

Running Title: *Men's Time on Childcare during the Great Recession*

*Time Use during the Great Recession: Men's Time on Childcare*

Abstract: In this paper, I examine the time men spent on childcare during the Recession of 2008-2009. The Great Recession provides a sudden and concentrated change in the employment opportunities of men relative to women. Using the American Time Use Survey and the linked Current Population Survey survey ( $N=24,311$ ), I show that this lopsided shock to employment opportunities was accompanied by a sharp increase in the amount of time men spent on childcare. In particular, men increased the time they spent on physical care for children, an element of childcare that men have historically performed much less than women.

Key words: Gender, Childcare, Division of Labor

In the past century, women dramatically increased the time they spent in the formal labor market. Men are slowly increasing the time they spend on childcare, although women still spend considerably more time on childcare than men. Recent debate continues to highlight women's struggle to balance a successful career and children (Slaughter, 2012), which some argue is caused by the unequal amount of time women spend caring for children (Hoschild, 1989; Becker, 1985). In order to understand the conflict facing women, it is crucial to examine the other half of the equation: the amount of time men spend on childcare and what factors are associated with changes in the childcare men perform.

In this paper, I examine the time men spent on childcare during the Recession of 2008-2009. The Great Recession provides a sudden and concentrated change in the employment opportunities of men relative to women. At the peak of the Great Recession in October 2009, the male unemployment rate for those over 16 had reached 11.2%, while female unemployment was only 8.7%. I show that this lopsided shock to employment opportunities was accompanied by a sharp increase in the amount of time men spent on childcare. In particular, men increased the time they spent on physical care for children, an element of childcare that men have historically performed much less than women.

## BACKGROUND

### *Who spends time on childcare?*

Historically, women have spent much more time on childcare than men. Men and women also perform different types of childcare; mothers spend a much higher proportion of their total childcare time on physical care for children, whereas fathers spend a higher proportion on engaging activities with children (Craig, 2006; Berik & Kongar, 2011). Parents report that they enjoy these engaging activities with children more than general childcare (Robinson, 1993).

Numerous studies in sociology (Coltrane, 2000 contains a review) argue that social context contributes to the persistent difference in the amount of time men and women spend on childcare. That is, there may be stigma for not conforming to social norms or men and women may have acquired different levels skill with household labor, both of which may impose additional costs on a nontraditional division of labor. One measure of social norms, the 2010 General Social Survey, found that over one third of respondents agreed with the statement “it is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family.” Likewise, over one third of respondents agreed with the statement “a preschool child is likely to suffer if his or her mother works.”

Since childcare is traditionally viewed as a feminine task, social norms could mitigate any incentives for men to do more childcare. England (2006) argues that “What seems most resistant to change is the social assignment of the primary responsibility for child rearing to women. Put another way, it is men’s participation in child rearing and other household work that is slowest to change” (p 254). In a widely cited paper, Bittman, England, Folbre, Sayer, and Matheson (2003) found that when women make more money than their male partner, they perform more household labor than similar women who make less money than their husbands. Likewise, other research finds that women spend more time on housework when their male partner is economically dependent on them, compared to when they have equivalent earnings (Evertsson & Neramo, 2004). This supports a large role for social norms: couples who violate norms by having a higher earning woman compensate by adhering more closely to norms regarding the division of housework.

However, others argue that “no adequate theoretical logic had been offered to show how these responsibilities can effectively hold off pressures toward change” (Jackson, 2006, p 232).

Gupta (2007) suggests that research focusing on the relative earnings of men and women ignores the difference between relative and absolute earnings, noting that women with high relative earnings are often members of poor households and have low absolute earnings. He replicates the Bittman et al. (2003) findings that relative earnings do have a statistically significant association with time spent on household labor but finds that this association disappears after controlling for women's absolute earnings.

Indeed, in the long run men have increased the time they spend on childcare. From 1965 to 2000, a period that experienced changing social norms and a dramatic increase in women's time spent in the labor market, men and women both changed the amount of time they spent on childcare (Bianchi, Robinson, & Milkie, 2006). Mothers, married mothers, and married fathers all increased the time they spent on primary childcare, but fathers provided an increasing share of the childcare during this time. That is, fathers responded to the long run changes in social norms and in the employment opportunities of their wives by increasing the time they spent on primary childcare.

Economic theory highlights numerous interacting pathways through which men's work opportunities impact the time they spend on childcare. First, as male work opportunities worsen, a man gives up less when he spends time on non-work activities, including childcare. That is, the opportunity cost of men's time decreases. He will spend more time on other activities, because they are now less costly. Likewise, when male employment opportunities worsen, not only does men's time become cheaper, but total family income falls. If a family was purchasing childcare services, the family may shift away from formal childcare arrangements towards providing childcare themselves.

This change is even more dramatic under a set of assumptions that ensure it is in the best interest of each member of the family to maximize the overall consumption of the family (Becker, 1981). This leads to households where the member with the comparative advantage for household labor will specialize in household labor. Likewise, the member with the comparative advantage in market labor will specialize in market labor. If a man's wage falls, he may gain the comparative advantage in household labor. Therefore, to maximize total household consumption, he would specialize in household labor.

When a man's employment opportunities worsen and the opportunity cost of his time decreases, he must choose between various non-work activities. There are two sides of the question to consider: the production of these activities and how much he and the rest of the family value them. On the production side, some activities may be easy to perform at the same time, such as watching television while an infant sleeps. Others may not work well together, such as hunting deer while caring for a toddler. Moreover, he and his family may place greater importance on some activities, so he would choose to spend time on those activities before others. When the opportunity cost of a man's time decreases, he may therefore turn towards activities that the household values or complements with these activities.

Along with the opportunity cost of family members' time, the members of a family may bargain about how to spend their time (McElroy & Horney, 1981; Lundberg & Pollack, 1993; Lundberg & Pollack, 1994). A member's bargaining power comes from how well off they would be outside the relationship. When men's job opportunities worsen relative to women's, men's bargaining power drops. If caring for children is less enjoyable than other ways of spending time, such as leisure or working in the labor market, a reduction of bargaining power would lead to an increase in the time men spent caring for children.

Finally, expectations about the future and how much a man values the future play a role in decisions about how to spend time today. If childcare is an investment that will pay off at a future date (i.e., a happy productive adult child who will support their parents) childcare is a more attractive than other activities that do not have a future payoff, such as watching television. However, if a man does not value the future very much, this future payoff may not be enough to shift men from more immediately enjoyable activities towards childcare.

In sum, economic theory provides numerous tools for understanding how a change in the employment opportunities of men will impact the time they spend on childcare. Specifically, the opportunity cost of men's time will decrease, family income will fall, and men's bargaining power will decrease. These changes shift men's time shift away from work and towards other activities. As men change how they spend their time, they consider their own and their family's preferences, if different activities can be performed at the same time, and the future payoffs their activities may yield.

Economic theory predicts that men change the amount of time they spend on childcare in response to changing economic conditions; this prediction is supported by empirical evidence. More fathers in dual earner couples were reported as a care provider for preschool children during the 1991 recession in the Survey of Income and Program Participation (Casper & O'Connell, 1998). Unfortunately, the measure of childcare in this study is very coarse, because it is a dichotomous variable that only takes on "yes" or "no" values. Furthermore, how men respond to a recession may have changed in the past 20 years. Berik and Kongar (2011) use the American Time Use Survey (ATUS) to investigate the impact of the 2008-2009 recession on the unpaid labor of married men and women who live with their spouse and a child. They found that the gap between mothers' and fathers' total unpaid labor decreased during the Great Recession

and that fathers increased the time they spent on primary childcare. However, the authors focused solely on differences in means and did not control for important characteristics that impact time spent on childcare and that changed during the Recession. In particular, the composition of the employed and unemployed populations changed during the Great Recession; for example, the education level of men who recently experienced unemployment was much higher during the Great Recession than before.

This paper builds on Casper and O'Connell (1998) by using a more sensitive measure of childcare, a more recent recession, and a more direct measure of relative employment opportunities of men and women. I address the weaknesses in Berik and Kongar (2011) by controlling for numerous family and individual characteristics. Moreover, I link the ATUS to the Current Population Survey to identify men who recently changed employment status. With this more detailed data, I show that a large part of the change within employment status found by Berik and Kongar (2011) is actually due to a change in the composition of each employment status during the Recession.

More broadly, the previous studies suffer from a potentially serious weakness: restrictive conditions on the sample. Indeed, there is evidence that fertility patterns and possibly living arrangements changed during the Recession (Morgan, Cumberwoth, & Wimer, 2011) so analyses that condition on those factors will pick up both a behavioral and compositional change. Additionally, 27% of children in the United States live with one parent, so any study that only includes two-parent households will miss over a quarter of children (U.S. Census Bureau, 2011). In an age of complex family arrangements, men who live with neither a spouse nor children may well still be fathers who spend time on childcare. Ignoring these families and focusing solely on traditional nuclear families will not truly represent any change that occurred.



The analysis in this paper addresses this weakness by using a broader sample: all men. Using this broader sample will dilute the impact of the Recession by including men who have no children in their family or social circle, but it will not be subject to as large a change in the composition of the sample. Moreover, I link ATUS respondents to their previous CPS interviews, so I can separately analyze those men who have not recently changed living arrangements.

### *The Great Recession's Impact on Employment*

The Great Recession was marked by a sudden and dramatic increase in the unemployment rate across the United States. The national unemployment rate doubled from 5.0% of the labor force in December 2007 to its peak at 10.0% in October 2009. The rate of unemployed, under-employed and discouraged workers grew from 8.8% in December 2007 to 17.2% at its peak in October 2009.

The unemployment rate for men was much higher than women during the Great Recession: the male unemployment rate peaked in October 2009 at 11.2% while the female unemployment rate peaked at 8.7%. The unemployment rate in predominantly male sectors increased more than predominantly female sectors. The difference was so striking that economists and commentators referred to the recession as a “man-cession” (Wall, 2009). Figure 1 shows the unemployment rates of men and women and the unemployment rate in manufacturing (72.7% male) and education (76.7% female). This pattern is similar to other measures of employment; for example the percent of men who were employed dipped during the Great Recession much more strongly than women.

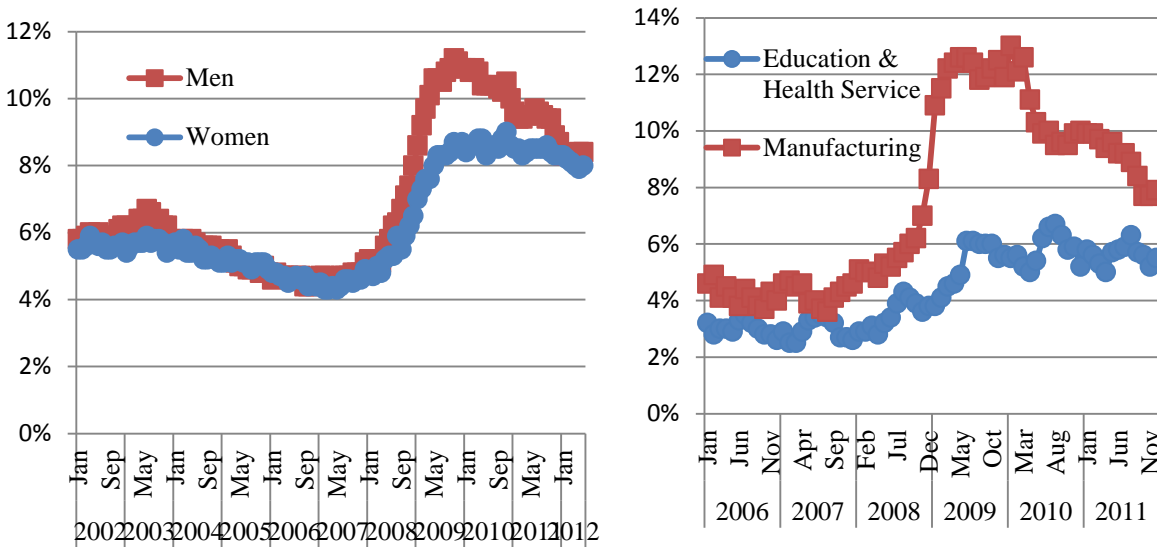


Figure 1: Unemployment Rate for those 16 years and older by sex (L) and by sector (R) Source: Bureau of Labor Statistics

The relative unemployment rates of men and women also varied considerably by state. In Arizona, for example, men had lower unemployment than women until 2009, when men's unemployment jumped to 11.8%, compared to only 7.9% for women. In contrast, other states in 2009 had nearly equal employment rates for men and women; in Alabama men and women both faced a high unemployment: 11.1% for men and 11.2% for women. Texas fared better, where women's unemployment was 7.3% comparable to men's at 7.7%.

## METHOD

### *Data Source*

To investigate changes in the time that men spent on childcare, I use the American Time Use Survey (ATUS). The ATUS is a subsample of the Current Population Survey (CPS) that contains detailed information on how the respondents spent the day prior to the interview. The ATUS includes numerous measures of childcare, and the broadest categories are primary care and secondary care. Primary care occurs when the respondent's primary activity involves

directly caring for a child or activities that promote a child's welfare. Examples of this type of care include physical care (the largest contributor to primary care), reading to a child, playing with a child, or helping a child with homework. Secondary childcare includes caring for a child while also doing something else; for example, secondary childcare occurs if a respondent is working and also has a child in their care. Secondary care is only measured for children under 13, while primary childcare is measured for children under 18.

It is important to differentiate between types of childcare when considering a possible change in time use patterns. Bianchi (2000) describes the distinction between direct care for children, which she describes as potentially "valuable" and an "investment" in children whereas secondary childcare is more passive, with the parent being "on call."

In this paper, I use "primary childcare" to refer to the total time spent on primary childcare, including both children who live in the same household as the respondent as well as children who live in a different household. "Secondary childcare" likewise refers to the total time spent on secondary childcare for both children living in the same household as the respondent and also children who live in a different household.

### *Analysis*

People spend their time on many different activities throughout the day, but both men and women spend moderate amounts of time on childcare. Figure 2 illustrates the average time spent by all men and all women on different activities, including primary and secondary childcare. As shown in Figure 2, childcare is a significant part of how many people spend their day.

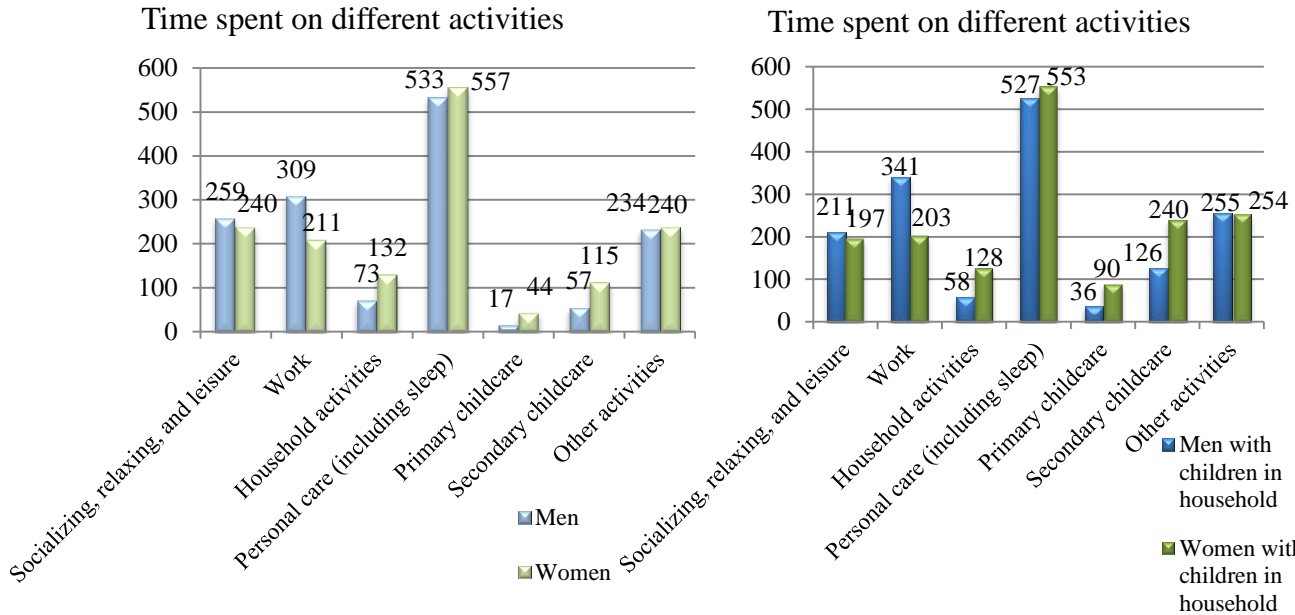


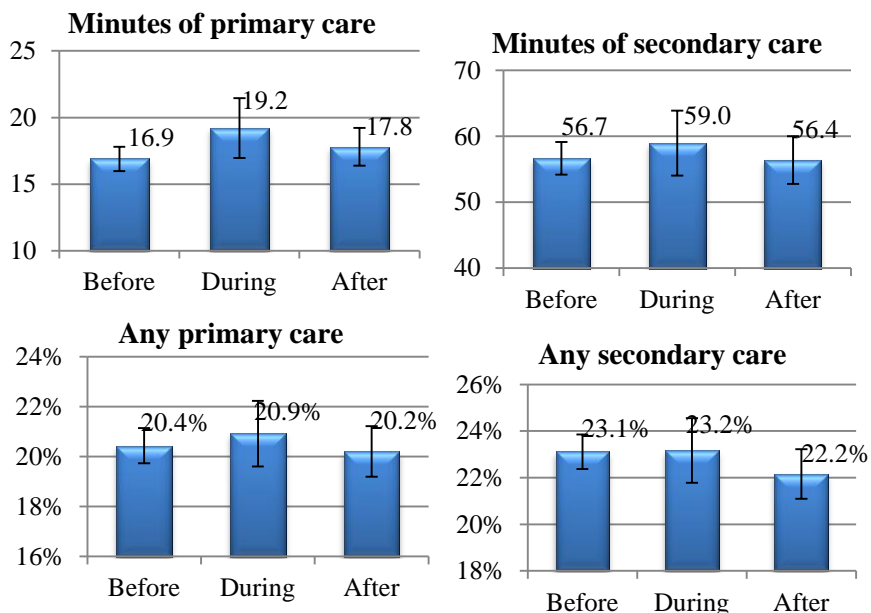
Figure 2: Average amount of time spent on activities on weekdays before the Great Recession. Figures use complex weights provided by ATUS-X.

Figure 3 shows that men spent more time on childcare during the Recession, whereas women did not. Men as a whole and men living in households with children both spent more time on primary childcare during the Recession. Likewise, men living in households with children spent more time on secondary childcare during the Recession. Additionally, more men in households with children performed any primary care during the Recession than before. In sharp contrast, the average time all women spent on both types of childcare decreased during the Recession and the proportion of women doing any childcare did not change. Women with children in the household did not change the amount of time they spent on either type of childcare.

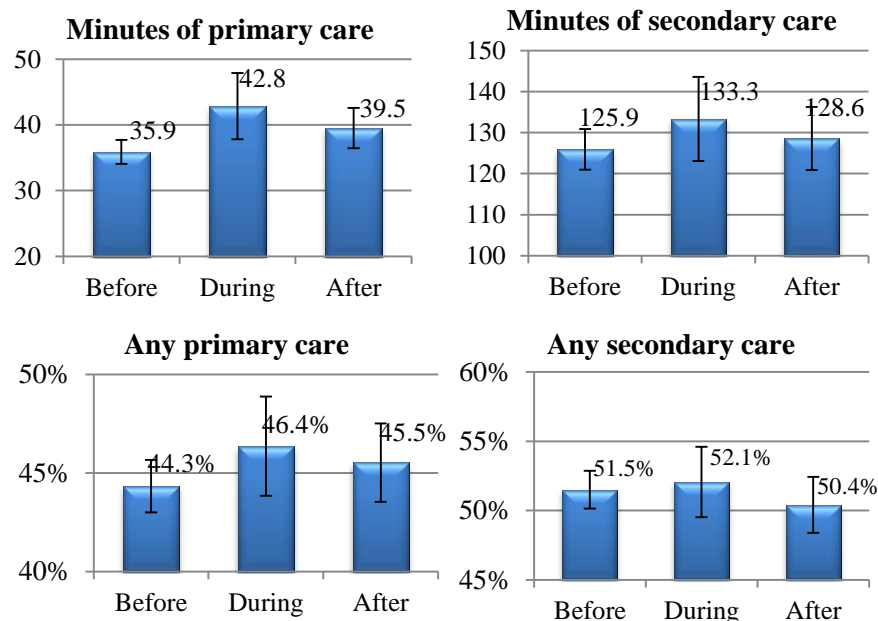
The summary statistics in Figure 3 show that men increased the time they spent on childcare during the Recession. To check if this raw increase persists after accounting for other characteristics, I employ the following regression:

$$y_i = \mathbf{X}_i\boldsymbol{\beta} + year_i\xi + I(DURING_i)\delta + I(AFTER_i)\gamma + \varepsilon_i$$

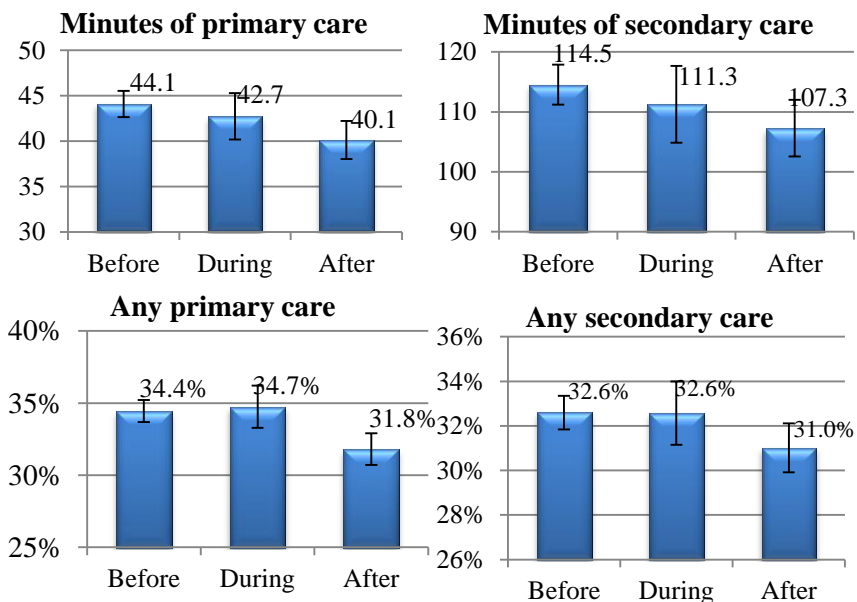
**Average childcare by all men**



**Average childcare by men with children in household**



**Average childcare by all women**



**Average childcare by women with children in household**

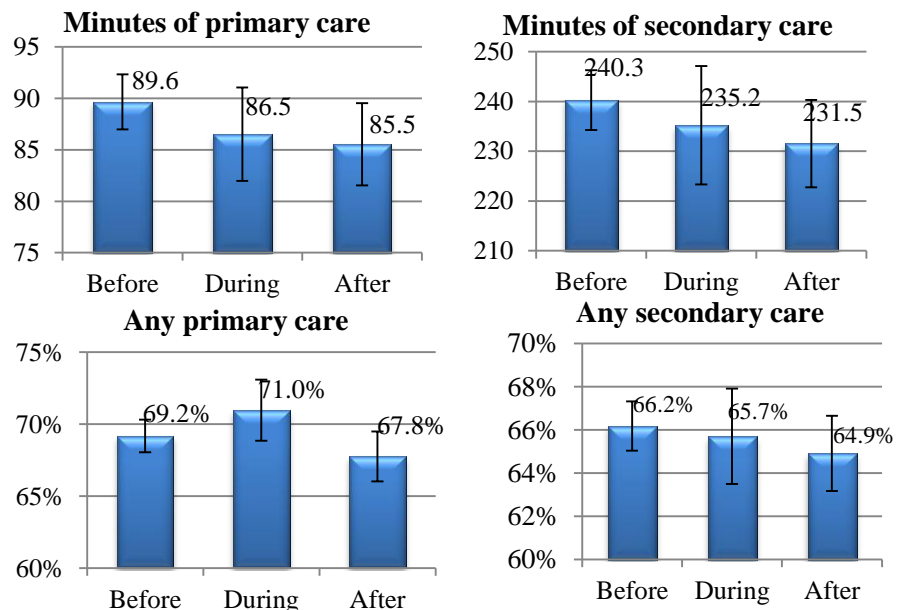


Figure 3: The average time spent on childcare and the percent providing any care before (01/2003-11/2007), during (12/2007-06/2009), and after (07/2009-12/2011) the Recession. Figures use complex sampling weights provided by ATUS-X.

In this framework, the amount of time a person spends on childcare ( $y_i$ ) is a function of their demographic characteristics ( $X$ ), a linear year trend, and an indicator variable for if the time diary occurred during the Recession. The coefficient on the indicator variable for being in the Recession,  $\delta$ , will show if there was a change in the amount of childcare provided by men as a whole during the Recession. All regressions use the complex sampling weights provided by the ATUS-X.

The next regression includes the difference between male and female unemployment for the year and state of the respondent.

$$y_i = \mathbf{X}_i\boldsymbol{\beta} + year_i\xi + I(DURING_i)\delta + I(AFTER_i)\gamma + (UE\_rate\_diff_{s,y})\phi + \varepsilon_i$$

If relative employment opportunities are driving the change in the amount of childcare men provide, the coefficient on the difference between the unemployment rates,  $\phi$ , should be positive. Moreover, including the relative unemployment rates should decrease  $\delta$ , the coefficient on the indicator for being in the recession. The unemployment rate difference is by calendar year and state, as reported by the BLS (using the average of previous month, current month, and next month instead of the calendar year yielded similar results).

Table 1 reports the coefficients from estimating these two regressions for men as a whole. These regressions support the patterns observed in the summary statistics: there was an increase in the total number of minutes of childcare performed by men during the Recession, but no corresponding increase in the proportion of men performing childcare. Specifically, men spent 3.5 more minutes on primary childcare and 7 more minutes on secondary childcare during the Recession. While this sounds like a small amount of time, these changes are over 12% of the difference in the amount of time that men and women spent on childcare prior to the Recession. Notably, in the regressions for minutes of childcare the coefficient on the indicator variable for

after the Recession is not always statistically significantly different from 0, but it is also not different from the indicator for being during the Recession. This suggests that the increase in male time on childcare may have not returned to pre-Recession levels immediately after the Recession or that the effects of the Recession lingered past its official end date for some men.

The difference between male and female unemployment rates has a positive association with the time men spent on childcare, but this is not statistically significant. Adding the difference in unemployment rates does reduce the coefficient on during the Recession, although not by very much.

	<b>Minutes of primary care</b>	<b>Minutes of secondary care</b>	<b>Any primary care</b>	<b>Any secondary care</b>
<b>During</b>	3.539** (1.582)	6.989* (3.821)	0.00618 (0.0104)	0.00840 (0.00947)
<b>After</b>	3.072* (1.814)	6.648 (4.788)	0.00108 (0.0122)	0.00375 (0.0113)
<b>Observations</b>	24,311	24,311	24,311	24,311
<b>R-squared</b>	0.137	0.220	0.314	0.401
<b>Pop</b>	Men	Men	Men	Men
	<b>Minutes of primary care</b>	<b>Minutes of secondary care</b>	<b>Any primary care</b>	<b>Any secondary care</b>
<b>During</b>	2.948* (1.716)	6.925* (4.016)	0.00272 (0.0111)	0.0129 (0.0102)
<b>After</b>	1.949 (2.070)	6.526 (5.476)	-0.00550 (0.0142)	0.0123 (0.0131)
<b>Difference in unemployment rate</b>	0.565 (0.466)	0.0613 (1.085)	0.00331 (0.00295)	-0.00429 (0.00266)
<b>Observations</b>	24,311	24,311	24,311	24,311
<b>R-squared</b>	0.137	0.220	0.314	0.401
<b>Pop</b>	Men	Men	Men	Men

Robust standard errors in parentheses, observations clustered by state and metro size

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

Table 1: Selected coefficients from the regression of childcare measures on indicator variables for during the Recession and after the Recession. The second panel includes the difference between the male and female unemployment rates by state and year. Controls include urban status, education, race, ethnicity, marital status, number of children in the household, family income, linear year trend, age, and age squared.

The sample in the above regression is comprised of all men. That is, it includes many men who do not live in a household with a child nor have a child in their immediate family. It is striking that there is a measurable increase in the time spent on childcare, even while including many men who are “immune to treatment.” However, this will underestimate the true change in the male provision of childcare during the Recession by diluting the change with a large number



of men that would never be induced to provide childcare simply because there are no children in their lives.

To get an estimate of the change in the time spent on childcare during the Recession for those men who are not immune to treatment, the second set of regressions is restricted to only those men who live in a household with a child under 18. As shown below, men who live in households with children experience a similar pattern to men as a whole: an increase in the total minutes of primary and secondary childcare and no change in the proportion of men providing any childcare. As expected, the point estimates are higher for men who live in households with children than for men as a whole. These point estimates are again over 12% of the difference in the amount of time that men and women who live in households with children spent on childcare prior to the Recession.

	<b>Minutes of primary care</b>	<b>Minutes of secondary care</b>	<b>Any primary care</b>	<b>Any secondary care</b>
<b>During</b>	8.523** (3.404)	14.34* (7.954)	0.0116 (0.0207)	0.00327 (0.0176)
<b>After</b>	6.584* (3.735)	11.57 (9.701)	0.00120 (0.0248)	-0.0119 (0.0203)
<b>Observations</b>	11,067	11,067	11,067	11,067
<b>R-squared</b>	0.143	0.171	0.207	0.382
<b>Pop</b>	Men w kids in HH	Men w kids in HH	Men w kids in HH	Men w kids in HH
	<b>Minutes of primary care</b>	<b>Minutes of secondary care</b>	<b>Any primary care</b>	<b>Any secondary care</b>
<b>During</b>	6.324* (3.682)	12.76 (8.321)	0.000401 (0.0226)	0.00748 (0.0192)
<b>After</b>	2.473 (4.328)	8.619 (10.78)	-0.0198 (0.0300)	-0.00406 (0.0232)
<b>Difference in unemployment rate</b>	2.050** (1.008)	1.471 (2.289)	0.0105* (0.00608)	-0.00393 (0.00509)
<b>Observations</b>	11,067	11,067	11,067	11,067
<b>R-squared</b>	0.144	0.172	0.207	0.382
<b>Pop</b>	Men w kids in HH	Men w kids in HH	Men w kids in HH	Men w kids in HH

Robust standard errors in parentheses, observations clustered by state and metropolitan size

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

Table 2: Selected coefficients from the regression of childcare measures on indicator variables for during the Recession and after the Recession. The second panel includes the difference between the male and female unemployment rates by state and year. Controls include urban status, education, race, ethnicity, marital status, number of children in the household, family income, linear year trend, age, age squared, and age of youngest child.

The downside to this approach is that the population of men who live in households with children may change during the Recession, so this coefficient likely combines both a change in behavior and a change in the composition of the sample. Indeed, 3% of men who lived with a child during their ATUS interview did not live with a child in the eighth CPS interview that occurred just two to five months prior to the ATUS survey. If men who live with a child are different during the Recession, we could be conflating a change in composition of the sample with a change in behavior.

To explore the impact of a change in the composition of the sample, the next set of regressions restricts the sample to only those men who lived with a child during both the ATUS survey and the CPS survey that occurred between two and five months prior. This will eliminate both men who recently moved into a household with a child and those men who recently had an infant – both elements that could alter the composition of the sample of men living in households with children. However, this does nothing to address men who remained in the household, but who would have left if the Recession had not occurred. Restricting to men who lived in households that were the same size as the one they lived in during the CPS interview had similar results, as did restricting to men who lived with a child in either the ATUS or the CPS survey (not shown).

	<b>Minutes of primary care</b>	<b>Minutes of secondary care</b>	<b>Any primary care</b>	<b>Any secondary care</b>
<b>During</b>	7.478** (3.303)	16.65** (7.668)	0.00216 (0.0207)	0.00306 (0.0183)
<b>After</b>	4.257 (3.456)	15.75* (9.226)	-0.0108 (0.0249)	-0.00830 (0.0205)
<b>Observations</b>	10,818	10,818	10,818	10,818
<b>R-squared</b>	0.144	0.175	0.210	0.386
<b>Pop</b>	Men w kids in HH restricted	Men w kids in HH restricted	Men w kids in HH restricted	Men w kids in HH restricted
	<b>Minutes of primary care</b>	<b>Minutes of secondary care</b>	<b>Any primary care</b>	<b>Any secondary care</b>
<b>During</b>	5.696 (3.576)	14.44* (8.183)	-0.00960 (0.0226)	0.00572 (0.0199)
<b>After</b>	0.940 (4.204)	11.64 (10.61)	-0.0327 (0.0301)	-0.00333 (0.0236)
<b>Difference in unemployment rate</b>	1.657* (0.961)	2.056 (2.354)	0.0109* (0.00611)	-0.00248 (0.00515)
<b>Observations</b>	10,818	10,818	10,818	10,818
<b>R-squared</b>	0.145	0.175	0.211	0.386
<b>Pop</b>	Men w kids in HH restricted	Men w kids in HH restricted	Men w kids in HH restricted	Men w kids in HH restricted

Robust standard errors in parentheses, observations clustered by state and metropolitan size

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

Table 3: Selected coefficients from the regression of childcare measures on indicator variables for during the Recession and after the Recession. The second panel includes the difference between the male and female unemployment rates by state and year. Controls include urban status, education, race, ethnicity, marital status, number of children in the household, family income, linear year trend, age, age squared, and age of youngest child.

Once again, we see the same pattern: an increase in the total minutes that men spent on childcare, but no increase in the proportion of men providing childcare. As for the less restricted samples, this change was to some extent mediated by the difference between the male and female unemployment rates.

The proportion of men who transitioned from a household with a child to one without, or vice versa, remained consistent in the ATUS sample over the years. Table 4 shows that before, during, and after the Recession 3% of men who were currently living with a child were not living with a child in the CPS survey. Between 2 and 3% of men who were living with a child in the CPS were no longer living with a child in the ATUS. This consistency suggests that there was not a dramatic change in what men were living in households with children during the Great Recession. This alleviates concerns about the change in the composition of the sample of men living in households with children.

<b>Before Recession</b>		Child in household in ATUS		
		No	Yes	Total
Child in household in CPS	No	99%	3%	60%
	Yes	1%	97%	40%
	Total	100%	100%	100%
<b>During Recession</b>		Child in household in ATUS		
		No	Yes	Total
Child in household in CPS	No	99%	3%	61%
	Yes	1%	97%	39%
	Total	100%	100%	100%
<b>After Recession</b>		Child in household in ATUS		
		No	Yes	Total
Child in household in CPS	No	99%	3%	61%
	Yes	1%	97%	39%
	Total	100%	100%	100.0

Table 4: The percentage of men who transitioned from a household with a child to one without or vice versa. The table is organized by column; for example, the first cell indicates that of men who did not live with a child in the ATUS, 99% also did not live with a child in the CPS. These figures use the complex weights provided by the ATUS-X.

*Where did this time come from?*

Men increased the time they spent on childcare during the Great Recession, so they must have spent less time on another activity. Running the same regressions on other time use

variables reveals that most of this time likely came from work and household activities, although the standard errors on the coefficients are quite large, so nothing is statistically significant.

	<b>Work</b>	<b>Other</b>	<b>Social &amp; Leisure</b>	<b>Household Activities</b>	<b>Personal care, including sleep</b>
<b>During</b>	-4.738 (7.542)	0.883 (5.582)	2.788 (5.357)	-4.443 (3.298)	2.761 (4.461)
<b>After</b>	-31.25*** (9.806)	11.05 (6.792)	4.161 (6.897)	-1.979 (4.402)	8.057 (5.376)
<b>Observations</b>	24,311	24,311	24,311	24,311	24,311
<b>R-squared</b>	0.255	0.134	0.191	0.063	0.069
<b>Pop</b>	Men	Men	Men	Men	Men
<b>Day</b>	Weekday	Weekday	Weekday	Weekday	Weekday
	<b>Work</b>	<b>Other</b>	<b>Social &amp; Leisure</b>	<b>Household Activities</b>	<b>Personal care, including sleep</b>
<b>During</b>	-13.81 (9.478)	-0.238 (7.957)	4.892 (6.408)	-3.728 (3.729)	4.91 (5.846)
<b>After</b>	-44.26*** (12.85)	8.036 (9.575)	7.114 (9.626)	5.176 (4.666)	10.67 (7.999)
<b>Observations</b>	11,067	11,067	11,067	11,067	11,067
<b>R-squared</b>	0.283	0.268	0.108	0.049	0.095
<b>Pop</b>	Men w kids in HH	Men w kids in HH	Men w kids in HH	Men w kids in HH	Men w kids in HH
<b>Day</b>	Weekday	Weekday	Weekday	Weekday	Weekday

Robust standard errors in parentheses, observations clustered by state and metropolitan size  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 5: Selected coefficients from the regression of minutes on different activities on indicator variables for during the Recession and after the Recession. Controls include urban status, education, race, ethnicity, marital status, number of children in the household, family income, linear year trend, age, age squared, and age of youngest child (for the second panel).

### *Activities with children*

Men and women have historically engaged in different activities when they care for children. Mothers spend a much higher proportion of their total childcare time on physical care for children, which parents report enjoying less than engaging activities. In contrast, fathers

spend a higher proportion on engaging activities with children (Craig, 2006; Berik and Kongar, 2011; Robinson, 1993).

To analyze if this pattern changed during the Recession, I created more specific time use variables. One variable sums the time spent on activities related to education, reading, or teaching the child. The second looks at engaged interaction with children, including playing with children, arts and crafts, playing sports with children, talking to or listening to children, and attending children's events. This will show if the increase in male time spent on childcare included these forms of engaged interaction or if the increase focused on basic physical care of children.

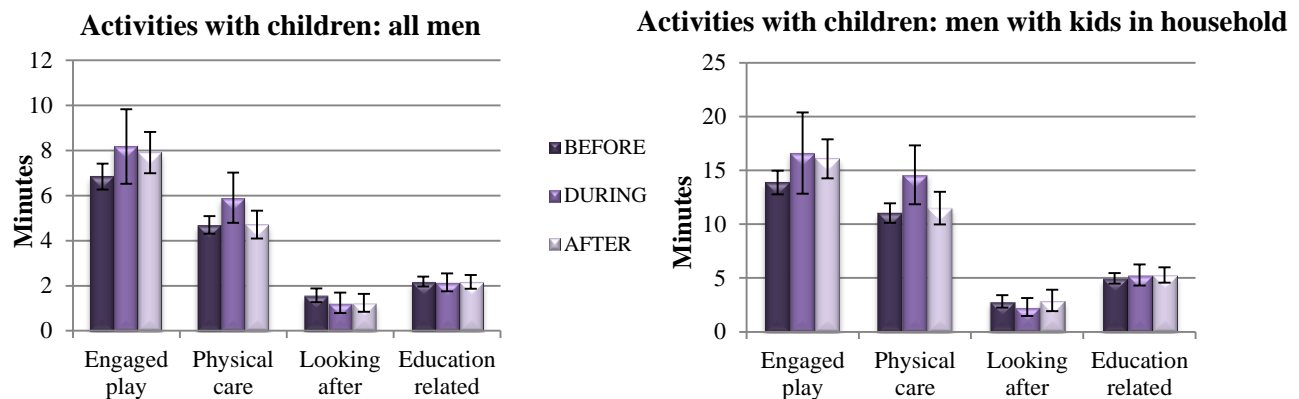


Figure 4: Average time spent on different types of childcare before (1/2003-11/2007), during (12/2007-6/2009), and after (7/2009-12/2011) the Recession. Figures use complex weights provided by ATUS-X

Figure 4 shows that the average time men spent on engaged play and physical care increased during the Recession. Table 6 demonstrates that after controlling for other characteristics, only the increase on physical care is statistically significant.

	<b>Engaged play</b>	<b>Physical care</b>	<b>“Looking after”</b>	<b>Education Related</b>
<b>During</b>	1.338 (1.143)	1.556** (0.623)	0.198 (0.407)	0.193 (0.330)
<b>After</b>	1.582 (1.197)	0.927 (0.858)	0.313 (0.468)	0.156 (0.385)
<b>Observations</b>	24,311	24,311	24,311	24,311
<b>R-squared</b>	0.050	0.080	0.010	0.047
<b>Pop</b>	Men	Men	Men	Men
	<b>Engaged play</b>	<b>Physical care</b>	<b>“Looking after”</b>	<b>Education Related</b>
<b>During</b>	2.737 (2.574)	3.599** (1.544)	0.324 (0.706)	0.576 (0.800)
<b>After</b>	3.439 (2.360)	1.549 (2.048)	0.947 (0.996)	-0.0343 (0.864)
<b>Observations</b>	11,067	11,067	11,067	11,067
<b>R-squared</b>	0.058	0.110	0.014	0.029
<b>Pop</b>	Men with kids in HH	Men with kids in HH	Men with kids in HH	Men with kids in HH

Robust standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 6: Selected coefficients from the regression of childcare measures on indicator variables for during the Recession and after the Recession. Controls include urban status, education, race, ethnicity, marital status, number of children in the household, family income, linear year trend, age, age squared, and age of youngest child (for the second set of regressions).

To examine if the observed increase in the time spent men on physical childcare during the Recession merely part of a larger trend, the figure below shows the average time spent on physical care for children by year. While women steadily decreased the time they spent on physical childcare, men spent a steady amount of time on physical childcare and then suddenly increased starting in 2007 and continuing through 2009. In 2010 and 2011, men returned to their pre-Recession levels.



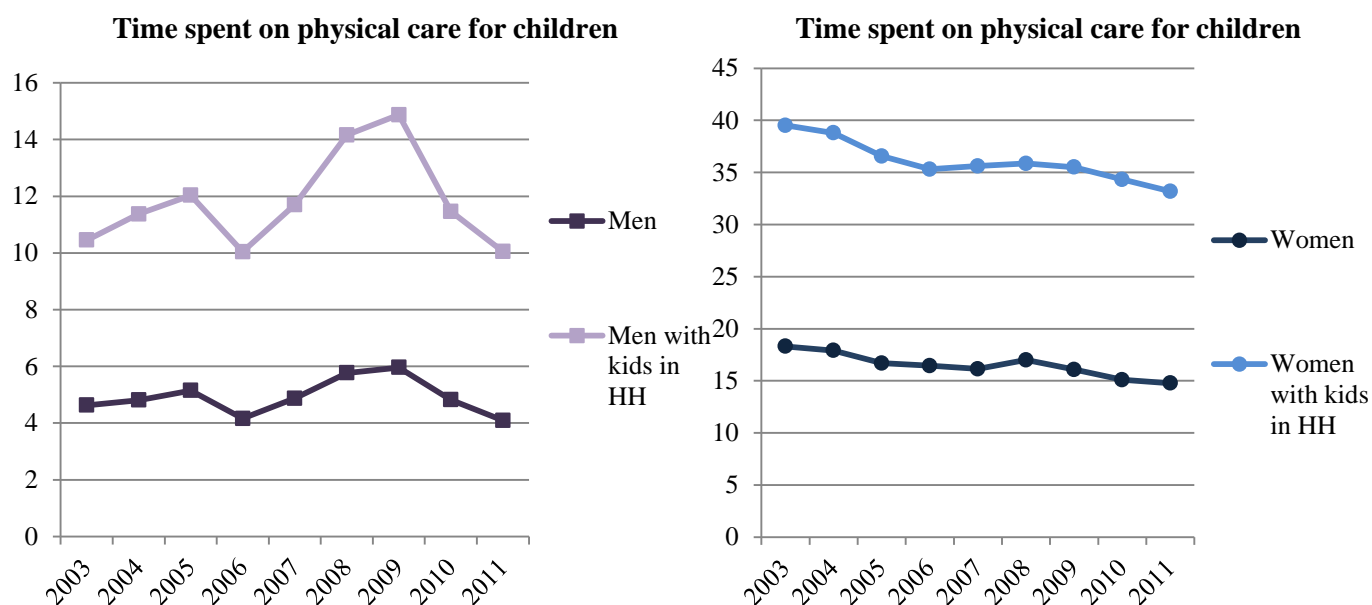


Figure 5: Average time spent on physical childcare. Figures use complex weights provided by ATUS-X

An increase in the amount of time men spend performing physical care for children is striking because it demonstrates that men are not just increasing the time they spent on childcare through playing with their children, but rather they are engaging in the less pleasurable sides of childcare that they have historically performed less.

#### *Within and Between Change*

A common approach to studying a change across time and groups is to decompose the total change into a within group change and a between group change; for example, Berik and Kongar (2011) use the within/between approach to analyze changes in time use during the Recession. In this approach, the increase in time spent on childcare during the Recession could be a “between” change, because more men are unemployed, and unemployed men spend more time on childcare than employed men. Likewise, the increase could be a “within” change, where men who remained employed increased the time spent on childcare.

However, the within/between approach cannot be easily applied in this situation because the composition of each employment category is different during a recession than prior. Consider this example: if men who spent the least amount of time with children were the first to lose their jobs in the Recession, the average amount of time an employed man spends on his children increases solely due to the departure of these men from the sample with no change in behavior of those remaining employed. Likewise, to estimate the change in the time spent on childcare when men become unemployed, it is tempting to compare those who are employed prior the recession to those who are unemployed prior to the Recession and multiply by the proportion of men who switched from employed to unemployed. However, this implies that employed men who lost their jobs during the Recession will begin spending the same time with children as men who were unemployed prior to the recession; however, the former group may well act differently than the latter.

To investigate these pitfalls, I link the ATUS sample back to their last interview with CPS. This interview occurred between two and five months prior to the ATUS survey. Unfortunately, the ATUS only gives one measure of time use and does not track respondents' time use over time; however, careful cross-sectional analysis can still reveal informative patterns.

The CPS interview identifies those who have recently switched employment status into being unemployed or not in the labor force. Table 7 shows the average time spent on primary childcare by men by their employment status in both the CPS interview and the ATUS interview. Prior to the Recession, employed men spent 18.6 minutes on primary childcare; this is different from 20.9 minutes of primary childcare spent on childcare during the Recession (p value .03). This is the “within” comparison made when comparing those employed during the Recession to prior to the Recession.

Time on primary childcare prior to the Recession		Time on primary childcare during the Recession				
ATUS survey	Employed	18.6 min.	CPS survey			
	Obs	11,110	Employed	Unemployed	Not in labor force	Total
	Unemployed	21.1 min.	21.43 min.	31.29 min.	9.10 min.	20.92
	Obs	694	2977	64	153	3194
	Not in labor force	10.5 min.	32.65 min.	35.77 min.	12.85 min.	25.36
	Obs	3,720	82	72	89	243
ATUS survey	Total	16.9 min.	27.33 min.	17.78 min.	10.77 min.	12.03
	Obs	15,524	65	25	974	1064
	Total		21.87 min.	31.41 min.	10.70 min.	19.21
	Obs		3124	161	1216	4501

Table 7: Average time spent on primary childcare by men on weekdays prior to the Recession (left) and during the Recession (right). Figures use complex weights provided by ATUS-X

This “within” comparison is actually missing an important story of changing composition. For example, men who are not in the labor force in the ATUS survey performed 12.0 minutes of primary childcare during the Recession (compared to 10.5 prior to the Recession). However, those who were employed in the CPS survey and dropped out of the labor force by the time of the ATUS survey spent far more time on childcare than the rest of men who were out of the labor force (pvalue .014). Those who were out of the labor force and remained out of the labor force saw no change in time on primary childcare compared to prior to the Recession (10.5 to 10.8 minutes). The increase in the amount of time men who are out of the labor force spent on childcare is driven by the addition of recently employed men who dropped out of the labor force. This is not a “between” change, where employed men who drop out of the labor force begin performing childcare at the same level as other men who are out of the labor force. Nor is this a “within” change in behavior, where men who have always been out of the labor force change the amount of time they spend on childcare. Instead, the increase at the average results from a change in the composition of men who are out of the labor force.

A striking pattern revealed by the transition matrix is that men who are employed-unemployed, unemployed-employed, or unemployed-unemployed all spent remarkably similar time on primary childcare, regardless of their current employment situation. Additionally, men in these three cells spent far more time on childcare than any employment group prior to or during the Recession (all six pvalues are less than .003). The same transition matrix (not shown) for those prior to the Recession does not have this same grouping.

Again, the composition of this employment group changed during the Recession. As shown in Figure 6, more highly educated men spend more time on primary childcare. The group of marginally employed men became more highly educated during the Recession. As high school graduates flooded into this group, they raised the average level of education in the group along with the amount of time on primary childcare.

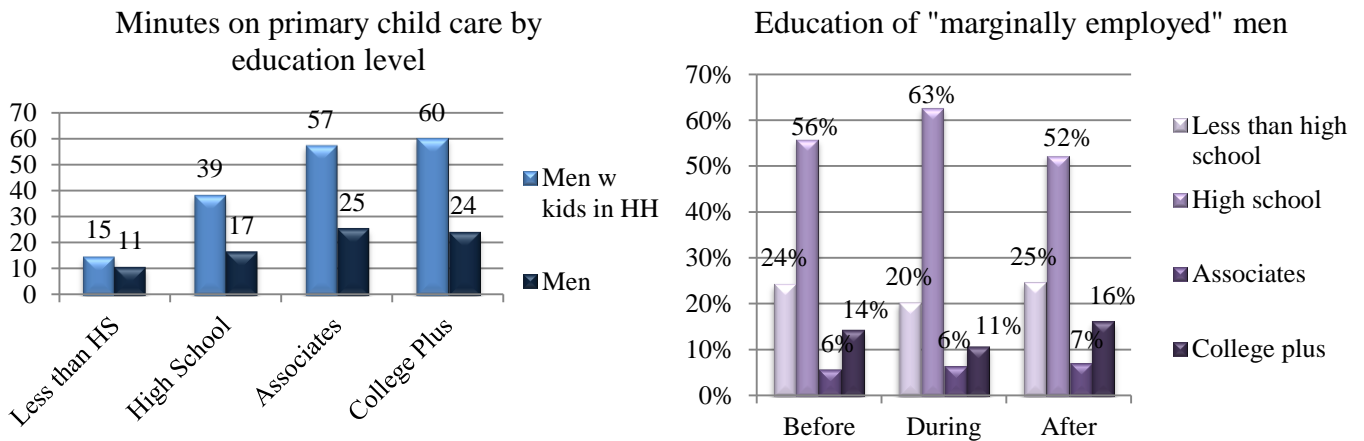


Figure 6: On the left, the average minutes men spent on primary childcare prior to the Recession by educational level. On the right, the change in the educational composition of “marginally employed” men. All figures use complex weights provided by ATUS-X.

*Implications for Women's Welfare*

If men have increased the time they spent on childcare, this may allow women more flexibility to spend time on other activities. I investigate if the time women spent on leisure, sleeping, socializing, or grooming increased relative to men during the recession. That is, I look for a difference during the Recession in the difference in the amount of time men and women spend on leisure, grooming, and sleeping. Specifically, I run the following regression:

$$y_i = \beta_0 + year_i \xi + I(DURING_i) \delta + I(DURING_i) I(FEMALE_i) \theta + I(FEMALE_i) \psi \\ + I(AFTER_i) \gamma + I(AFTER_i) I(FEMALE_i) \phi + \mathbf{X}_i \boldsymbol{\beta} + \mathbf{X}_i I(FEMALE_i) \mathbf{B} + \varepsilon_i$$

The expected difference between men and women's time spent on the activity prior to the Recession (at equivalent values of the X variables) is  $\widehat{\beta}_0 - (\widehat{\beta}_0 + \widehat{\psi}) = \widehat{\psi}$  and during the Recession it is  $\widehat{\beta}_0 + \widehat{\delta} - (\widehat{\beta}_0 + \widehat{\psi} + \widehat{\delta} + \widehat{\phi}) = \widehat{\psi} + \widehat{\theta}$ . So, the difference in this difference is  $\widehat{\theta}$ , or the coefficient on the interaction between during the Recession and female.

	<b>Sleep</b>	<b>Grooming</b>	<b>Leisure</b>	<b>Socializing</b>	<b>Work</b>
<b>During</b>	1.598 (4.130)	0.203 (0.893)	-0.695 (5.475)	2.788 (5.357)	-4.738 (7.541)
<b>Female*During</b>	-3.585 (5.469)	-0.231 (1.395)	10.39 (7.347)	8.572 (6.945)	-11.50 (10.58)
<b>After</b>	3.388 (4.880)	1.914* (1.133)	2.935 (7.290)	4.161 (6.896)	-31.25*** (9.805)
<b>Female*After</b>	0.621 (6.968)	-1.589 (1.562)	7.175 (10.07)	7.021 (9.396)	-2.008 (12.71)
<b>Observations</b>	55,630	55,630	55,630	55,630	55,630
<b>R-squared</b>	0.069	0.063	0.177	0.191	0.259
<b>Day</b>	Weekday	Weekday	Weekday	Weekday	Weekday
<b>Pop</b>	Everyone	Everyone	Everyone	Everyone	Everyone
	<b>Sleep</b>	<b>Grooming</b>	<b>Leisure</b>	<b>Socializing</b>	<b>Work</b>
<b>During</b>	1.251 (5.713)	1.031 (1.151)	1.368 (6.614)	4.738 (6.405)	-13.81 (9.475)
<b>Female*During</b>	-14.47* (8.051)	-0.110 (1.904)	1.992 (9.230)	0.305 (8.539)	6.902 (12.75)
<b>After</b>	2.383 (7.925)	2.791* (1.650)	10.25 (10.57)	6.941 (9.617)	-44.26*** (12.85)
<b>Female*After</b>	-10.45 (10.90)	-2.101 (2.445)	-3.795 (12.98)	1.392 (11.79)	13.34 (15.46)
<b>Observations</b>	26,325	26,325	26,325	26,325	26,325
<b>R-squared</b>	0.084	0.061	0.117	0.097	0.266
<b>Day</b>	Weekday	Weekday	Weekday	Weekday	Weekday
<b>Pop</b>	HHs with kids	HHs with kids	HHs with kids	HHs with kids	HHs with kids

Robust standard errors in parentheses

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

Table 8: Selected coefficients from the regression of childcare measures on indicator variables for during the Recession and after the Recession and interactions with an indicator for female. Controls include urban status, education, race, ethnicity, marital status, number of children in the household, family income, linear year trend, age, age squared, and age of youngest child (for the second set of regressions) and a full set of interactions between the control variables and the female indicator.

As Table 8 shows, there was no increase in the amount of time women spent on work, leisure, socializing, grooming, or sleep relative to men during the Recession, after controlling for demographic variables.

## DISCUSSION

The striking difference in the time men and women spend on childcare has concerned scholars and policymakers for years. It even made an appearance in the recent presidential debate, when Governor Romney responded to a question on the wage gap between men and women by stating

I recognized that if you're going to have women in the workforce that sometimes you need to be more flexible. My chief of staff, for instance, had two kids that were still in school. She said, I can't be here until 7 or 8 o'clock at night. I need to be able to get home at 5 o'clock so I can be there for making dinner for my kids and being with them when they get home from school. So we said fine. Let's have a flexible schedule so you can have hours that work for you. (ABC News)

Governor Romney's solution, flexible work schedules, is a useful tool for many parents, and his response highlights the disproportionate amount of time women spend on childcare relative to men. But, he assumes that men simply do not have parental obligations. This is both an uncharitable view of men's contribution to childcare and also unquestioningly trusts the assumption that women hold primary responsibility for childcare.

Rather than focusing on women, the analysis in this paper examined the other half of the equation: when do men spend more time on childcare? Indeed, men increased the

time they spent on childcare during the Great Recession when their employment opportunities worsened. Despite many men being “immune to the treatment” (ie, they have no children in their household, close family, or social circle), men as a whole increased the time they spent on primary and secondary childcare. The increase was quite large: over 10% of the difference in the time men and women spent on childcare prior to the Recession. This increase was associated with the difference between male and female unemployment rates; in states and years where the difference was larger, men spent more time on childcare, although this relationship is weak. The increase in time spent on primary childcare by men largely consisted of time spent on physical care, an element of childcare scholars have noted men historically have performed much less than women.

The increase in the time men spent on childcare suggests that even in the face of slowly changing social norms, a change in anticipated employment opportunities is associated with a sudden and dramatic change in how much time men spend on childcare. That is, childcare does not appear to be so heavily governed by gender that it alone resists change while the rest of society changes around it. Rather, the amount of time men spend on childcare does change, and this change is associated with changing employment opportunities.

This is good news to those concerned about the “second shift.” The results in this paper suggest that in the short run when relative employment opportunities of women improve, men spend more time on childcare. It follows that as women’s educational attainment and entry into historically male professions continue to increase, men will likely continue to increase the amount of time they spend on childcare. It is not hard to envision a future where presidential candidates expect *parents* to spend time with their children, rather than only mothers.



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