735)	-0.00139 (0.00225)
Observations	41667	41667	41667	41667	41667

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Standard errors are robust and clustered at state level.

Table B8: All Black Men

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Employment status					
1 if unemployed	0.138** (0.0623)	-0.208*** (0.0800)	-0.0992 (0.0931)	0.106** (0.0522)	0.0632*** (0.0144)
Age	-0.00419*** (0.000518)	-0.000175 (0.000485)	0.00229*** (0.000548)	0.00207*** (0.000487)	0.00000549 (0.000144)
Below HS	-0.0327* (0.0194)	-0.00580 (0.0139)	0.0436** (0.0206)	-0.00627 (0.0150)	0.00112 (0.00554)
High School	-0.0338*** (0.0116)	-0.0103 (0.0121)	0.0268** (0.0105)	0.0162* (0.00966)	0.00110 (0.00310)
single	-0.0121 (0.0111)	-0.0152 (0.0164)	0.00429 (0.0167)	0.0230** (0.0103)	0.0000243 (0.00347)
Family income <30K	0.0526*** (0.0144)	-0.0149 (0.0182)	-0.0391* (0.0226)	0.00184 (0.0158)	-0.000419 (0.00568)
Family income 30-50k	0.0467*** (0.0146)	-0.00152 (0.0177)	-0.0565** (0.0242)	0.00950 (0.0150)	0.00178 (0.00553)
Family income 50-100K	0.0426*** (0.0157)	-0.0144 (0.0166)	-0.0528** (0.0252)	0.0245* (0.0137)	0.000149 (0.00423)
Family income >100k	0.0757*** (0.0193)	-0.0111 (0.0226)	-0.0832*** (0.0307)	0.0157 (0.0194)	0.00290 (0.00400)
Spousal emp status					
1 if employed	0.00670 (0.0111)	-0.0164 (0.0162)	-0.00271 (0.0184)	0.0175* (0.0106)	-0.00505 (0.00329)
Observations	11715	11715	11715	11715	11715

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Standard errors are robust and clustered at state level.

Table B9: All Black Women

	(1)	(2)	(3)	(4)	(5)
	Children	Work	Leisure	HH chores	Job search
Employment status					
1 if unemployed	0.147*** (0.0564)	-0.155*** (0.0541)	-0.0589 (0.0500)	0.0255 (0.0624)	0.0408*** (0.00913)
Age	-0.00869*** (0.000376)	0.00212*** (0.000321)	0.00372*** (0.000388)	0.00265*** (0.000442)	0.000204*** (0.0000686)
Below HS	-0.0610*** (0.0133)	0.00556 (0.0109)	0.0426*** (0.0114)	0.0191 (0.0149)	-0.00638** (0.00306)
High School	-0.0374*** (0.00609)	0.00927 (0.00636)	0.0373*** (0.00866)	-0.00651 (0.00783)	-0.00267** (0.00128)
single	0.00362 (0.0125)	0.00818 (0.0131)	0.0141 (0.00882)	-0.0251** (0.0111)	-0.000830 (0.00177)
Family income <30K	0.00154 (0.0133)	0.00651 (0.0101)	-0.0170 (0.0120)	0.00796 (0.0119)	0.000991 (0.00164)
Family income 30-50k	0.0215* (0.0118)	0.00646 (0.0131)	-0.0183* (0.0104)	-0.0148 (0.0137)	0.00522*** (0.00181)
Family income 50-100K	0.0159 (0.0117)	0.0166 (0.0127)	-0.0251** (0.0116)	-0.00839 (0.0163)	0.00104 (0.00131)
Family income >100k	0.0162 (0.0145)	0.00636 (0.0155)	-0.0425*** (0.0125)	0.0178 (0.0178)	0.00209 (0.00131)
Spousal emp status					
1 if employed	0.0141 (0.00892)	-0.0148 (0.0128)	-0.00675 (0.00861)	0.00817 (0.00975)	-0.000742 (0.00207)
Observations	29952	29952	29952	29952	29952

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ 

Source: Bureau of Labor Statistics and American Time Use Survey. Dependent variable: Time spent with children as a percentage of total time. Standard errors are robust and clustered at state level.