

Maternal Employment and Family Caregiving: Rethinking Time with Children in the
ATUS

By

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ABSTRACT: In this paper, we employ the ATUS and the historical time diary studies in the U.S. to extend the picture we have of maternal employment and its relationship to other facets of family life. First, we document trends in parents' time spent in paid work, housework and childcare over the period of rising maternal employment. Second, we focus on differences in selected time use activities of mothers by employment status. Third, we examine the new measure of "secondary" childcare offered in the 2003 ATUS, compare it with past measurement, and explore how new ATUS estimates add to our conceptualization of childcare time.

One of the most important trends to alter family life in the latter half of the 20th century was the increase in women's labor market opportunities and employment outside the home. In the U.S., the employment of mothers with children under age 18 increased from 45 to 78 percent between 1965 and 2000 with the increase in full-year employment (50+ weeks) rising from 19 to 57 percent during the same period (Bianchi and Raley 2005: Table 2.2). Recent evidence suggests that mothers' employment rates may have reached a plateau and some argue that a slowdown or even retrenchment in the trend toward gender equality may be underway in the U.S. (Cotter et al. 2004; Sayer et al. 2004).

Time is finite and a dramatic reallocation of women's time raises questions about changes in other spheres, particularly family caregiving. In the words of Gauthier et al. (2004), what "financed" increased market work of mothers? No question is perhaps more important than whether increased maternal time in the labor market deprives children of necessary time. The leveling in women's labor market activity and slowing of the trend toward gender equality in market outcomes that we may now be seeing may be tied to the difficulty women have in balancing market work with the needs of children (Gornick and Meyers 2004; Jacobs and Gerson 2004). If we pose the question, what "financed" increased maternal employment, do we better understand both how children may be faring but also why, after trending upward, market work for mothers may be leveling?

In this paper, we explore three interrelated topics. First, we align new 2003 American Time Use Survey (ATUS) estimates of parental paid work, housework and childcare with estimates using historical time use data extending back to 1965. This trend

analysis shows that it was housework, not childcare, that “gave” to the pressures of maternal employment. Second, we focus on differences in time use of mothers by employment status in our most recent data collection at the University of Maryland, the 2000 National Survey of Parents (NSP) in the 2003 ATUS. We show that differences between the two groups at a point in time suggest a somewhat different picture of the “cost” of maternal employment than the trend analysis. Third, we use the 2003 ATUS to expand our measures and understanding of childcare. Comparison of the 2000 NSP with the 2003 ATUS suggests where ATUS data can and cannot be combined with previous U.S. time diary data collections to extend measures of parental investment in childrearing.

Critiques of previous time diary assessments of maternal employment and childcare serve as motivation for the examination of expanded measures of childcare in the ATUS. One critique is that historical time diary studies do not adequately capture how mothers’ accessibility to children has declined as mothers have increased their labor force participation. The second is that sample sizes of past time diary studies have been too small to measure parental investment in the most critical years of a child’s development—infancy and early childhood. The assumption is that it is very young children who are deprived of substantial amounts of maternal time when their mothers are employed.

Background

Ample evidence suggests that women incur a wage penalty for the time they devote to childrearing (Budig and England 2001; Crittenden 2001; Joshi 2002; Waldfogel

1997), yet mothers continue to curtail market work despite the economic disadvantages of discontinuous labor market participation. Mothers are most likely to curtail hours of market work when their childrearing demands are greatest: the majority (54%) of married women ages 25–54 with preschool-age children in the home do not work full time, year round (Cohen and Bianchi 1999) and mothers' employment hours remain highly responsive to the age of the youngest child (Bianchi and Raley 2005). The 2000 March Current Population Survey (CPS) data show that only 46 percent of married mothers with a child under age 1 report any paid work hours compared with 73 percent of those whose children are all over the age of 6 (Bianchi and Raley, 2005: Table 4). As some mothers exit the labor force for the first year or few years of their children's lives, others may reduce their labor force status to part time (Klerman and Liebowitz 1999). When mothers return to market work, or return to full-time employment, they may structure their employment hours so that they overlap with children's school schedules (Crouter and McHale 2005). These strategies tend to narrow the gap in childcare time between employed and nonemployed mothers—particularly when children are young.

One explanation for women's labor force exits is that there are nonmarket benefits to curtailing market work. For example, many women may consider more time with children or perhaps less hurried lifestyles worth the economic risk of time out of the labor force. Cross-sectional time use data do not allow us to sort out causality on this issue but they do allow us to describe hours foregone in other activities when more hours are spent in market work. The picture of "nonmarket costs" when mothers work outside the home is that some child care time and sleep but also a great many hours of free time and housework go by the wayside.

The idea that mothers' paid labor might not greatly reduce child care time – or at least not reduce it hour for hour – has been in the time diary literature for some time. In the late 1980s, for example, Steven Nock and Paul Kingston (1988), analyzing the 1975 University of Michigan time diary study, found that nonemployed mothers did more childcare than employed mothers and spent more time with their children but that most of the time nonemployed mothers were in the household with children was not time they were reporting being engaged in childcare. They were most often doing other household tasks, presumably with children in the background.

Keith Bryant's (1996) analysis of historical time diary data from the 1920s through the 1960s suggests reasons why maternal time with children might be steady or increasing. He argued that trends such as the upgrading in educational attainment of parents, the movement off farms and into urban areas, and the reduction in family size resulted in more maternal time spent directly in family care. Indeed, early time diary studies showed that more highly educated mothers not only spent more time on average with children, but they also tended to do more intellectually stimulating things with their children (Leibowitz 1977; Hill and Stafford 1974).

Time diary data for the 1965 – 2000 period show that maternal time in primary child care activities dipped between 1965 and 1975 but rose thereafter and that fathers' time in these activities increased after 1985 (Bianchi 2000; Sayer, Bianchi and Robinson 2004).¹ Time use data from European countries show similar patterns of increase in parental time in primary child care across a number of developed countries (Gauthier et

¹ Sandberg and Hofferth (2001), analyzing child diaries from the PSID-Child Development Supplement, also report large increases in children's time with parents between 1981 and 1997. However, a recent correction to this earlier finding makes it less clear whether children's diaries show a large increase. The 1981 data have serious non-comparabilities with the 1997 (Sanberg and Hofferth 2005).

al. 2004). Indeed, almost a decade ago, Heather Joshi (1996) concluded that the available multinational time use data suggested no deterioration in mothers' time in primary childcare despite rapid increases in women's labor force participation in virtually all European economies.

A number of qualitative studies suggest why this might be the case. They focus on the symbolic meaning of motherhood and argue that the essence of being a good mother is to "be there" for your children. Sharon Hays (1996) labels this the cultural contradiction of modern motherhood: mothers assume the co-provider role but still feel compelled to be "all giving" and "ever available" to their children and act accordingly. Mary Blair-Loy (2004) discusses a schema of "devotion to family" that competes with "devotion to work" even among high income, professional mothers who are most heavily invested in their jobs.

Most of the prior time diary studies assess parental investment in childrearing and differences by mothers' employment status with a measure of time in primary child care activities. Primary child care time is the measure that is most consistently available, both across time in the U.S. and in time diary studies from other countries. Some make compelling arguments that the "activity focus" of time diary data collection and the heavy reliance on assessments of primary activity time at best provides only a partial picture. Historical estimates of childcare collected in time diaries may miss changes in mothers' overall availability to children as more mothers spend more hours away from home in employment (See Budig and Folbre 2004). The ATUS moved in the direction of capturing a broader concept of time that parents invest in caring for and monitoring children by deciding to collect additional data on childcare outside of the time diary.

Until the release of the ATUS, most research has relied on small samples that lacked statistical power to make meaningful statements about variation in parental time with children by detailed age of child. Past research from large, nationally representative samples such as the CPS shows that mother's work hours are responsive to children's age (Bianchi and Raley 2005), suggesting that other aspects of how parents spend their time may be as well. The ATUS, with its large sample size greatly expands our ability to describe how mother's and father's time with children varies by age of child. Thus, the ATUS allows a more detailed picture of the current relative levels of investment in child care of employed and nonemployed mothers, and fathers and mothers.

Data

This paper uses seven national time-diary studies conducted between 1965 and 2003 (see Appendix A for a detailed description of the studies or Appendix Table 1 for a summary). Each of the surveys uses the general approach of collecting time diary information over a 24 hour period by asking the respondent what they were doing and for how long, who was with them, and their location at the time of each activity. Across time interviewing moved from personal to telephone interview and from "tomorrow" diaries to "yesterday" diaries.

Time Use Estimates

Time use estimates are based on primary activities on the diary day, multiplied by seven to obtain estimates of weekly hours in activities. Weights are used for each time point to correct for nonresponse and, in the ATUS, to adjust for the over sampling of

weekend days. The ATUS coding scheme is more detailed and somewhat different than the coding schemes used in the historical time use data sets, so we recoded ATUS data to conform to the coding schemes used in earlier studies (see Appendix Table 2).

Primary Childcare

In the ATUS, primary activities are collected by an interviewer who gathers a detailed account of the time diary respondent's activities between 4 a.m. the previous day to 4 a.m. on the interview day. The interviewer first asks: What were you doing/What were you doing next? For each activity reported, the interviewer asks how long the activity took place. For all activities except sleeping, grooming, and working in the ATUS, the interviewer asks who was with the time diary respondent during the activity. Last, the interviewer asks where the activity took place, except in the case of sleeping and grooming in the ATUS. In the ATUS, if more than one activity is reported, it is recorded in the activity field separated by a slash. However, the BLS does not ask about simultaneous activities. In this paper, primary childcare activities are those activities in which the respondent reports doing some type of childcare as their primary activity (see Appendix Table 2 for details). Primary activity data were collected more or less comparably in all earlier surveys except that the reference period was from midnight to midnight.

Secondary Childcare

Prior to the 2003 ATUS, in most U.S. time diary data collections, secondary activities were recorded along with primary activities. Child care activities mentioned

when respondents were asked “Were you doing anything else?” as they reported each primary or main activity during the day are considered “secondary activity” time. Unfortunately secondary activity data is not available for all U.S. time diary data collections: in some studies secondary activities were not ascertained and in others the data were never deposited and are now difficult, if not impossible, to retrieve. Where secondary activity measures of childcare are available, for example in the 1975 University of Michigan study and our two recent data collections at the University of Maryland, a substantial amount of additional child care is provided in conjunction with other activities, or as a “secondary activity.”

The designers of the ATUS were aware of the great interest in using time diary data to assess time with and responsibility for the care of children. Those who designed the study were also aware of the frequency with which child care activities are “secondary” in nature, where supervision and care of children takes place in conjunction with other activities. Hence, the ATUS captures what it refers to as “secondary child care” outside of the diary format by bracketing the time between when a respondent’s first child awoke and last child went to sleep on the diary day and ascertaining when during the intervening hours the respondent was caring for children. This assessment is only done with parents who have at least one child under age 13 “in their care.” The ATUS uses this “in your care” question in conjunction with the primary activity codes in the diary to arrive at a measure of secondary childcare care. Primary childcare of the respondent is subtracted from the “in your care” time so as not to double count time devoted to child care. The constructed measure of secondary childcare in the ATUS also eliminates any time that the respondent spends sleeping.

The BLS also captured secondary childcare separately for 1) time when the respondent had at least one household and/or one own, nonhousehold child under age 13 in their care; or 2) time when the respondent had other nonhousehold children in their care. Secondary childcare time in this analysis is calculated for respondents with at least one household and/or one own, nonhousehold child under age 13 in their care while engaged in a primary activity.

All Time with Any Child

In both the 2003 ATUS and earlier time diary data collections, time “with children” counts all time that a time diary respondent reports being with a child. It is computed by using the presence of children listed in the “who” code. In the 2003 ATUS, children are defined in the who code if they are any of the following household members under age 18 (as determined from the roster file): own household child; grandchild; brother/sister; other related person (aunt, cousin, nephew); foster child; housemate/roommate; roomer/boarder; other nonrelative; or an own nonhousehold child <18, an other nonhousehold family members < 18, or an other nonhousehold children < 18. All activities for which who information is not collected such as sleeping, grooming, personal (private) activities, and working are omitted from the calculation of all time with any child.

Child under Age 13 “In Your Care”

This variable was constructed in the 2003 ATUS by counting the time that a respondent reports a household or own, nonhousehold child under age 13 was in their

care. Once the diary is completed, the interviewer asks questions to obtain information about secondary childcare. One of the questions asks the respondent to identify at which times or during which activities a child under 13 was in their care. Respondents can list the activities where a child was in their care, they can respond a child was in their care *all day*, or they can indicate that none of the activities involved a child in their care. Any activity time where a respondent stated a child under 13 was in their care was counted. Thus, unlike the BLS measure of secondary childcare time, this measure counts all activities in which the respondent reported a child was in their care, including sleep and primary childcare time.

Measurement of Demographic Variables

Parental Status

Appendix Table 1 shows how parents are identified in each of the historical time diary studies. In the 2003 ATUS, parents are any time diary respondent (TDR) with an own child under age 18 living in the household at the time of the ATUS interview. They are identified by using the roster file, which is an updated version of the CPS household and includes information on the name, sex, birth date, and age of each household member as well as the relationship to the time diary respondent. If the roster includes at least one own child under age 18, the time diary respondent is considered a parent.

Employment Status

In this paper, employed persons are identified outside the diary by using the labor force status of the time diary respondent at the time of the interview. If the respondent

reports being employed, at work or employed, absent they are considered “employed.” Respondents who indicate they are unemployed, looking for work, or not in the labor force are considered “not employed.”

Analysis Plan

The first step of the analysis plan is to review trends in parents’ time spent in paid work, housework and childcare in previous time diary studies, adding the 2003 ATUS time point to assess comparability of the ATUS with earlier studies. Second, we analyze differences in activities by maternal employment status at a recent time point using Tobit regression analysis to adjust for compositional differences between employed and nonemployed mothers. Finally, we examine the new measures of childcare offered in the 2003 ATUS, which are a significant departure from earlier time diary studies, and explore how these estimates (1) compare to previous measures of childcare and (2) add to our conceptualization of parental investment.

Trends in Paid Work, Housework and Childcare

In a forthcoming book, *Changing Rhythms of American Family Life*, Bianchi and colleagues John Robinson and Melissa Milkie (2006) use the historical time use data collections in the U.S. as well as two collections we undertook at the University of Maryland in 1998-1999 and 2000, to document changes in maternal employment, housework, childcare, and fathers’ housework and childcare in families with children under age 18. In the current paper, we add the 2003 ATUS data point to these trend analyses to show that estimates from the much larger ATUS are generally consistent with

the most recent estimates from our much smaller time diary data collections at the University of Maryland.

To briefly summarize, the trend data across all parents show that as mothers increased market work they reduced their time in housework but not childcare and fathers boosted their time in the home, first in housework and later in childcare. Table 1 shows the hours of market work reported by mothers in the historical series of time diaries more than doubled (from 8 to 19 hours per week, on average) between 1965 and 1985, continued to rise (to an average of 23 hours in 1995) and then leveled off (perhaps even declined slightly) in 2000. The 2003 ATUS estimate of mothers' hours of paid work is about two hours lower per week than our 2000 estimate, which may be a reflection of coding inconsistencies across the datasets.

[Table 1 about here]

Where did mothers find the time for increased paid work? Housework hours for mothers declined from an average of 32 hours per week (reported in 1965 time diaries) to just under 19 hours (reported in 2000), a decline of 13 hours, on average. This could be viewed as close to an equal trade: mothers averaged 14 more hours of market work in 2000 than in 1965 as they shed 13 hours of housework. Adding the ATUS 2003 time point suggests that mothers' housework hours currently average 18 hours per week, a decline of 14 hours (from 1965) that "matches" the increase in market work. Most of the change in mothers' housework was in "core housework" tasks: mothers almost halved the time they spent in cooking and meal cleanup and doing laundry and cut their housecleaning time by more than one third.

Mothers' primary childcare time followed a different pattern from housework, as shown in Figure 1. As market work rose, mothers' time in childcare activities declined from 10 to 8 and ½ hours per week between 1965 and 1975. After 1985, however, primary childcare time of mothers rose to almost 13 hours per week by 2000. The 2003 ATUS provides the highest estimate of primary childcare time for mothers (14.1 hours per week) of any time point. Routine caregiving (e.g., feeding, clothing, bathing, taking to the doctor), the bulk of childcare, generally remained steady: it dipped between 1965 and 1985 and returned to (and slightly exceeded) 1965 levels by 2000. The more interactive childcare activities (e.g., playing with, reading to, etc.), however, almost tripled from 1.5 hours per week in 1965 to 4.0 hours per week reported in the ATUS.

As mothers increased their market work and shed housework, how did fathers respond? The time diary evidence suggests that fathers more than doubled their housework hours between 1965 and 1985, from 4 to 10 hours per week but that then housework time for fathers leveled out. Fathers' primary childcare time was stable at about 2 and ½ hours per week in the 1965 though 1985 diaries but then increased substantially. By 2000, fathers had nearly tripled their primary childcare time, reporting almost 7 hours per week of childcare in our diary collections, an estimate similar to the 7 hours per week reported in the ATUS. (See Figure 1)

[Figure 1 about here]

To summarize, trend analyses suggest that mothers replaced unpaid housework with market work. They largely "protected" childcare time, even increasing "quality" interactive time. Fathers picked up some of the slack, first by increasing their time in housework, later their time in childcare. Estimates from the ATUS on primary activity

time in these areas are in general remarkably similar to recent smaller scale U.S. time diary surveys.

Differences Between Employed and Nonemployed Mothers: 2000 and 2003

Although trends suggest that the increase in market work of mothers was largely “financed” by a decrease in housework – and not childcare, employment still takes a toll on more than housework, including childcare. Table 2 shows weekly hours in selected activities for employed and nonemployed mothers in both our combined 1998-99 NSF/2000 National Survey of Parents (NSP) data collection and in the 2003 ATUS. Activities include: 1) total hours of work - the combination of paid (employment plus commuting time) plus unpaid (housework, childcare, and shopping) hours, 2) total unpaid work (including the subcategories of housework and childcare), 3) sleep, 4) free time (including the subcategory of TV viewing time and an estimate of free time that is not in the company of children). The underlying assumption is that the quality of free time and the constraints on what one does during one’s free time may be different than when one is potentially dealing with the needs and wants of children. For more discussion, see Mattingly and Bianchi (2003).

[Table 2 about here]

The final two columns of Table 2 use regression analysis to estimate the employment difference net of the associations with family characteristics (whether married, number of children, presence of a preschooler), educational attainment, age of the mother. We adjust estimates of the employment difference for these factors because they all affect time use. Also the two groups of mothers differ on these factors which

affects the overall estimates of time use: nonemployed mothers are younger, less well-educated, have more and younger children, and are more often married than employed mothers. Distributions across these variables are included in Appendix Table 3. The full regression results for the 1998-99/2000 data are reported in Appendix Table 4 and for the 2003 ATUS in Appendix Table 5.

The adjusted estimates are fairly consistent across the two data sets. Employed mothers have a workweek that averages 20 hours longer than that of nonemployed mothers (in the 1998-99/2000 data, in the ATUS this estimate is about 15 hours). The employed mother does 9 fewer hours per week of housework and 6 hours less childcare but this does not fully compensate for the additional hours she spends in paid work. The employed mother averages 5 (or 4 in the ATUS) hours less sleep and she has significantly less free time (12–15 hours per week, 7–11 fewer “child free” hours of free time). Part of the free time gap is that employed mothers watch almost 10 fewer hours (7 in the ATUS) of TV each week than the nonemployed mother. That is, the 15-20-hour longer work week for employed mothers’ is “financed” not only by doing less housework but also by sleeping somewhat less, doing a little less childcare and engaging in significantly fewer free time activities.

To recap: during a period of rising maternal employment, mothers’ childcare time did not decline. But employed mothers do somewhat fewer hours of childcare than nonemployed mothers. These findings seem on the surface to be contradictory. How might we reconcile them?

Table 3 uses the 1975 time use study done at the University of Michigan, a low point in maternal primary childcare time, and our recent time diary collection at the

University of Maryland to explore the differences in childcare by employment status of mother and the change over time. The third column of Table 3 shows results from a model that combines the two time points and estimates both an “employment effect” and a “year effect” in regressions predicting mothers’ time in primary child care (net of other variables known to affect mothers’ time in childcare such as age, educational attainment, age of youngest child and number of children). Employed mothers are estimated to average almost 5 fewer hours per week in child care than nonemployed mothers. However, this is counterbalanced by an equally large positive estimate of 5 more hours of childcare in 2000 than in 1975. Expressed somewhat differently, childcare time was higher at both points of time for nonemployed than employed mothers but it also increased for both groups of mothers. In 2000 the employed mother was recording as much primary childcare in her diary as the nonemployed mother recorded in 1975.

[Table 3 about here]

Primary Childcare and Age of Youngest Child: New Findings

Before the ATUS, sample sizes from past time-diary collections have been too small to analyze the difference between employed and nonemployed mothers, or fathers and mothers, by detailed age of youngest child. Appendix Table 6 shows the percent of parents reporting primary child care, daily averages of primary child care time for those who participated in childcare activities on the diary day, and of overall time in primary childcare for all parents (averaged over participants and non-participants) for both the 2003 ATUS and the 2000 NSP. We provide estimates for the sample who have a child

under 18, then restrict the sample to smaller subgroups: those with at least one child under age 13, under age six, under age three, and under age one.

As shown in Figure 2, the ratio of employed mothers' primary child care time on the diary day is 88 percent that of nonemployed mothers' time in the sample of mothers with a child under age 1 in the 2003 ATUS sample. The ratio declines linearly as we expand the sample to include families with older children. For all families with a child under age 18, employed mothers' primary childcare time falls to 65 percent that of nonemployed mothers. Employed mothers manage to keep their childcare hours relatively close to those of nonemployed mothers especially when there are very young children in the home – no doubt by allowing their employment status and hours of paid work to adjust to children's needs whenever possible.

[Figure 2 about here]

The ratio of fathers' primary childcare time to mothers' time shows a positive association with age of youngest child: in samples with older children fathers do proportionately more childcare. Figure 3 shows that fathers do only 40 percent as much primary child care as mothers in families where there is an infant but 50 percent as much childcare as mothers do in all families with a child under age 18. Consistent with other research (see Coltrane (1996) for a review), fathers spend more hours in childcare with younger children (who demand more time) but their relative contributions are somewhat higher with older children. Childcare time drops for both mothers and fathers as children age, but the decrease in childcare time is greater for mothers than fathers. Therefore, father's relative time in childcare increases.

[Figure 3 about here]

Expanding the Examination of Childcare in Families with Children Under Age 13

Prior critiques of time diary assessments of parental investment in childrearing call for moving beyond primary activities in assessing care. ATUS allows new measures for parents with a child under age 13. We begin with an assessment of primary child care and then move on to more expansive measures of all parental time with children and secondary childcare using the ATUS “in your care” concept. Also, out of curiosity we examine the actual reporting times that respondents gave in the ATUS for “having a child under age 13 in their care” and compare this with the secondary and secondary plus primary child care measures in the ATUS. Parents’ notions of when children are in their care seem far broader than the secondary and primary child care defined by the ATUS coding procedures.

Primary Child Care Time in the 2000 NSP and 2003 ATUS

Table 4 reports parents’ time in primary childcare and all reported time with the child for the two samples. These are two measures that were collected consistently in the two diary collections and indeed, estimates appear remarkably similar across the surveys. The overall time fathers report doing primary child care - an average of 1.1 hours per day for all with a child under age 13 – is only about one quarter of the amount of time a father reports being with children on the diary day (4.7 hours for all with a child under age 13). As with primary child care (and reported in Figure 3), fathers’ time relative to mothers’

time (using ATUS estimates) increases from 56 percent for families with an infant to 64 percent for families with at least one child under age 13.

[Table 4 about here]

Employed mothers spend fewer hours per day with their children than nonemployed mothers. As with primary child care time, employed mothers' overall time with children relative to nonemployed mothers' is highest (75 percent) in families with an infant and declines somewhat (to 69 percent) when the sample expands to include all mothers with a child under age 13. For both employed and nonemployed mothers, their estimated primary child care time on the diary day is about one-third as large as the amount of time they spend with children.

Secondary Child Care Time in the 2000 NSP and 2003 ATUS

We compare the activity based “secondary child care time” in the 2000 NSP with the 2003 ATUS secondary care measure obtained with reporting outside the diary.² In the 2000 NSP, we collected time diary data on a much smaller sample of 1200 parents living with a child under age 18 but we collected the data in a way that parallels historical time use collections in the U.S. That is, we ascertained each main activity a respondent was doing throughout the day, whether they were doing anything else, or secondary activities, and with whom they did each activity.

The ATUS decision *not* to collect “secondary activities” in the traditional way that time diary research has captured simultaneous activities (i.e., by asking respondents “what else were you doing?” in conjunction with each reported primary activity) means

² As in the 2003 ATUS, we construct a measure of secondary childcare that does not overlap with primary childcare so as not to double count child care time.

that there is not a “secondary activity” measure of childcare in the ATUS that is comparable to previous U.S. time diary studies. It seems likely that the ATUS procedure of explicit questioning of when throughout the day a child was in a parent’s care will yield higher reports of secondary child care than reports from previous time diary data collections. Historical comparisons would be seriously misleading and, indeed, the use of the term “secondary child care” in the ATUS seems likely to confuse those who think of secondary child care in the activity terms that have typically been used for its collection.

In Table 5, we contrast the two ways of ascertaining secondary child care time and show that, indeed, there are major differences across the surveys. With the “in your care” measure of secondary time in the ATUS, 81 percent of fathers and 95 percent of mothers claim they care for children on the diary day at times other than when they are doing primary childcare. In response to “what else were you doing?” secondary activity queries in the 2000 NSP, only 21 percent of fathers mention activities they do for their children in addition to primary childcare activity and 46 percent of mothers report additional time in secondary childcare activities. The 2000 NSP picked up 0.4 of an hour of secondary time for fathers whereas the 2003 ATUS estimate of secondary child care time is 4.5 hours per day for fathers.

[Table 5 about here]

In the ATUS, there was no difference between employed and nonemployed mothers in the percent reporting secondary child care (almost all were doing it), on the activity measure there is a difference by employment status for mothers. Considerably more nonemployed mothers (55%) than employed mothers (42%) report doing secondary

child care on the diary day.³ The 2003 ATUS estimate of secondary child care time of mothers is almost 7 hours per day compared with the additional one hour reported as secondary activity in the 2000 NSP.

There are major discontinuities between secondary childcare time in previous time diary data collections in the U.S. and in the ATUS. The 2003 ATUS estimates of secondary time are more similar to estimates of time with children than to secondary childcare time as captured in historical surveys. However, secondary time in the ATUS is different from “with whom” time. That is, in about one-third of the secondary time reported, a child is not reported as “with the parent.”

This secondary “in your care” concept also suggests that employed mothers average 73-75 percent as much of this type of time with their children as nonemployed mothers and that fathers’ “care” time relative to mothers’ increases from 57 to 65 percent as much time as we include families with older children.

One point of view is that there was serious undercounting of time that parents were watching over children in the earlier diary studies. Another is that the “in your care” concept can expand to the point where it is not very meaningful other than to indicate that parents almost always feel responsible for their children. In the ATUS data files, there is actually a code for all the times that a parent said a child under 13 was in their care. This information is then edited to create the secondary child care time measure by removing time the parent has already reported as primary child care and also removing the parent’s time sleeping. However, we were curious about the amounts of

³ In the NSP, we also do not double count child care time. The secondary time estimates are of time that does not overlap primary child care time as it is in the ATUS construction.

time parents actually reported having a child “in their care” so we tabulated these estimates.

Table 6 shows these estimates in the third panel and for reference the first panel includes the time defined in the ATUS as secondary child care time and, in the second panel, we add together primary and secondary child care time to provide an estimate of all the time that the ATUS estimates suggest a parent was engaged in child care.⁴

Clearly, parents report far more time with children “in their care” than either of the other measures pick up.

[Table 6 about here]

Focusing first on the nonemployed mother who presumably is much less likely to rely on substitute caregivers during the diary day than either fathers or employed mothers, the estimate of childcare time (primary plus secondary) of a nonemployed mother with an infant is almost 14 hours a day but it is almost as high, 12 hours a day, in all families with at least one child under age 13. (Employed mothers’ estimates are 83 percent as high as nonemployed mothers’ estimates in families with infants (11 hours a day) and 69 percent as high in all families with a child under age 13 (8 hours a day).

The variable on the file that flags times a mother said a child was in her care increases from 13.6 hours to 21.7 hours per day (approaching the 24 hour limit!) for nonemployed mothers with an infant. That is, these mothers’ reports of time children were “in their care” are 60 percent higher than the estimate of primary plus secondary childcare time. Fathers of infants have estimates of childcare time (primary plus secondary) that are less than half of nonemployed mothers’ (6.3 versus 13.6) but their “in your care” reported time is also almost 60 percent higher (10 hours) than what ultimately

⁴ This is not a measure ever used by the BLS nor is it suggested that it be used to estimate childcare.

is tallied as childcare time. Employed mothers with an infant report time a child is “in their care” that is 56 percent higher than the combination of their primary and secondary estimated child care time. For all families with at child under age 13, “in your care” reports are 65 percent higher for nonemployed mothers, 60 percent higher for employed mothers, and 56 percent higher for fathers than estimated child care time.

For all families with a child under age 13, we were curious about how much time, when a parent said a child was in their care, they were actually with a child. In cross-tabulations of the “in your care” report with the reports of whom the parent was with, only about half of the time that a parent indicated a child was in his or her care was the parent actually with children.

Conclusion

Parents’ time with children has increased and the trend appears to be consistent between historical time diary collections and the newly released 2003 ATUS. Despite rapid increases in maternal employment, mothers’ investment in childrearing remains high and is likely even higher than in the past. There are costs, however, to increased maternal employment. For children, the cost of their mothers working may come in the form of somewhat less time engaged in primary time or less time with their mothers than children of nonemployed mothers. Employed mothers also get somewhat less sleep and enjoy less leisure than nonemployed mothers and have long work weeks.

The fact that estimates of primary childcare time and time with children in the ATUS line up well with past collections of time diary data is good news. As time-diary research moves forward, the ATUS will become the premier source of national data on

time use in the United States. Future ATUS collections will ultimately enhance our ability to understand trends over time in primary childcare time and time with children. Larger sample sizes and more detailed respondent information also improve our understanding of parental time with children. For example, we now have the ability to assess employment differences in time with children during a time when maternal absence has been shown to be the most detrimental to child well-being—at the earliest ages when children are less than a year old. Our analysis shows that primary childcare time of employed mothers of infants is nearly 90 percent that of nonemployed mothers—suggesting that employment during the most critical years of child development may not deprive children of important maternal time. Like the work hours of employed mothers, their childcare hours are responsive to children’s age, as well.

The new and more expansive measure of secondary childcare time in the ATUS may prove to be a superior measure of parental care and responsibility but it may also constrain trend analysis. The ATUS procedures for estimating secondary child care create a major discontinuity with past time diary collections in the U.S. It remains to be seen whether the ATUS departure from the secondary activity way of estimating secondary parental child care time is adopted as the standard in other data collections. Clearly, using time diary information to conceptualize childcare as investment in children is difficult and worthy of further attention. The ATUS has engaged in new data collection to expand the conceptualization of child care but it also raises new questions about how care should be conceptualized and whether we want the same type of conceptualization when the focus is on investment in children as when the focus is on

gender equality or women's investment in their own labor force productivity and continuity.

As Budig and Folbre (2004:59) note, "Child care is not just a set of activities. It is also a state of mind."⁵ Our numbers suggest that caring for children is a pretty constant state of mind, in some cases approaching the 24-hour daily limit. At the extreme, all parental time is childcare if the essence of being a parent is to be responsible for one's children, 24 hours a day, seven days a week. Do these new measures of childcare measure parental investment in children or are we simply capturing the pervasiveness of parenting? In short, this concept may be better suited for estimating constraints on parents' time than it is for use as a measure of what children receive from that time.

⁵ The call is to pay more attention to "passive" childcare and, indeed, Folbre et al. (2005) have used the PSID- Child Development Supplement to construct expanded measures of childcare.

References

- Bianchi, Suzanne M. 2000. "Maternal Employment and Time With Children: Dramatic Change or Surprising Continuity?" *Demography* 37 (November): 139-154.
- Bianchi, Suzanne M., Melissa A. Milkie, Liana C. Sayer, and John P. Robinson. 2000. "Is Anyone Doing the Housework? Trends in the Gender Division of Household Labor." *Social Forces* 79 (September): 191-228.
- Bianchi, Suzanne M. and Sara Raley. 2005. "Time Allocation in Working Families." In *Work, Family, Health, and Well-Being* edited by Suzanne M. Bianchi, Lynne M. Casper, and Rosalind Berkowitz King. Mahwah: NJ: Lawrence Erlbaum and Associates.
- Bianchi, Suzanne M. John Robinson and Melissa Milkie. 2006. *Changing Rhythms of American Family Life*. New York: Russell Sage.
- Blair-Loy, Mary. 2003. *Competing Devotions: Career and Family among Women Executives*. Cambridge, MA: Harvard University Press.
- Bryant, W.K. 1996. "A Comparison of the Household Work of Married Females: The Mid-1920s and the Late 1960s." *Family and Consumer Sciences Research Journal* 24:358-84.
- Budig, Michelle J. and Paula England. 2001. "The Wage Penalty for Motherhood." *American Sociological Review* 66: 204-225.
- Budig, Michelle and Nancy Folbre. 2004. "Child Care vs. Child-Minding: Measuring Activities, Responsibilities, and Time." In *Family Time: The Social Organization of Care*, edited by Nancy Folbre and Michael Bittman. New York: Routledge.
- Casper, Lynne M. and Suzanne M. Bianchi. 2002. *Continuity and Change in the American Family*. Thousand Oaks, CA: Sage.
- Cohen, Philip S. and Suzanne M. Bianchi. 1999. "Marriage, Children, and Women's Employment: What Do We Know?" *Monthly Labor Review* (December): 22-31.
- Coltrane, Scott. 1996. *Family Man*. Berkeley CA: University of California Press.
- Cotter, David A., Joan M. Hermsen and Reeve Vanneman. 2004. "Gender Inequality at Work." *The American People Census 2000 Series*. New York: Russell Sage and Population Reference Bureau.
- Crittenden, Ann. 2001. *The Price of Motherhood*. New York: Metropolitan Books.

- Crouter, Ann C., and Susan M. McHale. 2005. "Work, Family, and Children's Time: Implications for Youth." Pp. 49-66 in *Work, Family, Health, and Well-Being* edited by Suzanne M. Bianchi, Lynne M. Casper, and Rosalind Berkowitz King. Mahwah, NJ: Lawrence Erlbaum and Associates.
- Folbre, Nancy, Jayoung Yoon, Kade Finnoff, and Allison S. Fuligni. Forthcoming. "By What Measure? Family Time Devoted to Children in the U.S." *Demography* 42(2).
- Gauthier, Anne H., Timothy M. Smeeding, and Frank F. Furstenberg, Jr. 2004. "Are Parents Investing Less Time in Children? Trends in Selected Industrialized Countries," *Population and Development Review* 30(4): 647-671.
- Gornick, Janet C. and Marcia K. Meyers. 2003. *Families that Work: Policies for Reconciling Parenthood and Employment*. New York: Russell Sage Foundation.
- Hays, Sharon. 1996. *The Cultural Contradictions of Motherhood*. New Haven: Yale University Press.
- Hill, C.R. and F.P. Stafford. 1974. "Allocation of Time to Pre-School Children and Educational Opportunity." *Journal of Human Resources* 9:323-41.
- Jacobs, Jerry A. and Kathleen Gerson. 2004. *The Time Divide: Work, Family and Gender Inequality*. Cambridge MA: Harvard University Press.
- Joshi, Heather. 1998. "The Opporuntiy Costs of Childbearing: More than Mothers' Business." *Journal of Population Economics* 11:161-83.
- Joshi, Heather. 2002. "Production, Reproduction, and Education: Women, Children, and Work in British Perspective." *Population and Development Review* 28(3):445-474.
- Klerman, Jacob A. and Arleen Leibowitz. 1999. "Job Continuity among New Mothers." *Demography* 36:145-55.
- Leibowitz, Arleen. 1977. "Parental Inputs and Children's Achievement." *The Journal of Human Resources* 12(2):242-51.
- Mattingly, Marybeth J., and Suzanne M. Bianchi. 2003 "Gender Differences in the Quantity and Quality of Free Time: The U.S. Experience. *Social Forces* 81: 999-1030.
- Nock, Steven L. and Paul William Kingston. 1988. "Time with Children: The Impact of Couples' Work-Time Commitments. *Social Forces* 67: 59-85.
- Robinson, John P. and Geoffrey Godbey. 1999. *Time for Life*. University Park, PA: Pennsylvania State University Press.

- Sandberg, John and Sandra Hofferth. 2001. "Changes in Parental Time with Children, 1981-1977," *Demography* 38: 523-543.
- Sayer, Liana. 2001. *Time Use, Gender and Inequality: Differences in Men's and Women's Market, Nonmarket, and Leisure Time*. Unpublished Ph.D. dissertation. College Park, MD: University of Maryland, Department of Sociology.
- Sayer, Liana C., Suzanne M. Bianchi, and John P. Robinson. 2004. "Are Parents Investing Less in Children" Trends in Mothers' and Fathers' Time with Children." *American Journal of Sociology* 110(1): 1-43.
- Sayer, Liana C., Philip N. Cohen and Lynne M. Casper. 2004."Women, Men and Work." *The American People Census 2000 Series*. New York: Russell Sage and Population Reference Bureau.
- Waldfogel, Jane. 1997. "The Effect of Children on Women's Wages." *American Sociological Review*. 62: 209-217.
- Zick, Cathleen D., and W. Keith Bryant. 1996. "A New Look at Parents' Time Spent in Child Care: Primary and Secondary Time Use." *Social Science Research* 25: 260-280.

Appendix A

1965 U.S. Time Use Study

In 1965, as part of a multinational time use study, the Survey Research Center, University of Michigan, surveyed 1,244 adult respondents, aged 19 to 65, who kept a single-day diary of activities, mainly in the Fall of that year. Respondents in the 1965 survey completed “tomorrow” diaries, i.e. respondents were visited by an interviewer who explained and left the diary to be filled out for the following day and then the interviewer returned on the day after the “diary day” to pick up the completed diary. Respondents living in rural areas and those living in households where no one was employed were excluded (Robinson, 1977). Given the sample restrictions in 1965, we compared the 1965 parent characteristics with parent characteristics from the March 1965 Current Population Survey. The weighted 1965 time diary sample of parents closely approximates U.S. parent population characteristics (Sayer, Bianchi, and Robinson 2004).

1975 U.S. Time Use Survey

In 1975, the Survey Research Center, University of Michigan, surveyed 1,519 adult respondents, aged 18 and over, who kept diaries for a single day in the Fall of that year (Robinson 1976); in addition, diaries were obtained from 887 spouses of these designated respondents. In 1975, respondents were initially contacted by personal interview and a “yesterday” diary was completed during the interview. These respondents became part of a panel, who were subsequently reinterviewed in the Winter, Spring, and Summer months of 1976. About 1,500 of the original 2,406 respondents remained in this four-wave panel. Some 677 of these respondents were reinterviewed in 1981, again across all four seasons

of the year (Juster and Stafford 1985). Because of the difference in activities between those who stayed or dropped out of the panel, we make use only of the original sample of respondents interviewed in the fall of 1975 for most of our trend analysis. In Chapter 7 we draw on subjective assessments ascertained in the third wave. We also use the third wave in our assessment of changes in multitasking in Chapter 5. For comparability with other years, we exclude the spouse diaries from our analysis.

1985 U.S. Time Use Survey

In 1985, the Survey Research Center at the University of Maryland conducted a study in which single-day diaries were collected from more than 5,300 respondents aged 12 and over. The main data for the 1985 study were collected by a mail-back method from a sample of Americans who were first contacted by telephone using the random-digit-dial (RDD) method of selecting telephone numbers. If the respondent agreed, diaries were then mailed out for each member of the participating household, aged 12 or over, to complete for a particular day for the subsequent week. After respondents had completed their time diaries, they then mailed all the completed forms back for coding and analysis. Some 3,340 diaries from 997 households were returned using this mail-out procedure during the 12 months of 1985. The other 1985 data included parallel diary data from 808 additional respondents interviewed in a separate personal interview sample in the summer and fall of 1985, and from an additional 1,210 “yesterday” diaries obtained by telephone as part of the initial contact for the mail-back diaries. The mail-back, personal interview, and telephone samples are combined in the 1985 estimates.

U.S. Time Diary Collections in the mid-1990s

Two time-diary studies were conducted by the University of Maryland's Survey Research Center by national random digit dial (RDD) telephone procedures between September 1992 and December 1995 using the retrospective diary (or "yesterday") method, in which one respondent per household reported his or her activities for the previous day. We use only the second phase collected between January and December in 1995, with 1,200 respondents aged 18 and above because pivotal questions about family status and income were not asked in the first phase. The second phase of the study was conducted for the Electric Power Research Institute (EPRI). The response rate for the second phase of the study was 65 percent.

2000 Time point: the combined file of the 1998-1999 Family Interaction, Social Capital, and Trends in Time Use Study (FISCT) and the 2000-01 National Survey of Parents (NSP)

The sample of parents from the 1998-99 NSF study is combined with the Sloan sample of 1,200 parents to augment the sample sizes on which the diary estimates for the most recent time point are based. In 1998-99, the University of Maryland Survey Research Center conducted a national study of adults, age 18 and over, in which 1,151 adults were interviewed. Respondents were interviewed by telephone and completed a one-day, yesterday diary. The overall response rate was 56 percent. The study conducted with funding from the National Science Foundation (NSF) (and supplementary funding from the National Institute on Aging for interviews with the population age 65 and older), was designed to be comparable to earlier national time-diary data collections.

In 2000-2001, with funding from the Alfred P. Sloan Foundation's Working Families Program, the University of Maryland Survey Research Center interviewed a national probability sample of 1,200 parents living with children under age 18. Parents were asked an array of attitudinal questions about their activities with children and their feelings about the time they spent with their children, spouse, and on themselves. Embedded in the study was a one-day, yesterday diary of time expenditures. The data were collected in computer assisted telephone interviews, with a 64 percent response rate.

2003 American Time Use Survey (ATUS)

The American Time Use Survey (2003), which is sponsored by the Bureau of Labor Statistics and conducted by the U.S. Census Bureau, is the first federally administered survey on time use in the United States. Data collection for the ATUS began in January 2003. The sample of ATUS respondents was derived from randomly selected individuals age 15 or older who were from a subset of households completing their eighth and final month of the Current Population Survey. Using computer assisted telephone interviews, ATUS respondents were interviewed one time and asked to provide a detailed account of what they were doing between 4 a.m. the previous day and 4 a.m. the interview day. For each activity reported, the respondent was asked how long the activity took place, where they were, and who was with them. In 2003 approximately 21,000 individuals were interviewed (57 percent response rate).

Figure 1. Time Spent in Housework and Childcare for Fathers and Mothers

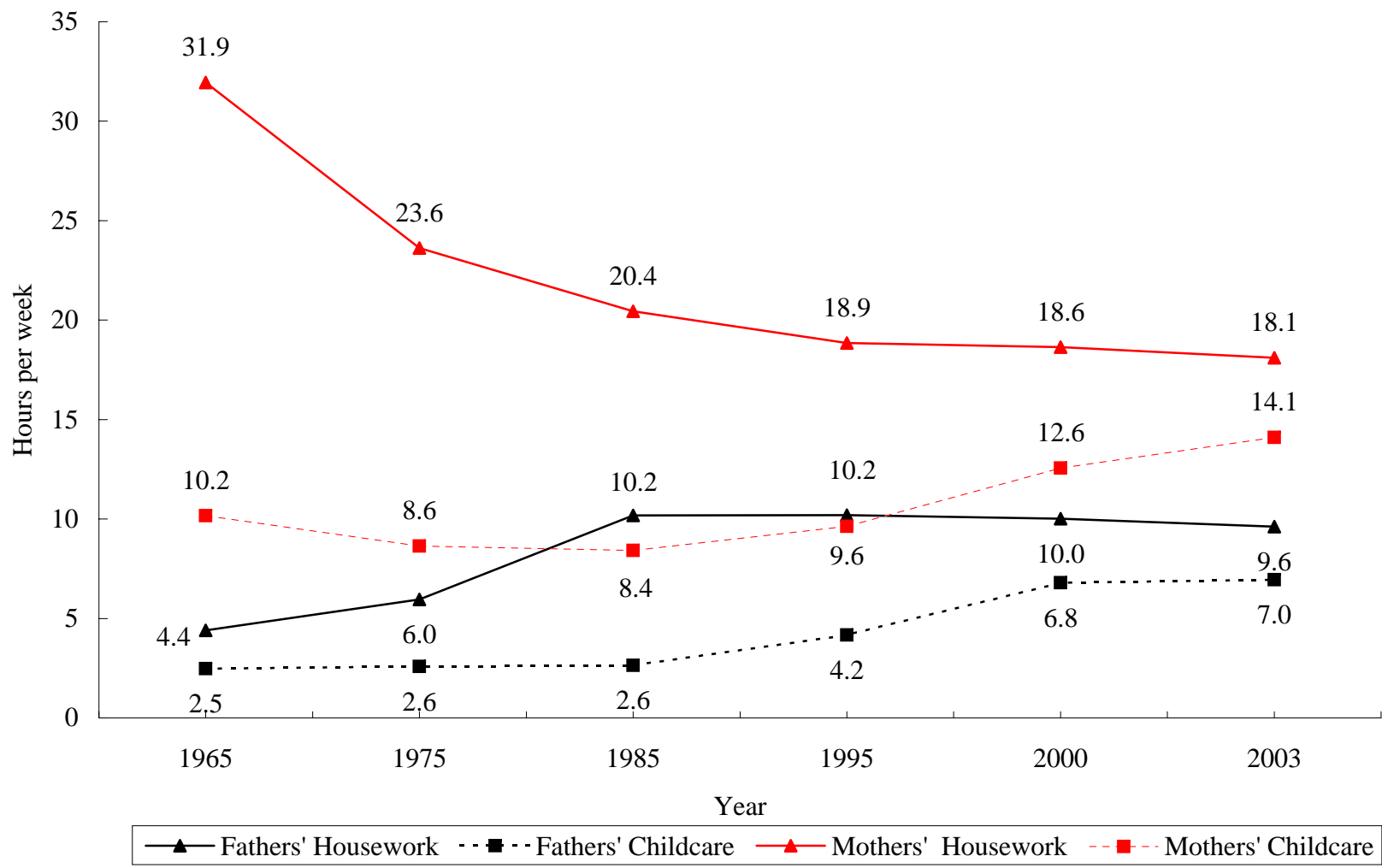


Figure 2. Percentage of Employed to Nonemployed Mothers' Primary Child Care Time by Age of Youngest Child: 2003 ATUS

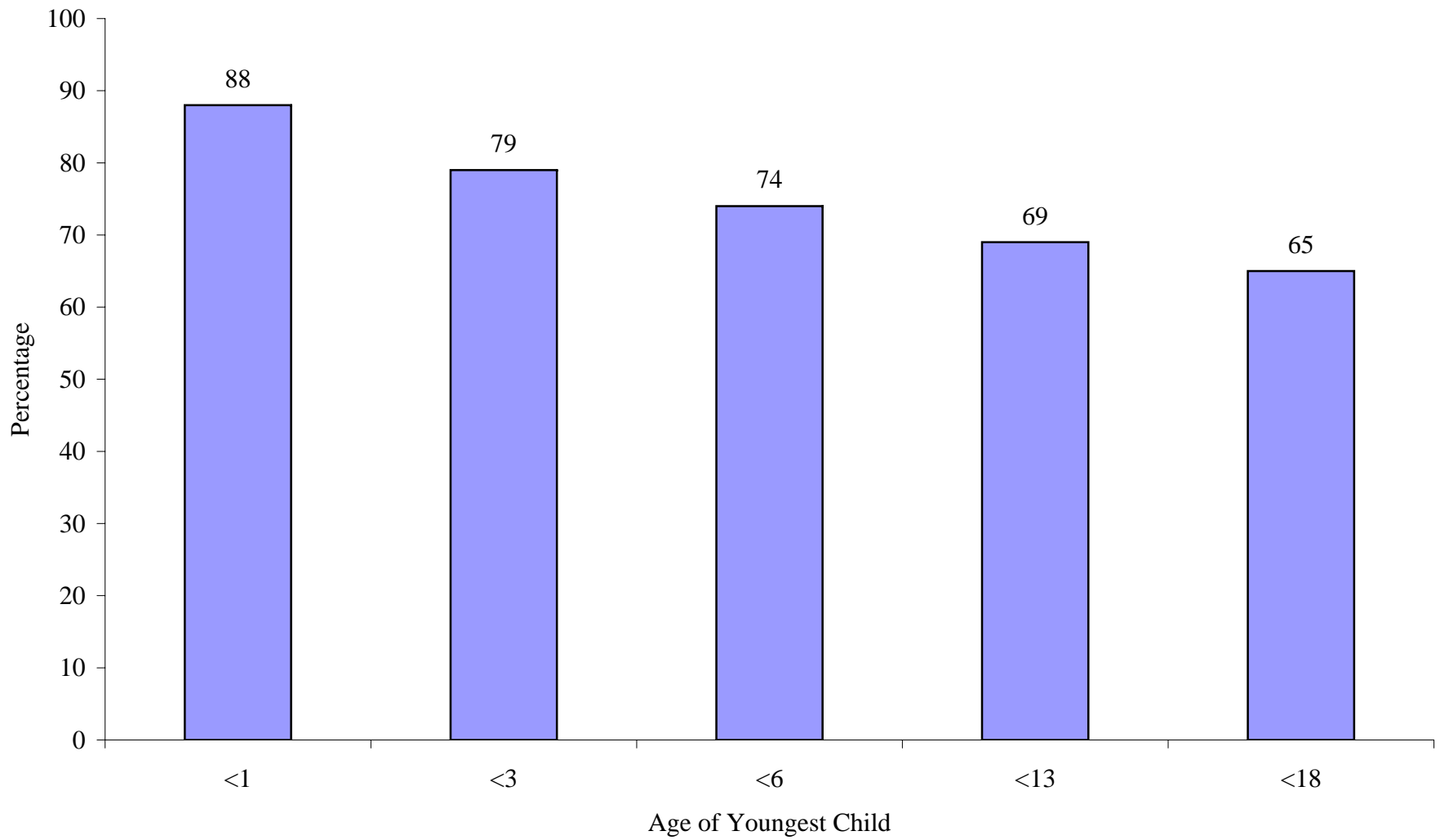


Figure 3. Percentage of Fathers' to Mothers' Primary Child Care Time by Age of Youngest Child: 2003 ATUS

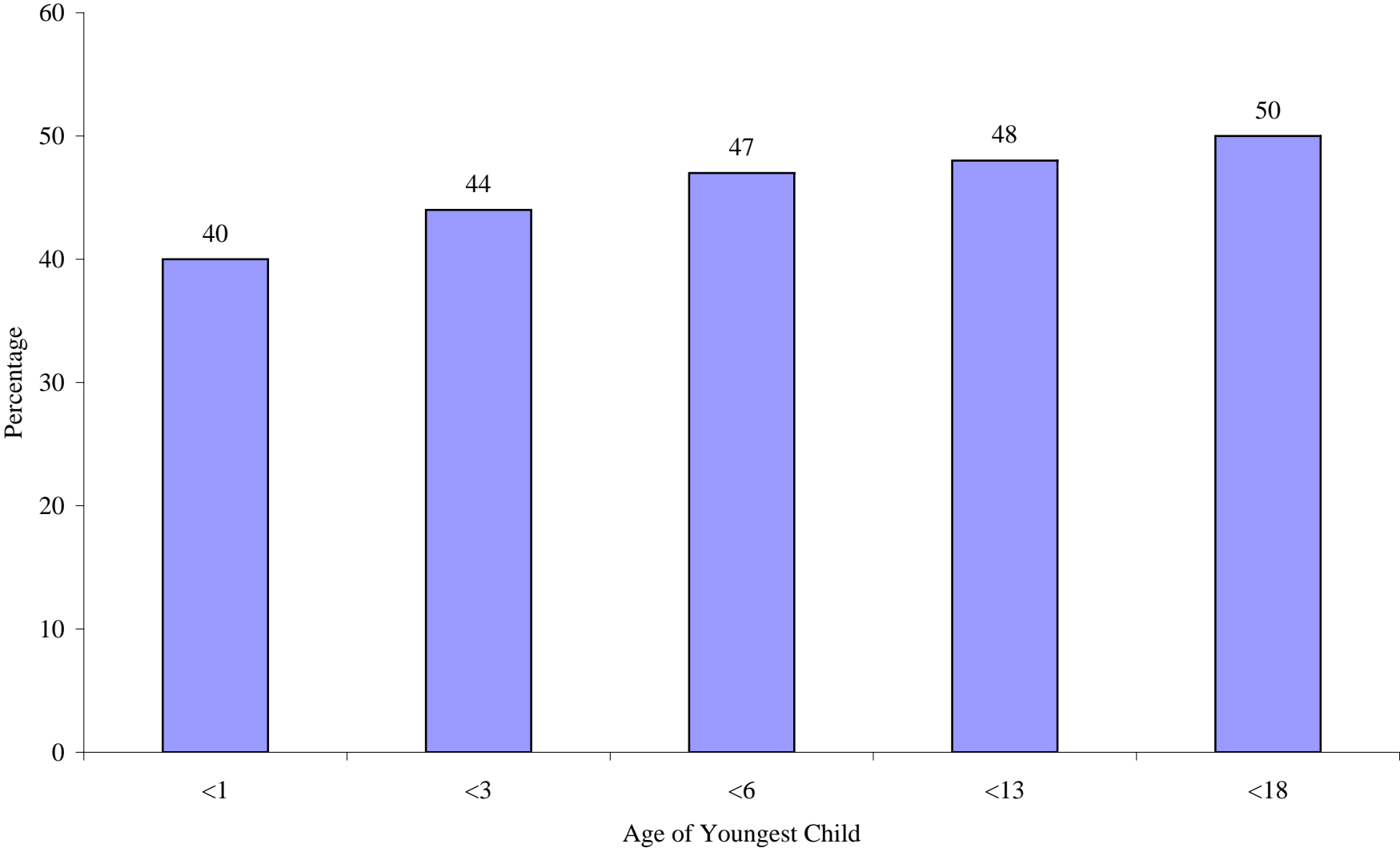


Table 1. Time Use Trends of Mothers and Fathers (hours per week), 1965-2003

Activity	All Mothers						All Fathers					
	1965	1975	1985	1995	2000	2003	1965	1975	1985	1995	2000	2003
TOTAL PAID WORK	9.3	16.1	20.9	25.7	25.3	22.0	46.4	45.4	39.8	39.5	41.8	42.9
Work	8.4	14.9	18.8	23.4	22.8	20.6	42.0	41.4	35.7	35.1	37.0	39.6
Commute	0.9	1.2	2.1	2.3	2.5	1.4	4.3	4.0	4.1	4.4	4.8	3.3
TOTAL UNPAID WORK	49.5	37.9	36.2	36.0	39.8	39.4	11.9	12.3	17.8	18.7	21.9	21.7
Housework	31.9	23.6	20.4	18.9	18.6	18.1	4.4	6.0	10.2	10.2	10.0	9.6
Core	29.0	21.6	17.6	14.9	15.1	15.0	1.6	1.8	3.9	3.3	4.9	3.8
Other	2.9	2.0	2.9	3.9	3.5	3.1	2.8	4.2	6.2	6.9	5.1	5.8
Childcare	10.2	8.6	8.4	9.6	12.6	14.1	2.5	2.6	2.6	4.2	6.8	7.0
Interactive	1.5	1.9	1.8	2.6	3.2	4.0	1.1	0.6	0.9	1.6	2.3	2.8
Routine	8.7	6.7	6.6	7.1	9.4	10.1	1.3	2.0	1.7	2.5	4.5	4.2
Shopping/Services	7.4	5.6	7.3	7.5	8.6	7.2	5.1	3.7	5.0	4.3	5.1	5.1
PERSONAL CARE	74.4	76.3	74.9	71.8	71.3	75.1	74.7	74.7	73.5	67.0	69.3	71.1
Sleep	55.4	58.4	56.3	57.8	54.7	59.6	55.7	56.7	55.1	53.0	53.8	56.8
Meal	8.9	8.7	6.4	4.9	7.3	7.0	10.5	10.5	6.9	6.5	7.8	7.5
Grooming	10.1	9.2	12.2	9.0	9.3	8.4	8.5	7.6	11.4	7.5	7.6	6.8
TOTAL FREE	34.8	37.7	36.0	34.4	31.8	31.6	35.0	35.7	36.9	42.9	35.2	32.4
TV	10.3	14.1	13.7	12.5	11.5	13.5	13.4	14.7	15.0	15.0	14.5	14.7
TOTAL TIME	168.0	168.0	168.0	168.0	168.0	168.0	168.0	168.0	168.0	168.0	168.0	168.0
<i>N</i>	(417)	(369)	(903)	(307)	(999)	(4,542)	(343)	(251)	(693)	(180)	(632)	(3,082)

Source: Authors' calculations from the 1965-66 Americans' Use of Time Study; the 1975-76 Time Use in Economic and Social Accounts; 1985 Americans' Use of Time; the 1994-95 Environmental Protection Agency National Time Use Survey; the combined file of the 1998-99 Family Interaction, Social Capital and Trends in Time Use Study and the 2000 National Survey of Parents; and the 2003 American Time Use Survey.

Time engaged in selected activities is weighted; numbers are not.

Table 2. Differences Between Employed and Nonemployed Mothers in Selected Activities: 2000 NSP and 2003 ATUS

	Employed		Nonemployed		Difference			
	2000	2003	2000	2003	Unadjusted		Adjusted	
Total Work	70.7	66.1	51.8	51.6	18.9	14.5	20.2	14.9
Total Unpaid	35.0	33.8	51.4	50.7	-16.4	-16.9	-13.9	-15.6
Housework	16.1	15.0	24.6	24.4	-8.5	-9.4	-8.5	-9.4
Childcare	10.6	12.0	17.2	18.4	-6.6	-6.4	-5.5	-5.8
Sleep	53.4	58.2	57.8	62.5	-4.4	-4.3	-4.7	-3.6
Free Time	27.7	27.9	41.0	39.1	-13.3	-11.2	-15.3	-11.9
TV	9.6	11.4	16.2	17.6	-6.6	-6.2	-9.5	-7.1
"Adult"	16.1	14.5	22.5	19.1	-6.4	-4.6	-11.1	-6.6
<i>N</i>	(755)	(3160)	(244)	(1382)	(999)	(4542)	(999)	(4542)

Source: Authors' calculations from the combined file of the 1998-99 Family Interaction, Social Capital and Trends in Time Use Study and the 2000 National Survey of Parents; 2003 American Time Use Survey.

Table 3. Changes in Employed and Nonemployed Mothers' Primary Childcare Time (Hours per week), 1975-2000

	1975	2000	Combined
Primary Childcare			
Employed mother's hours	6.0 ^A	10.6 ^{AB}	9.7 ^A
Nonemployed mother's hours	10.7 ^A	17.2 ^{AB}	14.5
Difference (unadjusted)	-4.7	-6.6	-4.8
Difference (OLS adjusted)	-4.1 *	-4.9 *	-4.6 *
Year (=2000) (OLS estimate)	—	—	4.8 *
Sample Size (N)	(369)	(999)	(1,368)

Note. OLS regression is used to produce an estimate of the employment difference net of associations of childcare time with number of children, children under age 6, educational attainment, age, marital status. The interaction of years and employment were never statistically significant. Year (2000) changes estimated by OLS regressions with concatenated 1975 and 2000 data.

^AEmployed and nonemployed statistically significantly different at $p < 0.05$.

^B1975 and 2000 statistically significantly different at $p < 0.05$.

* $p < .05$.

Source: Authors' calculations from the 1975-76 Time Use in Economic and Social Accounts and the combined file of the 1998-99 Family Interaction, Social Capital and Trends in Time Use Study and the 2000 National Survey of Parents.

Table 4. Average Hours per Day of Primary Childcare Time and Time with Children Measured by "With Whom" Time Spent on Diary Day for Fathers and Mothers (by Employment Status) by Age of Youngest Child: 2000 NSP and 2003 ATUS

	Sample Size		Overall Average Daily Hours			
			Primary Childcare Time		Time with Any Child	
	2000 NSP	2003 ATUS	2000 NSP	2003 ATUS	2000 NSP	2003 ATUS
Parents with youngest child <13						
Fathers	364	2,560	1.1	1.1	4.7	4.7
Mothers	570	3,760	2.1	2.3	7.4	7.3
Employed	412	2,539	1.8	2.0	6.4	6.3
Nonemployed	158	1,221	2.6	2.9	9.3	9.1
Parents with youngest child <6						
Fathers	331	1,446	1.4	1.4	4.9	5.0
Mothers	208	2,045	2.5	3.0	8.4	8.4
Employed	223	1,247	2.2	2.6	7.0	7.2
Nonemployed	108	798	2.9	3.5	10.5	10.0
Parents with youngest child <3						
Fathers	121	852	1.6	1.5	5.1	5.2
Mothers	184	1,175	2.8	3.4	8.8	9.0
Employed	120	681	2.5	3.0	7.3	7.7
Nonemployed	64	494	3.3	3.8	10.7	10.5
Parents with youngest child <1						
Fathers	a	277	a	1.6	a	5.7
Mothers	a	409	a	4.0	a	10.1
Employed	a	207	a	3.8	a	8.5
Nonemployed	a	202	a	4.3	a	11.4

Source: Author's calculations of the 2000 National Survey of Parents and the 2003 American Time Use Survey.

Note: Percentages and time engaged in selected activities are weighted; sample sizes are not.

^a Sample sizes were too small to provide reliable estimates.

Table 5. Average Hours per Day of Nonoverlapping Secondary Childcare Time of Fathers and Mothers (by Employment Status) by Age of Youngest Child: 2000 NSP Traditional Activity Measurement versus and 2003 ATUS "In Your Care" Measurement

	Sample Size		Percent Reporting Secodnary Childcare		Participants Average Daily Hours		Overall Average Daily Hours	
	2000	2003	2000	2003	2000	2003	2000	2003
	NSP	ATUS	NSP	ATUS	NSP	ATUS	NSP	ATUS
Parents with youngest child <13								
Fathers	364	2,560	21.1	81.1	1.8	5.6	0.4	4.5
Mothers	570	3,760	46.4	95.2	2.2	7.2	1.0	6.9
Employed	412	2,539	42.0	95.1	3.0	6.4	0.7	6.1
Nonemployed	158	1,221	54.9	95.3	1.7	8.7	1.7	8.3
Parents with youngest child <6								
Fathers	331	1,446	26.3	81.0	2.0	5.4	0.5	4.4
Mothers	208	2,045	54.2	96.6	2.5	7.7	1.4	7.4
Employed	223	1,247	49.6	96.8	1.8	6.6	0.9	6.4
Nonemployed	108	798	61.2	96.5	3.3	9.2	2.0	8.8
Parents with youngest child <3								
Fathers	121	852	32.6	80.4	2.2	5.3	0.7	4.3
Mothers	184	1,175	60.8	97.2	2.5	7.8	1.5	7.6
Employed	120	681	57.6	97.7	2.2	6.7	1.2	6.5
Nonemployed	64	494	65.0	96.5	2.8	9.2	1.8	8.8
Parents with youngest child <1								
Fathers	a	277	a	80.7	a	5.8	a	4.7
Mothers	a	409	a	98.4	a	8.4	a	8.3
Employed	a	207	a	98.6	a	7.1	a	7.0
Nonemployed	a	202	a	98.3	a	9.5	a	9.3

Source: Author's calculations of the 2000 National Survey of Parents and the 2003 American Time Use Survey.

Note: Percentages and time engaged in selected activities are weighted; sample sizes are not.

^a Sample sizes were too small to provide reliable estimates.

Table 6. Percentage of Mothers and Fathers Reporting Primary Child Care, Time with Any Child, and a Child <13 in their Care and Average Hours per Day, 2003

	Sample Size	Secondary Childcare Time			Primary + Secondary Childcare Time			Child under Age 13 "In Your Care" Reported Time		
		Percentage Reporting	Participants	Overall	Percentage Reporting	Participants	Overall	Percentage Reporting	Participants	Overall
			Average Daily Hours	Average Daily Hours		Average Daily Hours	Average Daily Hours		Average Daily Hours	Average Daily Hours
Parents with youngest child <13										
Fathers	2,560	81.1	5.6	4.5	88.1	6.4	5.7	84.9	10.5	8.9
Mothers	3,760	95.2	7.2	6.9	97.5	9.4	9.2	95.9	15.2	14.6
Employed	2,539	95.1	6.4	6.1	97.3	8.4	8.1	95.9	13.6	13.0
Nonemployed	1,221	95.3	8.7	8.3	97.9	11.4	11.8	95.9	18.3	17.6
Parents with youngest child <6										
Fathers	1,446	81.0	5.4	4.4	88.2	6.6	5.8	85.7	10.8	9.3
Mothers	2,045	96.6	7.7	7.4	98.9	10.5	10.4	97.5	17.0	16.6
Employed	1,247	96.8	6.6	6.4	98.8	9.1	9.0	97.8	14.7	14.4
Nonemployed	798	96.5	9.2	8.8	99.1	12.4	12.3	97.2	20.2	19.6
Parents with youngest child <3										
Fathers	852	80.4	5.3	4.3	87.9	6.6	5.8	85.3	10.8	9.2
Mothers	1,175	97.2	7.8	7.6	99.2	11.0	10.9	97.7	17.7	17.3
Employed	681	97.7	6.7	6.5	99.3	9.6	9.5	98.3	15.3	15.1
Nonemployed	494	96.5	9.2	8.8	99.2	12.7	12.6	97.0	20.6	20.0
Parents with youngest child <1										
Fathers	277	80.7	5.8	4.7	89.2	7.0	6.3	86.7	11.5	10.0
Mothers	409	98.4	8.4	8.3	100.0	12.3	12.3	98.5	19.8	19.5
Employed	207	98.6	7.1	7.0	100.0	10.8	10.8	98.3	17.2	16.9
Nonemployed	202	98.3	9.5	9.3	100.0	13.6	13.6	98.7	22.0	21.7

Source: Author's calculations of the 2003 American Time Use Survey.

Note: Percentages and time engaged in selected activities are weighted; sample sizes are not.

Appendix Table 1. Methodological Features of U.S. National Time Diary Studies

	1965	1975	1985	1995	1998-1999	2000-2001	2003
Location conducted	Univ. of Mich.	Univ. of Mich.	Univ. of MD	Univ. of MD	Univ. of MD	Univ. of MD	U.S. Census Bureau
Funder	NSF	NSF	NSF; ATT	EPRI	NSF; NIA	Sloan	BLS
Sample	Total = 1244 Parents = 742	Total = 2406 Respondents =1519 Spouses = 887 Parents = 1087	Total = 5358 Parents = 1612	Total = 1200 Parents = 493	Total = 1151 Parents = 496 Total=791 (18-64) Parents=344	Total = 1200 Parents = 1200	Total = 20720 Parents = 7624
Age range	19-65	18+	12+	12+	18+	18+	15+
Months	Nov. 1965 - Dec.1965 Mar. 1966 - Apr. 1966	Oct. 1975 - Dec. 1975 Reinterviewed: Feb., May, and Sept. 1976	Jan.1985 - Dec. 1985	Jan.1995 - Dec. 1995	Mar. 1998 - Dec. 1999	Jun. 2000 - May 2001 (one-day)	Jan. 2003 - Dec. 2003 (one-day)
Mode/Response Rate	Personal (72%)	Wave I - Personal (72%) Wave II - IV - Telephone	Mailback (51%) Telephone (67%) Personal (60%)	Telephone (65%)	Telephone (56%)	Telephone (64%)	Telephone (57%)
Diary Type	Tomorrow (1244) Yesterday (130)	Yesterday (2406)	Tomorrow (3890) Yesterday (1468)	Yesterday (1200)	Yesterday (1151)	Yesterday (1200)	Yesterday (20720)
Sample Restrictions	Residents of labor force families in non-farm, urban locations ^a	Excludes households on military reservations	Households in the contiguous U.S. (48 states + D.C.)	Households in the contiguous U.S.	Households in the contiguous U.S.	Parents living with children under age 18 in households in the contiguous U.S.	Households in the U.S. who completed their eighth and final month in the CPS.
Parent ID?	"Do YOU have any children 18 years of age or younger living in this household?"	Constructed from household roster: the number of children aged 17 or younger in household	Variable indicating children under 18 years of age in household	Variable indicating children under 18 years of age in household	Flag created by Liana Sayer based on marital status and # of adults in home	Interviewer asks if there are children under 18 in the household and asks to speak with parent	Constructed from household roster: the number of own children aged 17 or younger in household
Misc.		Spouse interviewed as well as respondent				Weekly diaries to working parents ^b	

^a In 1965, at least one member of the household had to be employed. Rural households excluded.

^b Married parents, where both spouses worked at least 10 hrs/wk for pay and at least one of the parents had some college education were given weekly diaries.

Appendix Table 2: Coding Work, Housework, and Primary Childcare in the 2003 ATUS to Match the 2000 National Survey of Parents

2000 NSP Activity Code(s)	Variable Label and Description	ATUS Activity Label	ATUS Activity Level 1	ATUS Activity Level 2	ATUS Activity Level 3
Work					
01	Time spent on main job	work, main job	05	01	01,99
		security procedures related to work	05	01	03
		security procedures as part of job	05	02	04,99
		work and work-related activities, nec	05	99	99
02	Time spent on unemployment	job search and interviewing	05	04	01-05,99
03	Time spent on travel during work	work-related travel (not commuting)	17	05	02
05	Time spent on second job	work, other jobs	05	01	02
		other income-generating activities	05	03	01-04,99
08	Time spent on breaks at work	socializing, relaxing, and leisure as part of job	05	02	01
09	Time spent on travel to and from work	travel related to work	17	05	01, 99
Housework					
10	Time spent on food preparation	food and drink preparation	02	02	01,99
		food presentation	02	02	02
11	Time spent on food clean-up	kitchen and food clean-up	02	02	03
12	Time spent on cleaning house	interior cleaning	02	01	01,99
		storing interior hh items	02	01	04
13	Time spent on outdoor cleaning	exterior cleaning	02	04	01,99
		exterior repair, improvements, and decoration	02	04	02
		ponds, pools, hot tubs	02	05	02
14	Time spent on clothes care	laundry	02	01	02
		sewing, repairing, and maintaining textiles	02	01	03
15	Time spent on car repair and maintenance (by respondent)	Vehicle repair/maintenance (by self)	02	07	01,99
16	Time spent on other repair (done by the respondent)	interior arrangement, decoration, and repairs	02	03	01,99
		building and repairing furniture	02	03	02
		heating and cooling	02	03	03
		appliance tool setup/repair/maintenance (by self)	02	08	01,99
17	Time spent on plant care	lawn, garden, and houseplant	02	05	01,99
18	Time spent on animal care	care for animals/pets (not vet care)	02	06	01,99
19	Time spent on other household work	financial management	02	09	01,99
		hh and personal organization/planning	02	09	02
		hh and personal mail/messages (not email)	02	09	03
		hh and personal email/messages	02	09	04
		home security	02	09	05
		other household activities, nec	02	99	99

2000 NSP Activity Code(s)	Variable Label and Description	ATUS Activity Label	ATUS Activity Level 1	ATUS Activity Level 2	ATUS Activity Level 3
	Childcare				
20	Time spent on baby care	[same as NSOP code 21, look at with whom]			
21	Time spent on child care	physical care for hh children	03	01	01,99
		looking after hh child (as primary activity)	03	01	09
		caring for and helping nhh children	04	01	01, 99
		looking after nhh child (as primary activity)	04	01	09
22	Time spent on helping and teaching	helping/teaching hh children (not related to edu)	03	01	07
		homework	03	02	01,99
		home schooling	03	02	03
		waiting assoc with child's edu	03	02	04
		helping/teaching nhh children (not related to edu)	04	01	07
		homework, nhh child	04	02	01, 99
		home schooling, nhh child	04	02	03
		waiting assoc with nhh child's edu	04	02	04
23	Time spent on talking and reading	reading to/with child	03	01	02
		talking to/with child	03	01	06
		reading to/with nhh child	04	01	02
		talking to/with nhh child	04	01	06
24	Time spent on indoor playing	playing w/ hh child, not sports	03	01	03
		arts and crafts	03	01	04
		playing w/ nhh child, not sports	04	01	03
		arts and crafts w/ nhh child	04	01	04
25	Time spent on outdoor play	playing sports	03	01	05
		playing sports w/ nhh child	04	01	05
26	Time spent on medical for child	providing medical care	03	03	01,99
		obtaining medical care	03	03	02
		waiting assoc with medical care	03	03	03
		activities related to non-hh children's health	04	03	01-03,99
27	Time spent on other child care	attending hh children's events	03	01	10
		waiting for/with children	03	01	11
		picking up/dropping off hh children	03	01	12
		organization/planning for hh children	03	01	08
		organization/planning for nhh children	04	01	08
		attending nhh children's events	04	01	10
		waiting for/with nhh children	04	01	11
		picking up/dropping off nhh children	04	01	12
29	Time spent on travel related to childcare	travel related to caring for and helping hh children	17	03	01
		travel related to caring for and helping non-hh children	17	04	01

Appendix Table 3. Percentage Distribution Across Age, Educational Attainment, and Selected Family Characteristics of Mothers in the 2000 NSP and the 2003 ATUS

	All Mothers	
	2000	2003
Employed	70.1	67.2
Family characteristics		
Married	70.3	73.0
Number of Children	2.0	1.9
Presence of children age 6 and under	36.9	50.2
Education		
Less Than High School	15.9	12.7
High School Graduate	34.3	30.4
Some College, no degree	27.3	28.4
College Graduate or more	22.4	28.6
Age		
18 to 24	14.7	7.7
25 to 34	32.0	33.3
35 to 44	38.5	41.3
45 to 54	13.5	16.1
55 to 64	1.4	1.6
(N)	(999)	(4,542)

Means and percentages are weighted; numbers are not.

Appendix Table 4. Combined 1998-99 NSF and 2000 NSP Tobit Regression Estimates of Mothers' Weekly Hours in Paid and Unpaid Work Activities

	Total Work₁	Unpaid Work	Housework	(Primary) Childcare	Sleep	Free	TV	Adult Freetime
Intercept	54.5 ***	36.9 ***	20.4 ***	5.5	58.8 ***	39.2 ***	20.6 ***	28.9 ***
Employed	20.2 ***	-13.9 ***	-8.5 ***	-5.5 ***	-4.7 **	-15.3 ***	-9.5 ***	-11.1 ***
Family characteristics								
Married	-0.3	2.2	2.7	-0.7	0.2	0.5	-1.1	-3.4
Number of Children	2.1	3.0	1.4	1.8 *	-1.6 *	-0.3	-2.9	-1.8
Preschooler Present	1.5	9.8 ***	1.8	11.3 ***	2.1	-4.4 *	4.1	-6.0 **
Education (high school only omitted)								
Less Than High School	-3.0	-7.1	-3.3	-3.6	-3.2	1.8	-4.9 *	-0.7
Some College	-0.8	1.3	-2.3	0.8	-1.7	0.1	-7.0 ***	-0.5
College Graduate	-1.7	1.7	-2.7	3.7 *	-2.0	0.8	-8.7 *	2.0
Age (35-44 omitted)								
18-24	-2.7	0.4	-2.1	-2.7	2.5	-0.9	-0.1	-7.3
25-34	0.8	-2.0	-4.7 *	2.8 *	0.3	-0.5	-2.4	0.8
45-64	-1.8	1.4	1.8	-2.0	1.2	0.6	3.1	1.5
Weekend Diary Day	-25.4 ***	1.6	2.2	-6.0 ***	6.6 ***	17.8 ***	20.6 ***	10.8 ***
N	999	999	999	999	999	999	999	999

Source: Authors Calculations from the 1998-99 Family Interaction, Social Capital, and Trends in Time Use Study (Bianchi, Robinson and Sayer, 2001), and the 2000 National Survey of Parents (Bianchi, Robinson, and Milkie).

***p-value < .001, **p-value < .01, *p-value < .05.

¹ Total work includes paid work (hours working and commuting) plus unpaid family caregiving (housework, childcare, shopping and obtaining services for the family).

Appendix Table 5. ATUS Tobit Regression Estimates of Mothers' Weekly Hours in Paid and Unpaid Work Activities

	Total Work¹	Unpaid Work	Housework	(Primary) Childcare	Sleep	Free	TV	Adult Freetime
Intercept	47.0 ***	36.0 ***	17.8 ***	5.9 ***	64.0 ***	42.3 ***	22.0 ***	25.7 ***
Employed	14.9 ***	-15.6 ***	-9.4 ***	-5.8 ***	-3.6 ***	-11.9 ***	-7.1 ***	-6.6 ***
Family characteristics								
Married	3.6 **	4.1 ***	4.4 ***	-0.9	-2.0 **	-2.4 *	-2.9 **	-1.7
Number of Children	3.3 ***	4.0 ***	2.0 ***	2.9 ***	-1.3 ***	-1.7 **	-1.8 ***	-2.2 ***
Preschooler Present	6.3 ***	9.5 ***	0.4	12.6 ***	0.2	-5.6 ***	-2.8 **	-8.3 ***
Education (high school only omitted)								
Less Than High School	-2.4	-2.9	2.1	-4.3 **	1.9	0.6	4.0 **	-0.2
Some College	0.6	-0.1	-1.2	1.1	-1.8 *	-0.6	-3.3 ***	2.1 *
College Graduate	2.3 *	2.5 *	-2.1 *	5.0 ***	-2.2 **	-1.5	-5.9 ***	1.8
Age (35-44 omitted)								
18-24	-8.9 ***	-8.9 ***	-8.7 ***	-1.0	3.4 **	7.6 ***	5.1 **	-0.3
25-34	-4.0 **	-3.8 ***	-4.1 ***	0.3	1.3 *	3.0 **	2.6 **	0.2
45-64	-0.9	1.2	2.3 *	-3.2 ***	-2.1 **	2.3 *	1.7	2.1
Weekend Diary Day	-20.1 ***	0.0	2.8 ***	-7.2 ***	7.6 ***	11.1 ***	1.6 *	0.1
N	4542	4542	4542	4542	4542	4542	4542	4542

Source: Authors Calculations from the 2003 American Time Use Survey.

***p-value < .001, **p-value < .01, *p-value < .05.

¹Total work includes paid work (hours working and commuting) plus unpaid family caregiving (housework, childcare, shopping and obtaining services for the family).

Appendix Table 6. Percentage of Mothers and Fathers Reporting Primary Child Care, Time with Any Child, and a Child <13 in their Care and Average Hours per Day, 2003

	Sample Size	Primary Child Care			Time with Any Child		
		Percentage Reporting	Average Hours per Day	Overall Average per Day	Percentage Reporting	Average Hours per Day	Overall Average per Day
Parents with youngest child <18							
Fathers	3,082	54.7	1.8	1.0	88.8	4.9	4.3
Mothers	4,542	78.4	2.6	2.0	95.8	6.8	6.6
Employed	3,160	76.3	2.3	1.7	94.9	5.9	5.6
Nonemployed	1,382	82.6	3.2	2.6	97.6	8.7	8.5
Parents with youngest child <13							
Fathers	2,560	61.1	1.9	1.1	91.9	5.1	4.7
Mothers	3,760	85.4	2.7	2.3	97.9	7.4	7.3
Employed	2,539	84.0	2.4	2.0	97.5	6.4	6.3
Nonemployed	1,221	88.1	3.3	2.9	98.6	9.2	9.1
Parents with youngest child <6							
Fathers	1,446	66.7	2.1	1.4	92.8	5.4	5.0
Mothers	2,045	91.9	3.2	3.0	99.1	8.5	8.4
Employed	1,247	90.9	2.9	2.6	98.9	7.3	7.2
Nonemployed	798	93.4	3.7	3.5	99.4	10.1	10.0
Parents with youngest child <3							
Fathers	852	68.2	2.2	1.5	93.5	5.5	5.2
Mothers	1,175	94.4	3.6	3.4	99.3	9.0	9.0
Employed	681	93.0	3.2	3.0	99.2	7.8	7.7
Nonemployed	494	96.0	3.9	3.8	99.4	10.5	10.5
Parents with youngest child <1							
Fathers	277	69.8	2.3	1.6	95.4	5.9	5.7
Mothers	409	97.1	4.2	4.0	100.0	10.1	10.1
Employed	207	96.6	3.9	3.8	100.0	8.5	8.5
Nonemployed	202	97.6	4.4	4.3	100.0	11.4	11.4

Source: Author's calculations of the 2003 American Time Use Survey.

Note: Percentages and time engaged in selected activities are weighted; sample sizes are not.