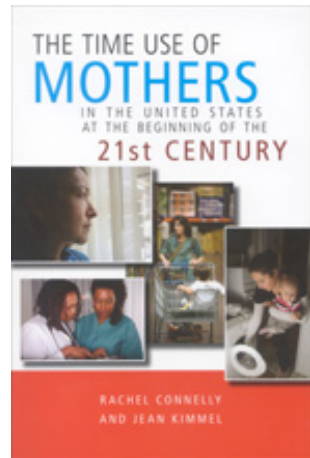

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Introduction

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The Time Use of Mothers in the United States at the Beginning of the 21st Century

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Introduction

One point of consensus regarding young children is that they consume a substantial portion of the time in a parent's day. Newborn babies must be cared for 24 hours a day. Yes, infants sleep, but the sleep is unpredictable and intermittent. As they age over those first few years, the sleep becomes more predictable, but they still need a caregiver's attention when awake. Young children still require a high level of adult attention. They can play by themselves for short periods of time, but the caregiver must be alert and on call. Where does this time devoted to young children come from?

Without a doubt, parents reallocate their time use to accommodate the caregiving demands of young children. They can also contract out some of that time to other family members or paid care providers. Mothers and fathers can take turns caring for children, or one can take primary responsibility for caregiving.

How families accommodate the time demands of young children has broad implications for overall time choices because time devoted to caregiving necessarily is time *not* devoted to other activities (with the exception of multitasking). Confronted with caregiving needs, we can work less in paid employment, study less, do less housework, have less leisure, or sleep less. If we pay for part of the caregiving, we will have less money for other goods and services. These choices are perfect examples of what economists mean when they talk about trade-offs. We trade off one time use for another, and very literally, we trade time for money.

This book focuses on the time use of mothers of preteenaged children in the United States from 2003 to 2006. We explore how mothers at the start of the twenty-first century are using their time in order to better understand their lives, the lives of their partners, and the lives of their children. Differences in the time choices American mothers make will have important implications for their own well-being and the well-being of family members. The study of maternal time use is hugely important because of the relationship between quality caregiving and

child well-being. Additionally, employers looking for new labor pools are also affected by the time use choices of mothers of young children because 60 percent of American mothers with young children are employed. Employers may want to cajole more mothers into the labor market or change the work hours for those women already in the labor market. The time choices of mothers in the United States also affect policymakers' thinking about things such as educational policy, the role that taxes play in the allocation of time between paid and unpaid activities, and possible expansion of publicly funded preschool.

The analysis provided in this book is possible because of the availability of a new, nationally representative data source that records the time use of persons in the United States over age 15. The American Time Use Survey (ATUS), which has been administered annually since 2003, provides large sample sizes and a full set of demographic characteristics, allowing social science researchers a better view of time use in the United States than has ever been available. Before the ATUS, researchers interested in time use of women in the United States had only a few limited time use surveys available.

BOOK OVERVIEW

In Chapter 2, we seek to answer the broad question of how mothers in the United States spend their time. More specifically, we examine the correlation between motherhood and leisure time, and we also consider whether mothers who work longer hours for pay spend less time with their children. Throughout the book, we distinguish between time use on weekends and weekdays because the two are substantively different. We also consider subgroups of mothers based on the age of their youngest child, marital status, and employment status. The age of a mother's youngest child is a particularly important determinant of time use due to the high demands young children place on caregivers' time. We do not distinguish between mothers, stepmothers, or adoptive mothers; instead, we define as mothers all those women coresiding with dependent children under the age of 13. Nor do we distinguish between married mothers with husbands present and cohabiting mothers; we refer to both groups as married mothers. Later in this chapter, we compare

mothers' time use to that of women who are not mothers of young children, and we compare mothers' time use to that of fathers. Finally, we examine the time of day at which caregiving occurs.

Chapters 3, 4, and 5 provide three multivariate analyses of mothers' time uses as they relate to the caregiving needs of young children. In Chapter 3, we examine the role played by economic and demographic factors in mothers' time choices, and then ask the question, "Is caregiving time better characterized as household production or leisure?" While economic modeling clearly has moved beyond the labor/leisure dichotomy with the incorporation of household production time in these models, there is no consensus on where to place child caregiving in the trichotomy of labor, leisure, and home production. We allow caregiving to "speak for itself" by modeling four uses of a mother's time. The answer concerning the nature of caregiving is somewhat surprising: caregiving is not just a weighted average of leisure and home production; it is a wholly separate category of time use, neither fish nor fowl.

In Chapter 4, we examine more fully the role of husbands in mothers' time choices. Here, we extend the theoretical model of the mother's time use to include her husband's time. The result of these changes in the theoretical model leads us to include husband-specific variables in the estimation of the mother's nonmarket time uses. Specifically, we include three husband characteristics as critical factors affecting her time choices: his usual weekly employment hours, the relative wage (husband's wage divided by wife's wage), and his daily time in the same activity.¹ We find that relative wages are never significant determinants of the mother's time. The husband's weekly employment time affects her caregiving and home production time, and his time in the same activity seems to complement her home production time on the weekend. Additionally, her husband's caregiving time seems to complement her caregiving time on both weekdays and weekends. Finally, weekday leisure appears complementary while the effect of increased husband's leisure is negative on a mother's weekend leisure.

Chapter 5 looks beyond total time choices to examine questions related to the time of day of activities. Specifically, we ask the question, "How does the time of day that a mother is employed affect the amount of time spent with children throughout the day, in the morning, and in the evening?" We expect the time of day of employment to be important because children's time use is constrained by institutional structures

such as school operating times, the availability of alternative caregivers, and the normal circadian rhythms of sleep. A consistent bimodal pattern of caregiving time shows that most child caregiving occurs in the morning and the evening. This is true regardless of the day of the week or children's ages. The consistency of caregiving time pushes us to ask the question, "What happens to caregiving time of mothers who are employed during those high (caregiving) demand morning and evening hours?" Do they just shift the time of caregiving earlier (or later), as Craig (2007) finds for Australian mothers, or do mothers employed in the early morning and evening provide less overall caregiving time? We find evidence of both the shifting of caregiving and the reduction of caregiving resulting from nonstandard work hours. Caregiving occurs earlier in the day for children of mothers who work early in the morning and later in the day for mothers who work later, but the mothers also provide less caregiving hours overall.

Chapter 6 concludes first with a review of the book's most important findings. Then, we relate general policy discussions to the specifics of these findings.

OVERVIEW OF THE ATUS

Our analysis relies on the recently released ATUS data to present a broad descriptive analysis of the current time allocation behaviors of mothers in the United States. Countries other than the United States have had ongoing time use surveys for many years, while for the United States, such surveys were administered infrequently, in 1965–1966 and 1975–1976, with smaller scale surveys in 1985–1986, 1992–1994, 1995, and 2000 (Hamermesh, Frazis, and Stewart 2005).² The sporadic administration of time use surveys in the United States, coupled with their small sample sizes, has greatly limited U.S. policy researchers. United States–based researchers have been calling for some time for a national commitment to time use surveys.³ Finally, after nearly 10 years of development and planning, in 2003 the United States initiated the ATUS—an ongoing survey of time use (Horrihan and Herz 2004). The data from this first year of the ATUS were released in January 2005.

New samples of the ATUS are drawn annually from respondents of the monthly Current Population Survey (CPS) who are completing their stint in the survey sample. The linkage with the CPS, a large national survey, provides substantial additional information on the time survey respondent's household, though the CPS data are separated in time from the ATUS time diary collection by two to five months. Since time use changes very little from year to year, we use the first four years' worth of ATUS data as a single dataset. Controls for the year the data were collected are included in our analysis but are never statistically significant, which indicates that, at least at first blush, using the four years' worth of data as a single dataset is appropriate.

HISTORICAL TIME USE TRENDS OF MOTHERS

While the ATUS is the first nationally representative, large-scale time diary data collection in the United States, it builds off of 80 years' worth of small time diary studies in the United States and the substantial work of time researchers and time diary collection efforts in Western Europe, Canada, and Australia. This section reports on the work of several teams of researchers who have examined historical data to analyze changes in time use.

Bianchi, Robinson, and Milkie (2006)'s important book provides an in-depth portrait of time use within families in the United States, both in the present and over time. They describe the role played by gender, women's paid work, and family structure in the time allocation of both parents and their children. Their work serves as a starting point for our discussion of mothers' time use. Bianchi, Robinson, and Milkie note that over the past 40 years, despite rising female employment, maternal caregiving time has increased, while their time spent on housework has fallen. Mothers have accomplished this increased focus on family by forsaking some housework, multitasking, and including their children into their own leisure time (p. 2).

Trends in Home Production Time

Ramey and Francis (2006) and Ramey (2008) provide the longest historical examination of the available data, incorporating a series of small studies of housewives' time from the 1910s to the 1950s, as well as the nationally representative time surveys of 1965, 1975, 1985, and 1992.⁴ The most surprising finding from their research is that the weekly hours of housework for full-time housewives did not decline from 1912 to the mid-1960s (Ramey and Francis 2006, p. 16). One might think that the diffusion of household technology (washing machines, vacuum cleaners, electrification, etc.) and a trend toward a smaller family size would have reduced home production hours, but changes in cleanliness standards and a reduction in the use of paid domestic labor seems to have countered any time gains from the new technology. Housework may be less physical than it was in the past, but the time devoted to housework did not change over those 50 years. Between the mid-1960s and the mid-1970s, there was a noticeable decline in home production time for nonworking women, which then leveled off until the present time (Ramey [2008, p. 23]; also observed by Robinson and Godbey [1999] and Aguiar and Hurst [2007]). Ramey and Francis show that employed women have spent less time on housework throughout the century, but that the proportion of the population of women they represent has, as we know, increased dramatically in the post-World War II era. Thus, looking at all women, hours of home production have declined largely as a result of changes in the percent of women in the labor force and the change in family size. Some of the decline in home production time is made up for by an increase in men's home production time, such that the average time devoted to home production by all prime-age individuals has not changed much over the long period studied by Ramey and Francis (2006) and by Ramey (2008).⁵

Bianchi et al. (2000) provide further support for the conclusion that the decline in housework since the mid-1960s has been driven by compositional changes. They focus on individuals, not just married couples, in order to determine the role that trends in marital status played in the decline in the gender gap in housework. They find a substantial decline in female housework along with an increase in male housework, resulting in a small shift in the gender division of labor within the household. They attribute this trend to compositional changes in the percent of

women who are employed, but they also point to the importance played by delay in first marriage.⁶

Trends in Caregiving Time

There is a consensus among time researchers taking the long historical view that time reported as primarily engaged in child caregiving has increased over time. Ramey and Francis (2006) classify some child caregiving time as leisure and the rest as home production, making it difficult to examine the longest-term trend in caregiving.⁷ Bryant and Zick (1996), using historical time use studies from 1924 (among the studies used by Ramey and Francis) and 1981, report that married women spent slightly more time on child caregiving in 1981 despite the significant decline in family size, implying that the time spent per child had increased. Ramey and Francis speculate that increased education and a growing social awareness of the benefits of parental interaction on child development may account for the increase in child care time per child.

While Sayer, Bianchi, and Robinson (2004) do not look back as far as Bryant and Zick (1996) or Ramey and Francis (2006), their careful historical look at the larger-scale time diary studies from the mid-1960s through 1998 focuses particularly on child caregiving time and its components.⁸ They report that, overall, there has been an increase in child caregiving time from the mid-1960s to 1998 for both mothers and fathers. For mothers, the increased time pressures caused by increased employment time and a rise in single parenting seem to have been countered by reduced family size, older parenting, more parenting by choice (as opposed to as an unintended consequence of sex), greater concern over child safety and “changing cultural contexts of parenting and childhood” (p. 41). While employment alone would have reduced caregiving time and still does in the cross-section, trends in these other factors have outweighed the decline in child caregiving caused by increased employment, resulting in an increase in the total time reporting primary caregiving activities (Sayer, Bianchi, and Robinson 2004, Table 1, p. 18).

Bianchi, Wight, and Raley (2005) continue to focus on changes in caregiving time, but this is the first paper in this series of historical studies of caregiving time to include ATUS data. Their conclusion is

that primary caregiving time has increased from 1975 to 2003. Between 1965 and 1975, child caregiving time of mothers with at least one child living in the household declined from 10 hours a week to 8½ hours. There was no change from 1975 to 1985, but then caregiving hours of mothers increased to 14.1 hours per week by 2003 (p. 13). Among caregiving hours, all of the increase is in the more interactive activities, such as playing with and reading to children. The caregiving time of employed mothers continues to be less than nonemployed mothers, but the caregiving time of an employed mother in 2000 was the same as that of a nonemployed mother in 1975. At the same time that mothers were increasing their hours of primary child caregiving, fathers were increasing theirs as well. By 2003, Bianchi, Wight, and Raley (2005) report an average of seven hours of paternal caregiving a week and a reduction in the ratio of mother's time to father's time (p. 13).

Trends in Leisure Time

With the observed reduction in home production time and accompanying increase in paid work time, what has happened to leisure time? According to Ramey and Francis (2006), per capita leisure essentially is unchanged from 1900 to 2000, with their per capita measure including the entire population. In contrast, Aguiar and Hurst (2007) document an increase in leisure from 1965 to the present for the working-age population (ages 21–65) who are neither in school nor retired, but this increase in leisure is largely among the group with low education levels.⁹ Using a measure of “core leisure” that includes watching TV, socializing, participating in or watching sports, reading, hobby time, and other entertainment time, Aguiar and Hurst find an increase of 5.6 hours per week for men and 3.7 hours for women. These estimates control for changing demographics of the population from 1965 to the present.

Turning to leisure time for mothers, Bittman and Wajcman (2004) examine time diary data collected from 1981 to 1992 for 10 developed countries and find that employment and having young children have the largest influence in reducing adult leisure time (p. 182). Bianchi, Wight, and Raley (2005) present the leisure trends for mothers with at least one child under age 18 in the household. Excluding personal care time, leisure (they call it “free time”) has declined about 3 hours a week, from 34.8 hours in 1965 to 31.6 in 2003. Their measure for 2000 is 31.8

hours, showing substantial continuity between the ATUS and the earlier University of Maryland data (Bianchi, Wight, and Raley 2000, Table 1). Thus, while total per capita leisure may have been constant and the leisure of the average working age person has increased, the leisure of mothers in the United States has declined slightly over the last 40 years as employment has increased and child caregiving time has also increased. These changes result in a growing feeling of time squeeze that Bittman and Wajcman (2004) find most likely to be reported by parents of young children.

POLICY IMPLICATIONS OF TIME USE STUDIES

To the extent that public policy affects incentives regarding time allocation, studies of time use using time diary data can help inform policy debates. Public policy relates to time use in two broad but inter-related ways: through its effect on the value of paid market work, such as taxing earned income or providing child care subsidies, and through family policies, such as the varying taxation for different family structures and the determination of child support and the support of human capital production.

Any increase in the marginal tax rate for earned income represents a decrease in the hourly wage received by the worker; thus, it is useful for policymakers to understand how this reduction in the market wage might affect time choices. When the market wage falls due to increased taxes, do individuals work more hours or fewer? Much evidence using traditional data sources exists to answer this question, but recent research has shown that estimates of labor supply responsiveness to wage changes tend to show much greater responsiveness when time diary data are used instead of the classical, retrospective measures of weekly hours worked. Additionally, estimates of wage elasticities might be biased by ignoring other time uses such as household production or leisure (Apps 2005). We contribute to the stock of knowledge in this policy area by estimating expanded models of time use that consider jointly several aggregate time uses, including paid work.

In addition to the effect of wage changes on paid work efforts, policymakers should also be interested in knowing the effect that such

policies have on other time uses. For example, what is the relationship between higher market wages and time spent with children? There is some evidence that higher-educated individuals devote more time to primary caregiving, but to date, the analyses have not included a full set of time uses to facilitate understanding of the trade-offs associated with transferring time from one activity to another.¹⁰ We address this question in our expanded model of time use by focusing on a measure of the wage that incorporates the mother's education as well as other measures of productivity, and we use appropriate statistical methodologies that adjust for other factors important to time use decision making.

Many policies have implications for family structure and family decision making. For example, policies that affect the individual's wage may affect the division of unpaid household labor within a household. The way household labor is divided within couples is important because of issues concerning equality of this unpaid time burden and the degree to which spousal support in housework facilitates success in employment. Additionally, public policies determine the size of child support payments based on the income requirements of raising a child but without consideration for unpaid household production and caregiving time requirements.

Perhaps the most important "output" produced in unpaid household production is "quality" children who grow up to become productive members of society.¹¹ As is well established, parental time with children affects child development (see, for example, National Institute of Child Health and Human Development Early Child Care Research Network [1994]). Thus, any public policy that affects time devoted to child caregiving will have implications for our nation's future workforce productivity. According to Smeeding and Marchand (2004), "Parental time devoted to children lays the foundation for future acquisition of formal human capital" (p. 30). Ramey and Ramey (2008) argue that a substantial increase in parental caregiving time by college-educated parents in the United States is motivated by the goal of increasing the college admission prospects of their children. Growing inequality of income seems to be coupled with growing inequality of caregiving time, which further increases the hurdles low-income children face in attaining parity in educational attainment with children from higher-income homes. We are interested in whether public policy aggravates or helps mitigate these time and money gaps.

Public policy can also have some effect on the timing of activities across the day. Time use data can be used to analyze when activities occur during the day and how policy might affect this timing. As explained by Hamermesh and Pfann (2005), “When we do things matters . . . People develop habits that allow them to economize on their timing of activities, just as they develop patterns of goods consumption, and time use that maximizes their satisfaction at a point in time and over their lifetimes” (p. 3). For example, local laws concerning store hours or “Blue Laws” that prohibit the sale of alcohol on Sundays have implications for individuals’ ability to maximize utility by choosing fully the timing of activities across a day and a week (Jacobsen and Kooreman 2005). The hours that public schools are open and the annual academic calendar can also be seen as public policies that affect parents’ caregiving.

Finally, policymakers are interested in measuring the value of unpaid household work for a variety of purposes. In fact, according to Joyce and Stewart (1999), “Perhaps the most fundamental application of time-use data would be to provide nationally representative estimates of the amount of time that Americans spend in various activities” (p. 1). First, such measures can facilitate measurement of well-being as household-produced goods are consumed jointly with purchased goods. Second, the ability to measure and, thus, value unpaid work can contribute to improvement in measures of national output, which could give us a better understanding of national productivity and its trend over time.

Notes

1. Spousal time use is not observed directly in the ATUS. In Chapter 4, we propose a “data construction” strategy.
2. For years, labor economics research in numerous other countries (including Australia, Canada, Germany, Israel, Korea, the United Kingdom) have used national time use survey data to investigate topics such as household production technologies (Gronau and Hamermesh 2006) and parental time inputs in children (Kalenkoski, Ribar, and Stratton 2005; Robinson and Godbey 1997; Sandberg and Hofferth 2001). Time use studies can also be used to generate alternative measures of hours of market work (Frazis and Stewart 2004; Klevmarken 2004; Robinson and Bostrom 1994) and to examine the time of day activities take place (Hamermesh 1999; Jacobsen and Kooreman 2005). Works that have tracked

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U.S. time use trends include Robinson and Godbey (1999) and, for parents, Bianchi, Robinson, and Milkie (2006).

3. The National Survey of Families and Households and the Panel Survey of Income Dynamics collect very limited time use information. For a comparison among these two surveys and the ATUS, see Winkler (2002).
4. These latter four surveys have been carefully standardized and combined to create the American Heritage Time Use Study (AHTUS) by the Centre of Time Use Research at the Institute for Social and Economic Research at the University of Essex and analyzed by Fisher et al. (2006), among others.
5. Note that Bryant and Zick (1996) shows a one-hour decline in daily household work for married mothers for this same period.
6. Vanek (1974) finds that housework did not decline in the 1960s relative to the 1920s. Note, however, the 1920s sample contained rural women while the 1960s sample was comprised of urban women.
7. Ramey and Francis (2006) follow Aguiar and Hurst's (2007) lead and classify talking to, playing with, and reading to children as leisure.
8. Sayer, Bianchi, and Robinson (2004) compare the same 1965, 1975, 1985 surveys that appear in the AHTUS plus a University of Maryland survey from 1998, while Bianchi, Wight, and Raley (2005) compare 1965, 1975, 1985, 1995, 1998, 2000 surveys and the first year of the ATUS, 2003.
9. Aguiar and Hurst (2007 and 2008) use data from 1965, 1985, and the ATUS of 2003–2005.
10. For an early paper in this vein, see Hill and Stafford (1974).
11. We use the word quality first popularized by Gary Becker, who wrote extensively about the quality-quantity trade-off for children. According to Becker, quality children simply means they receive more inputs. Our definition of quality children are children who are emotionally healthy, physically cared for, and happy. In most cases, more inputs will lead to quality children, especially if one includes parental time as an input.