ABSTRACT

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American fathers devote significantly less time than mothers to rearing their children. Using new time diary data from the 2003-2005 American Time Use Survey, this dissertation documents the variation of father involvement in different family contexts, develops more comprehensive measures of paternal care, and provides an in-depth examination of the major covariates contributing to fathers' time allocation to childrearing.

Compared to married resident fathers, single fathers – specifically, "sole" single fathers who are the only adult in the family – spend significantly more time providing all types of childcare except playing with children. Sole single fathers spend similar amounts of time with their children as married fathers, although their passive care time is less. Cohabiting fathers and married fathers demonstrate similar parenting time patterns.

Lacking daily interaction with their children, non-resident fathers provide less than one-third of direct childcare and spend much less overall time with their children

than resident fathers do. When non-resident fathers are with their children, their time is mostly spent on playing with children and performing necessary managerial responsibilities (e.g., attending children's events and school meetings, picking up/dropping off children). However, non-resident fathers' time "minding" children – a measure that gauges passive care of children not requiring physical presence – is almost 85 percent of what resident fathers report. Further, divorced non-resident fathers spend more time providing childcare than (re)married non-resident fathers, especially in physical and recreational activities.

Father care in two-parent families is associated with a number of covariates that reflect demands on fathers and their capacity to provide care. First, fathers' direct care time and time with children, but not their minding time, decreases as their children age. Second, fathers tend to do more childcare when they have boys rather than girls in the family. Third, although fathers appear to do more childcare when their spouses are employed, this happens only among those whose spouses are least educated or best educated. Finally, despite the common assumption that better educated fathers are more "involved," the childcare time differences are mainly between fathers with high school (or below) education and everyone else.

WHAT MAKES A GOOD DAD? CONTEXTS, MEASURES AND COVARIATES OF PATERNAL CARE

by

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Table of Contents

List of Tables

List of Figures

List of Appendix Tables

Chapter 1 Introduction and Statement of the Problem

The rate of mothers with young children entering or remaining in the workforce has increased dramatically, which raises the issue of who rears children in modern society. Researchers, policy makers and the general public have increasingly focused on the roles and responsibilities of American fathers in children's lives. Today's fathers are not only expected to be economic providers but also equal partners with mothers in childrearing and parenting (Goldscheider and Waite 1991; Pleck and Pleck 1997).

Father involvement in childrearing benefits family members in many ways. First, father involvement can directly and indirectly affect the economic, physical, and psychological well-being of children (Day and Lamb 2004). Both cross-sectional and longitudinal studies suggest that paternal involvement is associated with fewer behavior problems for children (e.g., fewer issues with school, less running way from home, decreases in trouble with the police). The benefits of paternal involvement are independent of maternal involvement (Amato and Rivera 1999; Aldous and Mulligan 2002). Moreover, time fathers spend with children in activities such as shared meals, leisure activities, and reading or helping with homework is positively linked to childrens' academic performance, measured by grades (Cooksey and Fondell 1996).

Second, men's participation in parenting may be essential to further movement toward gender equality, which depends on men assuming greater responsibility for family work as women take on more paid work and employment outside the home. In part because working mothers continue to shoulder the lion's share of the work at home (Hochschild 1989), they experience a "motherhood penalty" in pay at work (Budig and

England 2001; Correll, Benard, and Paik 2007). Fathers who assume greater responsibility for child care ease the burden of the "second shift" for employed mothers, which in turn may help mothers reduce the wage penalty at work.

Finally, fathers' participation in childcare also helps to maintain a healthy family life in general. Studies show that fathers' greater sharing of childcare improves the mental health of their spouse and lowers the chance that their wife will consider divorce (Ross, et al. 1983; Lamb et al.1987). Moreover, the amount of time resident fathers spend with their children is positively related to these men's life satisfaction, socializing, and involvement in their communities (Eggebeen and Knoester 2001). As Coltrane (1996) notes, fathering provides men with opportunities to develop their more caring and emotional sides, making them "more complete people" (Coltrane 1996: 232).

Despite the positive effects of father involvement on children, mothers, fathers and families, fathers devote significantly less time than mothers to the rearing of their children (See Pleck, 1997 for a review). Time-diary studies show that even though married fathers have increased their time with children in the past two decades, they still spend about half the time that mothers do in parenting children (Sayer et al. 2004; Bianchi, Robinson, and Milkie 2006).

Do men simply lack the desire to participate in caring for their children or are other factors at work? Qualitative studies suggest that most married fathers find that time with their children is fun and rewarding. Fathers believe in the priority of spending time with their children, which they view as the primary standard of good fatherhood (Gerson 1993; Daly 1996). In addition, many unmarried, noncustodial fathers are involved in the

lives of their children, and these fathers similarly value their opportunities to take care of their children through visits, emotional support, teaching, and caregiving (Roy 1999).

If most fathers are in fact willing to get involved, then why do so many have problems doing so? What are the potential barriers to fathers taking a more active role in childrens' lives? What facilitates fathers becoming more involved in parenting their children? This study attempts to shed light on these questions and extend our understanding of father involvement by: 1) focusing on the family contextual factors associated with fathers' active participation in children's lives, 2) developing more comprehensive measures of paternal care, and 3) assessing the major covariates associated with fathers' time allocation to childrearing.

Contexts: Marital Status and Living Arrangements

American fathers' experiences with children cannot be fully understood without considering the changes in family context during the last quarter of the 20th century. The rates of divorce, remarriage, and out-of-wedlock childbearing have all risen. By 2003 only 68 percent of all families with children were two-parent families. Among single-parent families in 2003, about 18 percent have a male head and 82 percent a female head (percentages are calculated based on Table 2 in Fields 2004). At the same time, about 11 million men currently reside apart from their children (Sorensen and Zibman 2001).

Most studies on fathers' time focus on two-parent, intact families. We know much less about fathers' parenting in other types of families and how it varies by fathers' residential status. Men's experience of fatherhood differs across family contexts. Marital status differentiates paternal investment levels regardless of the biological relationship

between the child and the father (Hofferth and Anderson 2003). Married fathers spend more time with their children than cohabiting fathers do, and single fathers spend the highest amount of time with children among all father family types (Hofferth 2006a). Yet, sometimes single fathers are not actually "single", given that close to 30 percent of single fathers live with their parents or other adults (Casper and Bianchi 2002, Table 5.1). Single fathers' living arrangements may affect their levels of involvement, as those who live with their parent(s) may benefit from their parents' help with childcare.

Compared to resident fathers, non-resident fathers may face unique parental challenges. First, non-resident divorced and unmarried fathers are at a disadvantage because custody and paternity issues preclude "at-will" access to their children (Pasley and Braver 2004). Second, marital and living conditions may affect the ability of non-resident fathers to visit their children. Research shows that fathers with "simple" parenting responsibilities – that is, fewer children from different mothers – visit their non-resident children more often (Manning, Stewart, and Smock 2003). A remarried, non-resident father living with a new spouse and new children may be less involved in his non-resident children's lives than a currently divorced father. Finally, the "quality" of the time that fathers spend with their non-household children also merits attention. When non-resident fathers are with their children, they tend to engage mostly in leisure activities with children, rather than instrumental activities such as helping with school and discussing problems (Stewart 1999; Amato and Sobolewski 2004). Further, nonresident fathers' face-to-face contact with children may often happen during the weekends when children have less routinized patterns and activities, although the empirical evidence is sketchy at best (Pasley and Braver 2004).

In this dissertation I look at two factors associated with fathers' family contexts: marital status and living arrangements. I focus on resident fathers' marital status and living arrangements and non-resident fathers' marital status, given that who resident fathers live with and whether or not non-resident fathers are (re)married seem to be relevant factors to childcare patterns for each group of fathers.

Measures of Paternal Involvement

Lamb, et al.'s (1985, 1987) conceptualization of three levels of paternal involvement – engagement, accessibility and responsibility – has been widely used in the literature on father involvement with children. Most studies touch only on the first two components: the amount of time a father directly interacts with a child (e.g., caretaking, play or leisure) and the time a father is available to, but does not directly interact with, the child (e.g., watching TV while the child plays in another room). The last component, responsibility, which involves management of the child's welfare, is rarely studied (Pleck and Masciadrelli 2004). Moreover, childcare is not only a set of activities, but also can be a "state of mind" in that parents are often aware of their children's needs; they know what their children are doing and are able and willing to "help out" when it is necessary, even when they are not actually with their children (Budig and Folbre 2004). Ignoring this part of passive or "state of mind" childcare could result in a downward bias of parental care time.

In addition to levels of involvement, what fathers do when they are engaged in childrearing is another dimension of measuring paternal involvement. Although it is not clear how "quantity" of parental time compares with "quality" of time, we know that not

all parental activities have the same meaning for children. For example, feeding and clothing children is different from reading to children or helping with their homework. Previous studies have disaggregated childcare activities into different categories, such as routine and enriching activities (Bianchi et al. 2006) or personal care, play, achievement-related, household, social and other activities (Yeung, et al., 2001). Given the different meanings of activities and their effects on children's well-being and development, in this dissertation I re-conceptualize parental care activities into four major categories: Physical, recreational, educational and managerial childcare activities.

Understanding Fathers' Time with Children: Demands and Capacities

One of the fundamental constraints everyone faces is the 24 hours per day that one must allocate to competing uses. Fathers' involvement or lack of involvement in childrearing, therefore, is related to how fathers respond to a set of competing demands on their time and how they differ in their capacity to meet these demands. This "demand-capacity" framework leads to the expectation that paternal participation in child care will be a function of demands placed on fathers as well as their capacity to respond to these demands (Coverman 1985; Brayfield 1995). On the one hand, the presence of younger children and wives' paid work outside the home may pressure husbands to spend more time on childcare and other domestic tasks. On the other hand, the time a husband spends at his own job limits the available time he has to allocate to family work (Coverman 1985). The more domestic demands on the father and the greater his capacity to respond to them, the greater his participation in family and childcare work is likely to be.

The demand for paternal involvement is firstly related to children's characteristics, namely, age and gender. Parental time declines dramatically with the age of the child, because almost all children over age 6 attend school and are removed from parental care for significant periods (Budig and Folbre 2004). Moreover, children of different ages have different needs for social, emotional, and cognitive development. Very young children generally demand more physical care, but older or school-aged children may need more time for parental guidance and education-related activities. Limited by small sample sizes, previous studies of fathers' time use have not been able to determine the potential differences in childcare among subgroups of fathers with very young children (Budig and Folbre 2004).

Father involvement is often thought to be greater with sons than with daughters, although the empirical evidence has been mixed (Pleck and Masciadrelli 2004; Raley and Bianchi 2006). Fathers may "prefer" to spend more time with sons, simply because fathers consider themselves as important gender role models to children (especially for boys). Moreover, fathers may be socially expected by other family members and by the larger society to spend more time with their sons. Thus, the gender composition of children in a family can be an important factor in understanding father's time with children.

Another important factor pushing men into family work and childcare is the entry of women, especially married women with young children, into the working world outside the home (Demos 1986). Studies of the trend in parental time with children indicate that married fathers have increased their time with children (Pleck 1985; Sandberg and Hofferth 2001). Given that men's labor force participation has been stable

over time, we may expect that increases in fathers' time with children have been in response to the rise of **mothers' labor force participation**.

However, a number of cross-sectional studies find no significant difference in children's average time with their fathers in two-parent families where mothers work outside the home and where they do not (Pleck 1985; Sandberg and Hofferth 2001; Bianchi 2006). Aspects of mothers' employment (e.g., employment status, work hours) are generally poor predictors of fathers' involvement with children (Marsiglio 1991; Yeung et al. 2001), although when mothers work a non-day shift, fathers are more likely to be the primary childcare provider (especially to young children) (Presser 1988, 2003; Brayfield 1995).

Why, then, do fathers with employed wives not spend more time in childcare than fathers with wives as homemakers? The seeming inconsistency between the trend of increased paternal caring time and the results from cross-sectional analyses that find no difference in fathers' childcare in dual-earner and single-earner households suggests that husbands' responsiveness to wives' employment might be mediated by other factors. One factor may be maternal education – more highly educated mothers may be committed to more egalitarian childbearing, but the financial pressure in households with less educated mothers may result in greater employment in occupations with shift work schedules that actually increases father care.

Fathers' actual time in parenting is not only influenced by the demands of childcare that are placed on fathers by children and mothers but also by fathers' own capacity for responding to these demands. **Fathers' education,** for example, appears to be a major factor affecting father involvement. Better-educated fathers are often

hypothesized to be more "involved" than less-educated fathers, because highly educated men generally support more egalitarian beliefs about shared breadwinning and care-giving (Ishii-Kuntz and Coltrane 1992) and because they are more likely than less educated fathers to subscribe to an ideology of involved fatherhood that prescribes time-intensive parental behaviors (Daly 2001). Empirical studies generally support this thesis: college educated fathers spend more time in childcare than less educated fathers (Bianchi et al. 2004; Sayer et al. 2004).

Moreover, fathers' work hours are often found to negatively relate to their time with children (Coverman 1985; Aldous et al. 1998; Hofferth and Anderson 2003), because the more time a father spends working, the less time he has for everything else, including childcare. In addition, some studies have also found a father's wage to be negatively associated with his involvement in the home (Aldous et al. 1998; Hofferth and Anderson 2003), at least on weekdays (Yeung et al.2001). Yet other studies find that higher fathers' income is associated with more positive engagement with children (Blair et al.1994; Ahmeduzzaman and Roopnarine 1992). Well-educated fathers tend to earn higher wages and work longer hours. Assessing the complexity of the interrelationship among fathers' education, work hours, and wages is important in understanding variability in the capacity of fathers to respond to care-giving demands from children and mothers.

Outline of the Dissertation

I organize this dissertation as follows. In Chapter 2 I start with a discussion of concepts and measures of father involvement and how the mental or "state of mind" component of the involvement can be captured with a new measure in the dataset I use,

the American Time Use Survey (ATUS). I then provide a review of parenting situations that resident and nonresident fathers each face and the covariates that capture mothers' and children's demands on fathers' time and fathers' capacity to respond to these demands in two-parent families. The conceptual framework and hypotheses about different groups of fathers are also included in Chapter 2.

I introduce the dataset and methods in Chapter 3, including measures of the dependent variables, independent variables, and analysis plans to test the hypotheses. My analysis chapters start with Chapter 4, where I document resident fathers' time with children and examine whether resident fathers' marital status and living arrangements are associated with their childcare participation. Chapter 5 focuses on non-resident fathers' time with children and explores whether non-resident fathers' marital status is related to their childcare levels. Chapter 6 through Chapter 8 examine father involvement in two-parent families, where I focus on how children's' age and gender, spousal employment, and education of the father are related to fathers' time with children. Finally, Chapter 9 summarizes the findings of this study and draws conclusions.

My analysis relies on the American Time Use Survey (ATUS). The ATUS is the nation's first federally administered, continuous survey on time use in the United States, launched by the Bureau of Labor Statistics (BLS) in 2003. The ATUS sample is nationally representative and drawn from the Current Population Survey (CPS). Different from previous time-diary surveys, the ATUS collects both active and passive childcare time. Fathers' reports of having children in their care are captured for the first time in the survey. This study uses 2003-2005 data and the sample includes 6,155 men who report having either household or non-household children under age 13. I focus on fathers with

children under age 13, since these families require more childcare compared to families with older children. Another reason for restricting analysis to men who have children under age 13 is that this measure of "in your care" or "minding" time is only assessed for children under age 13 in the ATUS.

This dissertation advances our knowledge of father involvement in multiple ways. The relatively large sample size of the ATUS allows comparisons among more detailed subgroups of fathers than previous studies, such as fathers with very young children (under age 3). Further, fathers' time with children is directly reported by fathers through time diaries, which may afford a more accurate measure of fathers' time compared to proxy reports by mothers or other family members.

In addition, this dissertation provides a first look at how much time non-resident fathers spend with their children as well as what activities they do with their children. The ATUS asks respondents to report separately their time with household children and non-household children, which makes it possible to study non-resident fathers' time with children. Adding the non-resident fathers into the picture enriches our knowledge of fathers' various childcare experiences in today's American families.

I study father care as a function both of childcare demands placed on fathers and fathers' capacity to respond to these demands. The key covariates are studied in depth to help clarify previous inconclusive findings about how fathers' parenting time is affected by demands from children and mothers and fathers' own capacity to respond to these demands. Finally, I include the "state of mind" aspect of paternal care and re-conceptualize parenting activities, which contributes to a broader literature in time-diary measurement of parental childcare and to the literature on father involvement.

Taken together, by using newly collected time-diary data and new measures, this dissertation provides a comprehensive view of today's American fathers' time with their children. Moreover, the study examines non-resident fathers' childcare time for the first time and pays attention to the mechanisms through which fathers manage to provide care. The results from this study capture a broad range of father involvement and highlight the constraints and facilitators of fathers' active parenting role in different family contexts. It is hoped that these findings, in turn, provide insights into public policy efforts that promote father involvement.

Chapter 2 Literature Review and Conceptual Framework

Fatherhood has undergone many changes over American history. According to scholars of the social history of fathering, Colonial fathers tutored their children in moral values and played a dominant role in childrearing. With industrialization and the spatial separation of work and home, men's economic roles drew them outside the home and into the workplace, and women took over the sphere of home and childrearing (Demos 1986). Thus, father's main role changed from "moral overseer" to "provider" in the family. With the feminist movement of the 1960s and 1970s and women's increased labor force participation, especially married women with young children, a new culture of fatherhood is emerging, calling for men's greater involvement in childrearing (Goldscheider and Waite 1991; Pleck and Pleck 1997).

The recent shift of social expectations for a father's role highlights fathers' participation in providing physical and emotional care to their children. The old portrait of intrusive, incompetent, and competitive fatherhood is gradually being replaced by a new one that emphasizes a "softer" side of fatherhood (Demos 1986). Now the question is no longer one of whether men are as capable as women of providing effective parenting, but how fathers can be more involved in their children's lives.

Organization of the Chapter

I first discuss the concepts of paternal involvement, how they have been measured in previous studies and how I measure them in the current study. Then I describe resident and nonresident fathers and how contextual factors could affect their involvement in

childcare. After the discussion of fathers by their resident status with their children, I focus on fathers in two-parent families, the majority of today's American families. I describe the major covariates of fathers' parenting time: spousal employment, child's age and gender, and fathers' education. Finally, I discuss a demand and capacity framework to understand fathers' care time. A description of factors involved in the model and the hypotheses associated with different groups of fathers are also provided.

Paternal Involvement: Concepts and Measures

Concepts of Paternal Involvement

What does "involvement" exactly mean? Michael Lamb (1987) notes that scholars generally have been ambiguous about what they mean by parental "involvement," thus it is difficult to compare one study with another. Moreover, to determine whether or not fathers have changed over time, a definition of parental involvement that is both conceptually clear and comprehensive is necessary.

Lamb et al. (1985, 1987) define involvement overall as concerning "the amount of time spent in activities involving the child" (1985, P.884) and they propose three components of paternal involvement: 1) paternal engagement (direct interaction with the child) 2) accessibility (availability) to the child, and 3) responsibility for the care of the child. Differences between each component are largely due to the level/intensity of father-child interaction. Engagement is the time spent in actual one-on-one interaction with the child (e.g. caretaking, play or leisure). Accessibility indicates "the father's potential availability for interaction, by virtue of being present or accessible to the child whether or not direct interaction is occurring." (1985, P.884) For example, a father can

be accessible to his child when he fixes things in the house while the child plays nearby. Responsibility involves the role a father takes in making sure that the child is taken care of and arranging for resources to be available for the child, for example, arranging babysitters or making appointments with pediatricians. As Lamb (1987) notes, much of the time involved in being a responsible parent does not involve direct interaction with the child.

Childcare can also be categorized as a set of activities indicating "active" care and "passive" care (Budig and Folbre 2004). Active childcare activities include primary activities and secondary activities when parents are directly involved with children. Primary activities are the most salient activity that a respondent does at any given time, and secondary activities are simultaneous activities parallel to primary activities but are not the major focus of attention. For example, a father can watch his young children playing while he is reading the newspaper. In this case, this father may report childcare as a secondary activity. The primary/secondary activity distinction captures the "multi-tasking" nature of people's time use and is a major conceptual distinction that has been used in the time use literature.

As Budig and Folbre (2004) note, childcare is not only a set of explicit activities that parents do with children, but also can be a "state of mind" in which parents are often aware of what their children are doing and are able and willing to help out the child when it is necessary. Often times parents are concerned about their children's needs and constantly monitoring children's activities. This part of childcare time is categorized as "responsibility," "on call," or "minding" time, and can be considered as passive childcare (Budig and Folbre 2004).

Lamb et al. (1985, 1987)'s definition has been widely used in studies related to father involvement, and the definition of parental care discussed in Budig and Folbre (2004) is a more general notion of care that can be applied to either mothers or fathers. Comparing these two definitions, we see that "engaged" time in Lamb's definition can be seen as active childcare in Budig and Folbre's (2004) discussion, which includes both primary and secondary activities. Lamb's accessible and responsible child care time can generally be categorized as somewhat more "passive" time, as these two types of care do not require direct interaction between parents and children, although responsibility is hard to gauge in any type of data collection, including time-diary reports.

Measuring Paternal Involvement

Two survey approaches generally have been used to generate measures of paternal involvement: standard household surveys and time diaries. In a recent review article, Pleck and Masciadrelli (2004) discussed different strategies derived from these two survey methods.

Standard Household Surveys

A standard household survey often asks fathers to estimate how much time they spend in child-related tasks or activities. For example, in the 1987-1988 National Survey of Families and Households (NSFH), parents with children under 5 were asked "about how many hours in a typical day do you spend taking care of (child's) needs, including feeding, bathing, dressing, and putting him/her to bed? " (Blair and Hardesty 1994). In addition to time estimates, fathers are often asked to report how frequently they engage in specific activities. For example, in the 1987-1988 NSFH, fathers with preschool children

were asked how often they do three activities with their child/children – outings away from home (e.g., parks, zoos, museums), playing at home, and reading- with six response categories ranging from never to almost every day (Cooney et al.1993).

Both time estimate survey questions and the activity frequency questions capture the engagement activities that fathers do with children. The time estimate questions focus on the quantity of the time spent on engagement activities, and the activity frequency questions focus more on the interactive forms of engagement or the "quality" of engagement activities (Pleck and Masciadrelli 2004).

One other common strategy of measuring father's involvement in standard household surveys is to assess fathers' childcare relative to mothers' childcare. These measures look at how various child care and child socialization activities are divided between mothers and fathers. The relative measures ask fathers (or mothers) how engagement activities with the child are divided with the child's other parent. Common response categories are father entirely, father more than mother, equal, mother more than father, and mother entirely (Milkie et al. 2002 ; Pleck and Masciadrelli 2004). Yet the relative measure can be problematic in determining fathers' level of involvement across families. For example, husband A may perform a higher proportion of childcare in his family than husband B, but we can not tell whether husband A actually does more childcare than husband B, simply because the total childcare time in each family can be different.

Time Diaries

The time-diary approach asks respondents to record the activities they engage in, including starting and ending times for each, over a given period of time (usually 24

hours). At the same time, respondents often provide information about with whom the activity was done, whether other activities were taking place at the same time, and where the activity took place.

Time diaries have many methodological advantages over the standard household surveys as a source of information about father's time with children. First of all, unlike being asked the standard questions like "about how many hours do you spend taking care of your children," respondents who complete the diaries usually have no reason to think that their time with children might be a focus of data analysis (Pleck and Stueve 2001). Even if the respondents want to over report certain activities, the diary technique presents respondents with minimal opportunities to distort activities, given that the total minutes spent in primary activities must sum to 24 hours (Bianchi et al. 2006; Sayer 2001). Thus, the time-diary approach may reduce social desirability bias. In fact, time-diary measures produce considerably lower figures for engagement time than do standard survey estimate questions (Pleck and Masciadrelli 2004). In the past, comparisons between results from time diaries and from standard surveys have led to the revision of some central conclusions in the housework division of labor (see Pleck and Stueve 2001 for a discussion). As Pleck and Stueve (2001) suggest, time-diary data may have the potential to lead to important new understanding about fathers.

Another major strength of time diaries, compared to the standard household surveys, lies in their capacity to distinguish paternal care beyond engagement activities. As noted earlier, respondents in time diaries are often asked about with whom the activity is done. If children are reported being present when a father is doing any activity (not

necessarily childcare), this time can be accounted as paternal accessible time (see the following section for details).

Matching Measures with Concepts in Time Diaries

Engaged versus Accessible Time

Time diary methodology has played an important role in the development of the concept of paternal involvement (Pleck and Masciadrelli, 2004). Measures of father involvement in previous time diaries to some extent capture the first two components in Lamb's schema of father involvement: engagement and accessibility, although measures of these two components generally vary across different time-diary data collections.

In a set of studies using child diaries in the Child Development Supplement of the Panel Study of Income Dynamics (e.g., Yeung et al 2001; Hofferth 2003), fathers' engagement time and accessible time have been operationalized by questions in children's time diaries on "who's doing the activity with child?" and "who else was there but not directly involved in the activity?," respectively. In other words, paternal engagement is assessed through measures of children's time in activities in which the father is listed as doing the activity with the child, whereas paternal accessibility is coded as children's time in activities in which the father is noted as present but not directly involved in the child's activity (see Pleck and Masciadrelli 2004).

In studies using adult-focused time diaries (e.g., Bianchi 2000; Sayer et al. 2004), three questions are usually asked about each activity: Q1. What were you doing? Q2. At any time while you were (repeat activity), did you do anything else? (like talking, reading, watching TV, listening to the radio, eating, or caring for children), usually

referred to the "secondary activity." Q3. While you were (repeat activity) who was with you? The first two questions, either about the primary childcare time or about the secondary child care time when parents were also doing other things while taking care of children, can be combined and counted as the total engagement time (Pleck and Masciadrelli 2004). The accessibility time is partly captured by the last question, which measures time in which a parent reported any activity (childcare or other) with children present (Pleck and Stueve 2001).

Most studies only touch on the first two components of Lamb's conceptualization of father involvement: engagement in activities with children and accessibility, with accessibility defined as "the father's potential availability for interaction, by virtue of being present or accessible to the child whether or not direct interaction is occurring" (Lamb et al. 1985: 884). Fathers do not have to be present to be accessible to their children. Children's diaries in the PSID-CDS code paternal accessibility by summing up all the time segments in which a father was reported to be at the same *location* as the child but not directly involved in the reported child's activity (Yeung, et al. 2001). For example, fathers' "accessible" time to children includes the time when a child is in one room at home, the father is in another room or in the yard but accessible to children. However, the accessible time when fathers are not in the same location as the child but accessible to child is not captured. The last component in Lamb's conceptualization of father involvement - responsibility, which involves management of the child's welfare, is rarely studied (Pleck and Masciadrelli 2004).

The "In Your Care" Measure in the American Time Use Survey (ATUS)

In 2003, the Bureau of Labor Statistics (BLS) launched the first annual nationally representative time-use survey to measure how people in the United States divide their time among life's activities. In the ATUS, respondents report what they were doing sequentially over a 24-hour period, beginning at 4:00am one day and ending at 4:00am the following day. Similarly to previous time use surveys, the ATUS asks respondents "what were you dong?" and "who was with you/who accompanied you?" for each activity.

The ATUS provides a "secondary" childcare measure that is different from previous surveys. For households with children under age 13, after the respondent completes the 24 hour time-diary activity report, the interviewer asks if, during those activities a child under age 13 was "in your care." The secondary childcare is defined as care for children under age 13 while doing activities other than already mentioned in primary childcare activities[1]. It is the indirect involvement with a child when a parent may be engaged in one activity while remaining mindful of and responsible for a child. "In your care" time does not include children's sleep time; it begins at the time the first household child under age 13 woke up and ends when the last household child under age 13 goes to sleep and also removes time when the respondent is asleep. If respondents are unclear about what "in your care" means, the interviewer provides this definition: "By 'in your care' I mean that you were generally aware of what your child was doing, and you were near enough that you could provide immediate assistance, if necessary"(Schwartz 2002).

[1] See the American Time Use Survey User's Guide (http://www.bls.gov/tus/atususersguide.pdf)

This "in your care" measure in the ATUS may be able to expand measures of involvement used in previous time diaries. First, this measure does not require parents be with their children when an activity happens. Second, "in your care" requires parents be generally aware of what their child is doing. As parents do their daily activities, they report time when they are indirectly involved with a child and remain mindful of children's activities and wellbeing. This measure seems to fit Lamb's accessibility part of involvement but also may capture an aspect of responsibility for children. Although this measure may only pick up a small portion of the minding or passive component of childcare, it is the first measure introduced in time-diary surveys that touches on the "state of mind" nature of childcare (Budig and Folbre 2004).

Measures in the Current Study

I use a combination of paternal care concepts derived from Lamb et al. (1985, 1987) and Budig and Folbre (2004) as a guide to developing measures of father involvement in this study. First, "direct care time" is used to capture time in which fathers report doing childcare related activities. Different from the engagement measure that emphasizes the one-on-one childcare activities in Lamb et al. (1985, 1987), the "direct care time" also includes the time fathers report arranging for resources to be available for the child, such as arranging childcare services and obtaining medical care for children. Therefore, this "direct care time" is a combination of Lamb et al.'s (1985, 1987) engagement and responsibility concept.

Second, I use "time with children" to measure the time when a father is physically with his children and accessible to children, although a father might be doing non-

childcare related activities. This measure captures a part of Lamb's concept of accessibility, although accessibility for Lamb does not necessarily require a parent to be with children (Pleck and Masciadrelli 2004).

Finally, the minding part of father's care that Budig and Folbre (2004) discuss is picked up by the ATUS measure of "in your care," which I name "minding time" in this study. This measure also captures part of Lamb's accessibility involvement where fathers may not be present to be accessible to their children. This measure may also capture a small part of parental responsibility that fathers take for children's care.

Note that the three childcare time measures are not mutually exclusive. The calculation of "minding" time in the ATUS excludes fathers' direct childcare time, and my "time with children" measure includes the direct care time when fathers are in the presence of children but not the part of direct care time when fathers may not be with the children but doing things for children (e.g., managerial activities).

Fathers as Caregivers, What Do They Do?

Parenting involves different activities to meet child's physical, social, emotional and cognitive development needs. Enumerating these daily activities can be difficult given the nature of care. Past research on fathers has separated childcare into two parts: routine caregiving and enriching (interactive) activities (Bianchi et al. 2006). The "routine" activities are more custodial daily care like feeding or clothing, and the "enriching" activities may involve greater parental investment or interaction with children, for example, reading to children. Another more detailed categorization of father involvement from children's diaries divides children's activities with their fathers into

personal care, play, achievement, household, social, and other activities (Yeung, et al. 2001).

Based on previous childcare types, I categorize fathers' childcare activities in line with child development needs. First, I separate the "enriching" activities into two parts: recreational versus educational activities, given that these two types of interactive activities may have different implications for child outcomes. Young, et al. (1995) found that merely spending time with fathers (by going out to dinner or seeing movies together) was not related to children's life satisfaction, but children tend to have high levels of satisfaction when married fathers provide encouragement and talk over problems (authoritative parenting). Similarly, studies of nonresident fathers' parenting show that participating in leisure activities with non-resident adolescent children does not affect adolescent children's emotional distress, delinquent behaviors or academic achievement. Instead, talking with children about things going on at school is positively related to children's well-being (Stewart 2003). Thus, I include communication activities into the category of educational childcare. This category contains activities such as reading to/with children, helping with children's homework, talking with/listening to children, etc. My recreational child care activities include playing with children (sports/nonsports), and making arts and crafts with children. The categories may not be totally distinct as talking has a recreational aspect and playing sometimes can be educational. However, the activities categorized as educational have been explicitly tied in past research to positive child outcomes.

Paternal responsibility is rarely captured in previous studies. According to Lamb et al. (1985)'s conceptualization, I separate activities related to paternal responsibility

from other activities. Lamb et al. (1985:884) define responsibility as referring "not to the amount of time spent with or accessible to children, but to the role a father takes in making sure that the child is taken care of and arranging for resources to be available for the child. For example, this might involve arranging for babysitters, making appointments with pediatricians and seeing that the child is taken to them, determining when the child needs new clothes, etc." In other words, paternal responsibility can be considered as activities conducted for the child but not (necessarily) with the child, it covers managerial activities for the child's welfare. Therefore, the category of responsibility (which I name "managerial activities") in this study includes activities such as organizing and planning activities for children, attending school meetings, obtaining medical care for children, arranging childcare services, etc. I name this category as "managerial activities" rather than using the "responsibility" label to avoid the impression that other childcare activities such as helping children with their school work do not involve fathers' responsibility. Different from previous studies, this conceptualization and measure of fathers' time in managerial activities captures some part of paternal responsibility in Lamb et al. (1985) and contributes to a broader understanding of father involvement.

The last type of childcare I disaggregate is parent's physical care of children, which includes activities such as feeding, bathing, dressing, etc. These are basic /minimum level care that parents provide to ensure children's physical well-being. As Bianchi et al. (2006) note, although interactional childcare activities may give way to time pressures, routine care and physical care may not. In summary, I distinguish four types of parental care activities in this study: Physical, recreational, educational and managerial activities. Each type is linked to one aspect of child development needs.

Physical activities contribute to children's physical well-being, educational activities are linked to children's cognitive development, recreational activities and the managerial activities ensure children a fun, stimulating and secure environment in which to grow up.

Fathers in Diverse Family Contexts

Fathers' participation in parenting is affected by their immediate social surroundings, especially by factors related to marital status and residential arrangements. Here I separate fathers into two groups by their resident status with their children. I discuss the situational factors associated with the non-resident and resident fathers and how these factors might affect their connections and involvement with children.

Resident Fathers

Research on resident fathers often is based on generalizations from studies of resident fathers in two-parent families (e.g., Marsiglio et al. 2000; Pleck and Masciadrelli 2004). However, it is important to note that resident fathers may not necessarily be married, and they may not necessarily live with the mother of their children or with their own biological children, either. Based on fathers' marital status and living arrangements, resident fathers can be married and living with a spouse, cohabiting with an unmarried partner, or single. They can be living with their own biological children or with stepchildren. In a recent study on resident father's family type and child well-being based on the 1997 PSID-CDS, Hofferth (2006a) finds that among children who live with both biological fathers and mothers, married fathers spend more time than cohabiting fathers with their children.

Single fathers spent the most time engaged in childcare among resident fathers, according to estimates from children's diaries in the PSID (Hofferth 2006a). Single fathers also report more frequent sharing of activities (e.g., leisure, talking and reading or helping with children's homework) with their children (aged 5-18) than fathers in two biological parents' families (Cooksey and Fondell 1996). Yet, a significant proportion of single fathers in fact live with their parents or other adults (Casper and Bianchi 2002), and many single fathers are not literally "single." Adults who live with a single father might affect the father's level of involvement. Given that grandparents often share significant childcare workloads, it may be necessary to separate single fathers who live with their parents from the "pure" single fathers who are the only adult in their households.

Comparisons between stepfathers and biological fathers have also captured attention in the field, given the assumption that fathers may be more motivated to invest in their biological children in order to continue the genetic family line than in children not biologically related (Fawcett 1983). Yet, stepfathers have been found to be more engaged with their new partner's children than with their own biological children who live elsewhere (see Pleck and Masciadrelli 2004 for a review of articles). Within the same family, the time and attention that stepchildren receive is not greatly different from that of a half-sibling who is the biological child of both parents (Hofferth and Anderson 2003).

In the ATUS, the term "own children" refers to the respondent's own children who live either in the respondent's household or in another household. However, this term does not differentiate stepchildren and biological children; therefore stepchildren are

considered own children, although foster children are not. The lack of information about fathers' biological relationship to children in the ATUS is unfortunate and might pose a concern about generalization of the results. However, this concern might be less salient if biology indeed plays a less significant role in father involvement than marriage (Hofferth and Anderson 2003).

In brief, number of parents in a family and the legal relationship between parents are my main research concerns in the analysis of resident fathers. I first compare the level of involvement of three groups of resident fathers - married fathers, cohabiting fathers, and single fathers. Second, within the group of single fathers, I examine how fathers' time with children varies across different living arrangements. That is, how different are levels of father involvement when single fathers live with parents, live with other adults, or are the only adult in their households?

As the PSID time-diary data are child-focused and mostly reported by mothers (Yeung et al. 2001), it is worthwhile to reexamine the impact of father's marital status and living arrangements on their level of involvement from a father's perspective. Moreover, using a comprehensive measure of father's time such as the ATUS's "in your care" time that goes beyond engagement time may also give us a more nuanced picture of resident fathers' involvement levels.

Non-resident Fathers

Changes in family structure have physically separated a significant number of fathers from their children. Even though there is an increase in fathers' seeking (legal) custody of children after divorce, in most cases, children end up living with their mother

(Cancian and Meyer 1998). Further, joint legal custody is far less common among couples who have nonmarital births (Seltzer 1998).

Compared with childcare performed by resident fathers, paternal involvement among nonresident fathers is expected to be lower simply because these fathers do not live with their children and therefore they can not provide daily interaction with their children at their will. Thus, previous studies on nonresident fathers' involvement often focus on the frequency of fathers' contact with their nonresident children. Father's socioeconomic statuses (education, income) are positively related to the level of contact, but evidence of children's characteristics such as sex and age is inconsistently related to fathers' level of involvement (see Amato and Sobolewski 2004 for a review of articles).

In addition to characteristics of nonresident fathers, situational factors associated with a nonresident father may merit attention. First, some nonresident fathers are divorced; while others never married their children's mother. Never-married nonresident fathers are usually considered to be less likely than divorced fathers to keep in contact with their children (Marsiglio et al. 2000), although empirical studies documenting this difference are rare. Second, nonresident fathers' current marital conditions may also affect their level of involvement with their children. Stephens (1996) finds that both new marriages and new children are negatively related to the frequency of contact between fathers and their nonresident children, whereas Manning and Smock (1999) find that remarriage decreases fathers' contact with nonresident children only if the new union produces new biological children. It might be that fathers' new unions and their new younger children occupy men's attention and therefore reduce the amount of time they have to spend with their older nonresident children from previous unions.

Further, previous studies show that when nonresident fathers and their children are together, their interactions tend to be social rather than instrumental (Furstenberg and Nord 1985). Nonresident fathers tend to engage in leisure activities with their children (Stewart 1999) and they often act more like visitors than parents (Lamb 1999). On the flip side, nonresident fathers often need a legal agreement or must negotiate with their previous partners to visit their non-resident children. Thus, these men may cherish the limited time with their children and therefore try to provide "quality time" to fulfill their parental obligations during their short visits. It is therefore important to explore the activities non-residents fathers do with their children when they are together.

Time-diary data allow a detailed account of how much time non-resident fathers spend with their children as well as how they spend that time. In addition to the profile of non-resident fathers, this study also examines how the marital status of nonresident fathers is associated with their level of involvement. To my knowledge, this is the first study to examine nonresident fathers' time use in childcare, and results from the new time-diary data extend our knowledge of non-resident fathers' involvement with children in America.

A Note on Fathers with Both Resident and Nonresident Children

Divorce may physically separate some fathers from their children, but remarriage or cohabitation brings children to these men's lives: the "new" children could be new biological children or stepchildren from the new partner. As most divorced men and women do remarry or cohabit (Manning and Smock 1999), fathers' new relationships could lead to complexity in nonresident father's parenting circumstances (Manning, Stewart, and Smock 2003). The amount of parenting obligations affects fathers' level of

involvement. Fathers with fewer children from different unions visit their nonresident children more often and are more likely to pay child support (Manning et al. 2003). Therefore, analyses in the current study take into the consideration whether or not fathers have both resident and non-resident children.

Fathers in Two-parent Families: What Factors Contribute to "Good Dads"?

To answer the question of factors related to involved fathering, we need to understand the mechanisms through which fathers are motivated to be involved in childrearing. Previous studies haven't identified a consistent pattern of what contributes to father's level of involvement, and the associations between paternal involvement and socioeconomic variables (e.g., fathers' education, income, race and ethnicity) have been found to be either weak or inconsistent (see Pleck 1997; Pleck and Masciadrelli 2004 for a series of reviews). In addition, previous studies often focus on the general pattern of father involvement and therefore place all possible factors into one additive model (e.g., Marsiglio 1991; Yeung et al. 2001), which may run the risk of ignoring important interactions among factors.

In this study, I disentangle different factors using a "demand and capacity" framework for identifying factors related to father involvement. I focus on four major correlates: Children's age and sex, spouse's employment, and father's education. Given that most previous studies have focused on married fathers living with their children, this literature review is mainly about fathers in two parent families. Compared to fathers in other family settings, these fathers may have the most potential to be "good dads".

Children's characteristics

Age

How much care and what kind of care fathers provide often depend on children's characteristics, specifically, age and gender of the child. Parental time declines dramatically with the age of the child (Yeung et al. 2001; Budig and Folbre 2004), but it is not clear whether the time decline is equally distributed across different types of childcare activities or concentrated on certain activities, such as, routine or physical care. It is possible that physical care time decreases as children age, but that time in education-related childcare activities increases, given that older children need more parental attention related to school than younger children.

A child's age, especially age of the youngest child, is directly related to the childcare demand and the nature of childcare activities. Therefore, age of youngest child needs to be examined in all models predicting fathers' time with children. Restricted by the sample sizes, previous time-diary studies of adults often were not able to measure parental time in some critical periods of a child's development, for example, infancy/early childhood (0-3). The current study fills this gap: Using the large sample sizes of the ATUS, I analyze fathers' time with children by three groups based on the youngest child's age: 0-2, 3-5, 6-12.

Gender

Fathers are often thought to spend more time with their sons than daughters. However, the association of a child's gender with fathers' time investment is inconclusive, with some studies finding fathers spend more time with boys than girls, others suggesting that the relationship may vary by gender composition of the sibship, the

age of children, and the type of childcare activity (Raley and Bianchi 2006). Pleck and Masciadrelli (2004) hypothesize that a child's gender may exert less influence on paternal involvement today than in the past, which echoes the empirical work by Pollard and Morgan (2002) suggesting the relationship between sex composition of existing children and the probability of a third birth has weakened in the United States in recent decades.

Father's "preference" in spending time with sons over daughters may depend on fathers' own characteristics, for example, his education. As discussed earlier, better educated fathers may have more gender egalitarian ideas in sharing the parenting and childrearing responsibilities. For similar reasons, better educated fathers who have a gender egalitarian ideology may also have less son "preference" and be less gender biased in their childcare time.

Studying the gender "effect" involves some methodological issues, specifically paying attention to the unit of analysis. Depending on whether the father or the child is the unit of analysis, the relationship between children's gender and father involvement can be gauged either by the gender composition of the family sibship or by an individual child's gender. The father-level data tells whether fathers with all sons spend more time in childcare than fathers with children of mixed genders or fathers with only daughters. The child-level data answer questions such as whether a male child gets more paternal time and attention than a female child or, within a family, whether the boys get more time from their father compared to their own sisters (family fixed effects need to be controlled in this case). As Budig and Folbre (2004) note, child-focused surveys cannot tell the total amount time fathers spend in childcare activities unless all children in families are surveyed.

Previous studies using different units of analysis provide somewhat different findings. In a study using father-level data, Marsiglio (1991) finds fathers with all boy children of school age (5-18) have a higher level of involvement in leisure, play/project and private talks, but not in helping their children with homework or reading assignments than fathers with all girl children. However, gender composition of the sibship is not related to father's involvement with preschool age children (0-4 years old). Results from child-level data show the total paternal engagement time is unrelated to child gender (Hofferth 2003), and fathers only spend more time with sons than daughters in play/companionship activities on weekdays (Yeung et al. 2001).

One study of families with children under age 18 examines both levels of analysis (Mammen 2005), and finds that gender is important across families as well as within families: having boys in a family increases fathers' childcare time in general. At the same time, being a boy (especially being the oldest boy) increases a child's time with the father relative to girls in the same family. Fathers spend more time in leisure, watching TV, and have more one-on-one time with sons. Fathers' time in primary care and achievement activities such as reading and helping with children's homework is not significantly different for sons and daughters. These findings suggest that fathers' "preference" to spend time with sons may be due to the greater shared interests between fathers and sons than between fathers and daughters.

In this study, I focus on fathers' time allocation to childcare. Therefore, fathers, rather than children, are the unit of analysis. I examine how the gender composition of the sibship in a family is associated with fathers' overall childcare time and time in

engaged childcare activities, and how fathers' education might confound this relationship between the gender composition of children's sibship and paternal involvement.

The gender composition of children's sibship in the household is operationalized in the following ways: First, I measure whether a family has at least one boy to see whether fathers' childcare time varies by presence of a son in a family. Second, I measure the presence of son in three age categories (0-2, 3-5, and 6-12) to assess the "son effect" at different ages. Third, controlling for the possible confounding effect of family size, I compare the effect of having a son in families with one child (only son vs. only daughter), two children (two sons, two daughters, or one son, one daughter), and three and more children (number of sons), respectively. Finally, I include a measure of the gender of the first-born child to test whether having a first-born son rather than daughter is associated with higher levels of father involvement. Previous research hypothesizes that the gender of the first-born child may affect the overall pattern of father involvement (Morgan and Pollard 2002; Raley 2003): having a daughter first may reinforce the mother's traditional role as primary caretaker for children, but if a son is first born, inexperienced fathers may be drawn to childcare because of the social expectation for father's involvement with sons. Therefore, a more balanced parenting pattern between mothers and fathers might be adopted. Once this pattern with the first child is adopted, such a pattern might be likely to be maintained (Morgan and Pollard 2002).

Spousal Employment

With the rise of married women's labor force participation, dual-earner families have become the majority of two-parent families in the U.S. today (Casper and Bianchi

2002). Although working mothers continue to shoulder the lion's share of the work at home (Hochschild 1989), educated and time pressed working mothers likely demand more from husbands in sharing the housework and childcare than nonemployed mothers.

However, a number of earlier studies indicate that fathers' absolute level of involvement is not higher if mothers are employed, although father's relative share of childcare is (Pleck 1985). Time use studies consistently show that wife's employment status is not associated with father's involvement in childcare (Pleck 1985; Nock and Kingston 1988; Marsiglio 1991; Sandberg and Hofferth 2001; Bianchi 2006).

For fathers in dual-earner families, results are inconsistent as to whether mothers' paid work hours are related to a higher level of paternal involvement. Some find that mother's work hours have a weak positive relationship with father's physical care of a focal child (Aldous et al. 1998), while other studies using time-diary data show mother's work hours have no effect on children's time with fathers (Yeung et al.2001; Hofferth and Anderson 2003). Using Australian time use data, Bittman, Craig, and Folbre (2004) show that a spouse's market work hours are positively related to a father's time in routine childcare activities (i.e., what they label "physical, high contact care"). In contrast, maternal work hours are not predictive of father's time in interactive care (i.e., what they label as "developmental care").

Research on how mother's work schedules affect father's level of involvement has also generated somewhat inconsistent findings. Some earlier studies show that whether mothers work nonday shifts or have frequent overtime is generally unrelated to paternal involvement (see Pleck 1997). A number of studies on nonstandard work schedules suggest higher father care when mothers and fathers work different shifts

(Presser 1988, 2003; Wight, Raley, and Bianchi. forthcoming). In a study on how work schedules affect childcare arrangements, Brayfield (1995) finds that fathers are more likely to be the primary caregiver for the youngest child under age 5 when the mother works a non-day shift, but the pattern does not exist when the youngest child is school age. In addition, mothers' earnings, either in absolute terms or as a share of family earnings, have no consistent association with paternal involvement in childcare in dual-earner families (Leslie et al. 1991; Ishii-Kuntz and Coltrane1992).

At first glance, different results of previous studies may derive from the choice of the data sets (standard household data vs. time-diary data), the record of the activity (physical care time vs. total care time), and differential sets of covariates. In fact, fathers' responsiveness to mothers' (partners') employment characteristics may be a complex relationship. First, being an equal parent and giving up authority over childcare may not be desirable for all mothers; in fact, mothers often serve as a "gatekeeper" rather than a facilitator in terms of father involvement (Allen and Hawkins 1999). Second, instead of pushing greater paternal involvement, additional resources a family gets through a woman's commitment to her career may be used to purchase services related to childcare (e.g., baby sitters, day care, camps) (see Hofferth 1999; Marsiglio 1991 for a review). This may reduce the demand for father's child care in the homes where mothers are employed relative to those where mothers are not in the workforce.

As Marsiglio (1991) suggests, a father's response to a mother's employment may depend on whether a mother has enough influence to convince her male partner to contribute more time and energy to childcare. Women who have modern gender role expectations and higher levels of education are probably more likely to urge their

husbands/partners to share parenting responsibilities. In fact, net of mothers' employment characteristics, fathers with better-educated partners do read more frequently to their young children aged 0-4 and spend more time in leisure activities with their school-age children (Marsiglio 1991). Therefore, this study pays special attention to mothers' education, which may serve as an important confounding factor for understanding the relationship between a wife's employment and a father's involvement in childcare.

Father's Education

It is well documented that better educated parents are more involved parents. Better-educated parents spend more time with children than less educated parents (Bianchi et al. 2004; Sayer, Gauthier and Furstenberg 2004) and they are also more concerned about their children's academic developments and spend more time on activities which nurture their children's cognitive development (Bianch and Robinson 1997; Hofferth and Sandberg, 2001).

Why do highly educated parents spend more time with children and spend that time differently? According to Sayer et al.(2004), two explanations may shed some light on this. One is about ideology: better educated parents may have different norms and attitudes about parenting that result in different parenting practices. They may prioritize childcare time over other activities. The other is related to time availability or time constraints: better educated parents may have more freedom in their time allocation than less educated parents, who are often in occupations with nonstandard or inflexible hours, and may have to work multiple jobs to make ends meet. Therefore, if better educated fathers believe it is important to spend time with their children and also have flexibility to

do so, they may end up spending more time with their children relative to less-educated fathers.

At the same time, empirical findings of the effect of fathers' education on their childcare time have been mixed, varying by age of the child and type of activity with children. For children in general, studies using time-diary data show that better educated fathers spend more time with children, relative to less educated fathers (Bianchi et al 2004; Sayer et al. 2004) and fathers who received any college education spend more time on activities related to children's achievement than fathers with no college education (Yeung et al. 2001). For preschool-age children, fathers' education is negatively associated with his time in physical childcare, e.g., feeding, bathing, dressing. (Aldous et al.1998), but positively associated with his time in playing, reading, or going on outings with children (Cooney et al.1993). For school-age children, fathers' education is related to more time talking with children and helping their children with homework (Marsiglio 1991).

Several factors might complicate educational effects on fathers' time with children. First, different childcare time by fathers' education may be due to fathers' employment characteristics (e.g., work hours and work schedules). Fathers' work hours are shown to be negatively related to their time with children (Hofferth and Anderson 2003; Aldous et al. 1998), therefore, long hours and multiple jobs may curtail less-educated fathers' time availability for childcare. Compared to less educated fathers, highly educated fathers might be employed in occupations with family-friendly policies and more flexibility in their work schedules and hours, which could help these fathers devote more time to childcare. However, less educated fathers may be more likely to

work in occupations requiring evening or night shifts, which allow them to take care of the preschoolers during mothers' working hours (Brayfield 1995; Casper and O'Connell 1998; Wight et al. forthcoming).

Second, previous studies of father involvement find fathers' wages are negatively related to their time with children (e.g. Aldous et al. 1998; Hofferth and Anderson 2003), even though fathers' wages were not significantly related to time with children on weekends (Yeung et al. 2001). Well-educated fathers usually earn higher wages than less educated fathers, and the educational earnings gap actually widened in the 1980s and early 1990s during a period of increasing inequality (Levy 1998). If well-educated fathers also earn higher wages, then any negative wage effect counters the positive education effect which predicts that well-educated fathers spend more time with children.

Finally, well-educated fathers are likely to be married to well-educated wives. Studies on assortative mating show husband's and wife's education level is fairly highly correlated among newly wed couples (Watson et al. 2004). Moreover, educational homogamy in marriages has increased since the 1960s, and college graduates, in particular, are increasingly likely to marry each other rather than those with less education (Schwartz and Mare 2005). Given that highly educated women have higher rates of employment than less-educated women (Levy 1998), we might expect higher levels of involvement among well-educated fathers to reflect in part fathers' responses to their wives' employment.

It is important to note that various measures of fathers' education have been used in previous studies. Some studies use years of education competed (e.g., Cooney et al.1993; Aldous et al.,1998), while other studies compare fathers with a college education

versus fathers without any college education (Sayer et al. 2004; Bianchi et al. 2004; Yeung et al.2001). Further, estimates of father's time with children in different surveys may also cause inconsistent findings. Studies using time-diary data (e.g., Sayer et al. 2004; Yeung et al. 2001) capture father's childcare time by summing any time he reports doing childcare activities during a 24 hour time diary, whereas studies using data from surveys such as the National Survey of Families and Households (NSFH) measures father's time based on his response to a survey question asking him to estimate the hours spent taking care of his children per day (e.g., Cooney et al.1993; Aldous et al.1998).

In summary, previous studies of father involvement have generally identified fathers' education as a contributing factor to their time with children. The education effect may reflect time constraints as well as fathers' response to spouse's employment and/or behavioral inclinations. Fathers' education is often captured by comparing some college or college educated fathers with those without any college education (e.g., Yeung et al.2001; Bianchi et al. 2004; Sayer et al.2004). It is unknown whether fathers with graduate education differ from other fathers in their time with children.

The current study disentangles factors that fathers' education may work through or interact with to influence paternal childcare time**.** The large sample size of the ATUS allows a more disaggregated look at paternal education. I measure fathers' educational attainment in four categories: High school or below, some college, college and postgraduate education.

Understanding Father Involvement: A Framework

I use the demand-capacity perspective as a general foundation to understand determinants of fathers' childcare time. Other theoretical perspectives, such as parental resources, fathers' motivations and preferences are also discussed to complement the demand-capacity framework.

Coverman (1985) suggests that paternal participation in child care is a function of demands placed on fathers as well as their capacity to respond to these demands. Demand for husbands' time derives from wife's employment and children. A wife's employment constrains her ability to perform domestic tasks, which leads to greater demands on her husband to participate in these necessary activities. Children, especially younger children in the household, intensify this demand on the husband. At the same time, the hours a husband spends on his job poses constraints on his capacity to respond to the domestic demands. In Coverman's (1985) research comparing multiple perspectives on husbands' participation in domestic labor, this demand-capacity hypothesis was overwhelmingly supported. Spouse's employment status, number of children and number of hours a husband spent in market work are the strongest predictors of a husband's time in housework and childcare. Brayfield (1995) extends the demand and capacity framework through adding the scheduling of women and men's market work. She finds that a mother's employment schedule also exerts pressures on father's time with children: fathers are more likely to be the primary caregiver for their youngest preschool age children when the mother works a non-day shift.

The demand-capacity perspective incorporates the widely-used time availability hypothesis, which claims that the amount of time a husband spends in family work

depends on the available time he has for such activities (Bianchi, Milkie, and Robinson 2000). Moreover, this perspective takes a further step and considers the pressures placed on men to perform the childcare tasks by a wife's employment status or the number of children and so forth, which are admittedly endogenous to men's own time availability.

In addition to the demand and capacity factors, father's time allocation in childcare is also largely affected by the resources a father has, both in absolute terms and relative to his wife. Father's absolute resources (e.g., earnings) reflect his "opportunity cost" for caring for children: the more resources he has, the higher cost of both the earnings forgone and the human capital accumulation forgone during the time he invests in childcare (Mincer and Polacheck 1974). Analyses of the absolute level of resources tap fathers' resources relative to other fathers; therefore, fathers with higher income and higher human capital are expected to devote less time to childcare than fathers with fewer resources.

The resources perspective also suggests that within a family the division of household labor is based upon power relations between spouses. The power within a marriage may derive from resources that reflect socioeconomic status such as education and earnings. The spouse who holds more power and authority in the marital dyad can minimize his or her participation in undesirable activities, for example, housework. Thus, it is hypothesized that the more resources husbands have vis-à-vis wives, the less time they will spend in domestic work (Coverman 1985). Childcare is often viewed as more satisfying than housework, though many childcare tasks are also burdensome. Whether resources allow men do less childcare hours, particularly hours of routine care or more

burdensome activities has not been studied nearly as much as men's participation in housework.

Fathers' motivations and preferences are also important factors in understanding father's time in childcare. Lamb et al. (1985, 1987) have proposed four factors that influence the level of paternal involvement: motivation, skills and self-confidence, social supports, and institutional policies and practices. Fathers' motivation for involvement is influenced by factors such as the biological relationship to the child, children's gender, own fathers' involvement, beliefs about gender, fathering, and parenting, paternal identity (Pleck 1997; Pleck and Masciadrelli 2004). Some of these factors can be assessed with the ATUS data I use in this study, some can not. Here I discuss three factors that are most relevant to the current study.

Why would men invest time in childrearing? One of the most conventional motivations for having children is to continue the genetic family line (Fawcett 1983). Biological parents expect that their relationship with children will be long lasting and their investments will pay off in the long run through the success of the child and the continued relationship with the child (Hofferth 2006a). In the case of non-biological parenting, although nonbiological children do not further the father's genes, remarried men increase the prospect of further childbrearing as well as continuation of supportive and reciprocal exchanges with their partner through investing in their spouse's children. Studies have shown that biology explains less of father involvement than expected once differences between fathers are controlled (Hofferth and Anderson 2003).

A second motivation for father involvement has to do with fathers' role in children's gender-role socialization, which is important for children, especially boys'

social and emotional development. Fathers are often thought to be more involved in raising sons than daughters, probably because fathers-and mothers alike feel that it is more important to model the traditional male role for sons than for daughters. “Fathers are expected to teach sons to play and appreciate sports and ‘how to be a man,’ while it is not as well defined socially how a father should be actively involved in parenting his daughter” (Raley 2003:2). Empirically, the effect of child’s gender on fathers’ time investment is inconclusive. Earlier studies suggested male children received more paternal engagement but recent ones find no effect for child gender (See Pleck and Masciadrelli 2004 for a review).

Finally, beliefs about fathering and parenting affect father’s motivation and practices of childcare. In fact, what fathers believe about parenting is directly associated with how much time they will invest in caring for children and how the time should be spent with the children. Although fathers’ beliefs are difficult to measure, a good proxy variable might be fathers’ education. Parental education seems to be highly related to what parents define as the amount and type of time their children need and the corresponding parenting style. Lareau (2002) argues that working-class and poor parents exhibit a “natural growth” style of parenting- providing the conditions under which children can grow but leaving leisure activities to children themselves, whereas middle-class parents engage in “concerted cultivation” by attempting to foster children’s talents through organized leisure activities and extensive conversation emphasizing reasoning (Lareau 2002). Nowadays when children have become more of a consumption item rather than an investment, more educated parents who bear children relatively late may want to spend more time rearing children. Higher education of fathers/parents involves

preference for rearing high quality children, which can be time intensive. Further, better educated fathers may have more egalitarian beliefs about women or gender roles, which are often positively related to paternal involvement (Goldscheider and Waite 1991, Ishii-Kuntz and Coltrane 1992; Hofferth 2003)

Figure 2.1 describes the general framework associated with paternal involvement in direct care, including physical, recreational, educational and managerial components of care, time with children and minding time- the main dependent measures capturing paternal care in this dissertation.

<Figure 2.1 about here >

The Demand Side

From the demand side, parents are hypothesized to perform more childcare duties when there is more need for them. **Children's age** and **number of children** in the family obviously affect the demand for childcare. As parental time declines dramatically with the age of the child, it's not surprising to see that fathers spend less time in childcare during the weekdays when children are older (Yeung et al. 2001) and the presence of preschoolers in the family increases fathers' childcare time in general (Sayer et al. 2004). More children in the family are also expected to exert greater demands on parental time. Previous research suggests that the number of children is positively related to fathers' share of child care (Ishii-Kuntz and Coltrane 1992).

The demand for childcare time may also come from a spouse. **A Wife's employment** constrains her ability to perform childcare tasks, which should lead to greater demands on husbands of employed wives to participate in these activities. **A Wife's education** may also affect the demand for paternal childcare. Wife's education is

both related to her employment status and her ideology of sharing the parenting responsibilities. On the one hand, better educated women are more likely to be employed than less educated women. On the other hand, better educated women who have modern gender role expectations are probably more likely to urge their husbands/partners to share the parenting responsibilities. Being employed, a wife with better education may create more demand for her husband's time with children than a wife with less education. Finally, in dual-income families, **a wife's work hours** limit her time availability for childcare, and the flexibility and work schedules in **a wife's occupation** constrain when a wife has time to take care of children and may dictate when a father's care is needed. **A Wife's earnings** are connected with her negotiating power over the distribution of household work, and may create demand for fathers' participation in childcare. However, earnings, either from husbands or wives, increase a family's ability to purchase "labor-saving devices" to assist with domestic tasks (Coverman 1985). Some of the additional resources a family gains through women's employment are likely used to purchase services related to childcare (e.g., baby sitters, day care, camps). Research has shown that mothers' income is positively related to young children's hours in childcare centers, but fathers' income is not (NICHD 1997). Therefore, employed mothers' earnings could reduce the demand for father's child care at home rather than increase the demand.

Results of previous research are inconsistent on whether a wife's number of hours, occupational characteristics or earnings predict a higher level of paternal involvement in dual-earner families (See Pleck 1997 for a review of articles).Using a larger sample and more detailed paternal involvement measurement, this study sheds

light on the relationship between maternal employment characteristics and paternal involvement.

The Capacity Side

A father's employment status and employment characteristics are closely related to his capacity of providing childcare. Other things equal, unemployed and nonemployed fathers should have more time available for childcare than employed fathers and therefore could potentially be more involved in childcare. Previous empirical studies have provided some support for nonemployed fathers' higher level of childcare time, although nonemployed fathers' care is not necessarily of higher quality (see Pleck 1997 for a review of articles).

A father' work hours limit the available time he can allocate to family work. The more time a father spends at his job, the less time he has for family work including childcare. Fathers' work hours are found to be negatively related to their time with children (Hofferth and Anderson 2003; Aldous et al. 1998). Most previous studies use fathers' work hours as a continuous variable, it may be important to disaggregate fathers' work hours into some more meaningful categories, such as working part time (<35 hours per week), working full time (35-49 hours per week), and working overtime (50+ hours).

In addition to the amount of time fathers have for children, **the scheduling of work hours** affects the time fathers are available for childcare. Brayfield (1995) argues that employment schedules influence men's capacity to respond to child care demands, and her research using the 1990 National Child Care Survey find that fathers who work evenings or nights are more likely to be the primary caregiver for their youngest preschool-age children relative to fathers who work during the daytime. Similar results

are also found in the 1993 Survey of Income and Program participation (SIPP) where married fathers who worked evening or night shifts were twice as likely to take care of their preschoolers during the mother's working hours as fathers who worked day shifts (34 percent versus 18 percent) (Casper 1997).

In addition, over a quarter of full-time wage and salary workers in the U.S. (27.5 %) have flexible work schedules that allow them to vary the time they begin or end work, regardless of whether or not they have a formal flextime program on their jobs (Bureau of Labor Statistics 2005). Little is known about how flexible work schedules affect father's time with children. Theoretically, flexible work schedules give fathers flexibility in allocating their time based on priorities. If a father thinks spending time with his children is important, he might be able to accommodate his own schedule to children and/or family needs, and therefore spend more time with his children than a father who does not have the advantage of a flexible work schedule. Moreover, flexible work schedules might enable fathers to do things such as pick up children from school or attend activities with children during standard working time.

It is also important to note that work hours/work schedules are, to some extent, endogenous to parents' time with children. Similar to the fact that mothers may choose their hours of employment in order to preserve "quality time" with children (Budig and Folbre 2004), to the extent they have flexibility, fathers might also choose their hours of employment based on childcare needs.

The ATUS did not collect information about respondents' work schedules[2]. While I do not examine work schedules directly, I use work schedule characteristics of a

[2] A subsample of the ATUS can be linked back to a CPS supplement that did collect work schedules but sample sizes are small

father's occupation to indicate the likelihood of shift work and the flexibility afforded by a father's occupation. Specifically, I assess whether fathers in occupations with above average flexibility and above average likelihood of nonstandard shifts differ in their childcare time from fathers in other occupations.

Paternal Resources

Father's earnings affect his capacity to devote more time to childrearing. Men's general comparative advantage in wage earnings results in their concentration on market labor, and time with children may carry a higher opportunity cost of wages foregone for fathers with higher earnings than those with lower earnings. However, evidence on the effect of husbands' earnings on their childcare hours is inclusive (Aldous et al., 1998; Hofferth 2003). Father's earnings could be positively or negatively related to engagement with children, depending upon whether the level of earnings is a function of more of education or of work hours (Hofferth 2006b).

The absolute levels of resources tap the husband's resources relative to other husbands rather than the husband's resources relative to his wife's resources (Coverman 1985). To better understand the division of childcare in dual-income families, I include **the relative measures of earnings** of the husband vis-à-vis the wife to compare the resources of husbands and wives.

Motivation and Preferences

Fathers' motivation and preferences for childcare can not be measured directly in this study. However, I pick two factors that may be related to fathers' motivation as the proxies. First, the **presence of a son** in a family could motivate fathers to spend more time in childrearing. Fathers are often thought to have a "son preference" in terms of time

in childcare, perhaps because fathers are considered to be more important in the role-modeling and gender socialization of boys than girls. For the same reason, fathers' time commitment to sons is often socially expected (by mothers and other family members).

Second, **fathers' education** may reflect fathers' general ideology about childrearing, which in turn influences fathers' motivation for participating in childcare. Men with higher education may support "intensive parenting" and hold more egalitarian beliefs about shared breadwinning and caregiving. As discussed earlier, better educated fathers often spend more time with their children and concentrate on activities related to children's cognitive development. However, fathers' education is also related to other characteristics of fathers which influence fathers' capacity for childcare time (e.g., earnings, work hours). The mechanisms through which education attainment influences paternal childcare time merit further examination and scrutiny.

Other Correlates

Other variables may also affect fathers' time with children. **A father's age** may affect his time with children since fathers who are older may be more mature and may have more experiences in child rearing than younger fathers (Pleck 1997). Moreover, unlike younger fathers who may be at the early stages of their career development and need more effort to improve their job skills and opportunities, older fathers may feel secure at work and therefore contribute more to childcare (Pleck 1985).On the other hand, older fathers may be in more demanding positions and have supervisory responsibility that limits flexibility. They may also have less energy for parenting, particularly for parenting young children who can be quite demanding. Powell et al. (2006) report a positive relationship between paternal age and parental resources

provided to adolescents, although previous time use data do not suggest that fathers' age is significantly related to fathers' childcare time (Sayer, Bianchi, and Robinson 2004).

Second, the **weekday-weekend differentiation** needs to be taken into consideration. As previous studies suggest, fathers spend more time with children on weekends than on weekdays. Further, the effects of certain indicators on fathers' time with children may be different on weekdays from on weekends: fathers' wages and work hours are negatively related to fathers' time with a child on weekdays, but not on weekends (Yeung et al. 2001).

Finally, **race and ethnicity of fathers** may have an effect on how fathers in intact families interact with their children during their time together, although not necessarily on the absolute time with the child (Hofferth 2003). Among nonresident fathers, race/ethnic differences exist for many aspects of fathers' involvement. However, the patterns vary with the father-child activities, and no one racial or ethnic group stands out as being significantly higher or lower on father involvement (King, Harris, and Heard 2004).

To recapitulate, the conceptual framework proposed here should be considered as a general framework of father's childcare participation, not a tight causal model. This dissertation examines fathers' childcare time in a broader context. Fathers' roles may vary substantially across family types and the patterns of fathering among nonresident fathers and single fathers could be very different from those among married fathers. Thus, separate analysis will be conducted on different types of fathers.

Hypotheses

Resident Fathers

Among fathers who live with their children, attention is paid to whether or not these fathers have a partner to share the childcare for his children, which obviously affects fathers' level of child involvement. For single fathers who do not have a spouse or unmarried partner, I differentiate those fathers who live with parents and those who live with other adults or live by themselves, given that parents may more often help to share the significant childcare workload than other adults in a single-parent family. Here I propose the following hypotheses regarding resident fathers.

Hypothesis 1. Resident fathers' marital status and living arrangements affect their level of involvement with children.

1.1 Among married, cohabiting and single resident fathers, I expect single fathers to have the highest level of father involvement.

1.2 Married fathers' time with children is not expected to be significantly different from cohabiting fathers' time, especially given that the ATUS data does not distinguish married fathers' step and biological relationship to children.

1.3 Compared to single fathers living with parents or other adults, single fathers who live by themselves are expected to have the highest levels of paternal involvement.

Non-resident Fathers

I focus on how non-resident fathers' marital status affects their parenting time. The following hypotheses are tested for non-resident fathers:

Hypothesis 2. Fathers' level of involvement with children who do not live with them is contingent on their current marital status.

2.1 Compared to never-married fathers, divorced fathers spend more time with their non-resident children, because they have been previously married to the child's mother and thus might be more "family oriented" than never-married fathers.

2.2 Compared to divorced fathers, currently married fathers spend less time with their non-resident children, because (re)married non-resident fathers may have more parenting obligations to new children in the new family.

Hypothesis 3. Compared to resident fathers, non-resident fathers may have proportionally more time devoted to playing with children and less time devoted to education related activities.

Fathers in Two-parent Families

Child's Age and Gender

The effect of children's age and gender on paternal involvement will be examined across different types of fathers and specific activity categories, thus providing a detailed and diverse picture of whether child characteristics matter and how they matter. The following hypothesis regarding children's age and gender are tested:

Hypothesis 4. The decline of fathers' childcare time by child's age is contingent on childcare activities at different stages of child development: Fathers' physical childcare time decreases as children age, but education-related time may increase.

Hypothesis 5. Father's preference for time with sons depends on fathers' education. Better educated fathers may be less gender biased in childcare time than less-educated fathers.

Spousal Employment

If a father's response to a mother's employment depends on a mother's power to urge or convince him to share childcare, as Marsiglio (1991) has suggested, then we might expect a father's childcare to be more responsive to a better-educated spouse's employment. Education may also differentiate mothers' level of "gate keeping" of home and family independent of mothers' employment. Better educated mothers may be more career-minded and have a more gender egalitarian ideology than less educated mothers, so that they will be less likely to view sharing childcare with their husbands as giving up "authority." Therefore I propose the following hypothesis to be tested:

Hypothesis 6. Mothers' educational attainment confounds the relationship between wife's employment and father's involvement in childcare. Fathers married to a better-educated spouse do more childcare when their spouse work outside home, because of the wife's stronger ability to urge her husband to share in the care of children.

Fathers' Education

Several competing forces may shape the education effect on fathers' time with children. First, fathers with higher education may believe in investing more time in childcare for high quality children. Second, highly educated fathers might be more likely to be employed in occupations with family-friendly policies and more flexibility in their work schedules and hours, which will help these fathers devote more time to childcare. However, well educated fathers also earn higher wages compared to less educated fathers. Thus, the higher opportunity cost associated with better educated fathers' time in childcare may impede these fathers' childcare participation.

On the other hand, less educated fathers may be more likely to work in occupations with an above average requirement for evening or night shifts, which allow them to take care of preschoolers during mothers' working hours (Brayfield 1995; Casper 1997). The following hypotheses about mediating factors between fathers' education and paternal childcare time will be tested:

Hypothesis 7. Factors linking education level with father involvement:

7.1 Compared to less-educated fathers, better educated fathers are more likely to be employed in occupations with flexible schedules; therefore their capacity to respond to childcare demands may be higher.

7.2 Compared to less-educated fathers, higher earnings and therefore higher opportunity costs associated with the choice of spending time with children reduce the capacity of better educated fathers to respond to childcare demands.

7.3 Compared to better educated fathers, less educated fathers are more likely to be employed in occupations requiring nonstandard hours (e.g., night shifts), which increases these fathers' capacity to respond to childcare demands during the standard working hours.

Chapter 3 Data and Methods

Data and Sample

Data

The data used in this study come from the 2003-2005 American Time Use Survey (ATUS). The ATUS is a nationally representative time-use survey that the Bureau of Labor Statistics (BLS) launched in 2003. The sample is drawn from the Current Population Survey (CPS), and the ATUS interviews a randomly selected individual age 15 or over from a subset of the households that complete their eighth and last interview for the CPS. The monthly sample is divided into four randomly selected panels, one for each week of the month and also is split evenly between weekdays and weekend days. Beginning with the sample introduced in December 2003, the monthly sample was reduced from its 2003 level by 35 percent. The ATUS overall response rate averages 57% and the sample size for completed interviews is 20,720 in 2003, 13,973 in 2004 and 13,038 in 2005.

Samples

Figure 3.1 illustrates the flow of sample cases for resident fathers and non-resident fathers with children under age 13. In total, a subsample of 6,155 fathers with own children under age 13 is used for this study. There are 5,873 fathers who only have household children, 169 fathers only have non-household children, and 113 fathers have both household and non-household children. In the analysis, I define “resident fathers” as fathers who have household children, and “non-resident fathers” as those who have non-household children. Therefore, the 113 fathers who have both types of children are

included in each group of resident fathers and non-resident fathers. The final analysis sample is 5,986 for resident fathers and 282 for non-resident fathers.

<Figure 3.1 about here>

A Note About the Sample Size for Non-resident Fathers

The ATUS asks respondents specifically whether they have any non-household children – "Do you have any children under 18 who do not live with you?" The sample of nonresident fathers in this study includes all men who report having non-household children under age 18. However, the sample size for men with non-resident children under age 18 is fairly small in the ATUS (N=380), and men with non-resident children under age 13 is further limited to 282 fathers. This could be caused by the following reasons.

First of all, non-resident fathers are seriously underrepresented in national household surveys. According to Sorensen (1997)'s estimate, 22 to 44 percent of nonresident fathers are missing in national surveys. The missing non-resident fathers could be partially the result of the household survey design which excludes men in group quarters (e.g., correctional institutions or military barracks). Moreover, the underrepresentation of non-resident fathers might reflect the Census undercount of certain subpopulations, especially young black males, given that most national surveys rely on the Census to develop their survey weights.

Second, men tend to underreport their fertility in surveys. In national surveys such as the National Survey of Families and Households(NSFH) and the Survey of Income and Program Participation (SIPP), nonresident fathers report having fathered fewer

children who live elsewhere than the children reported by custodial mothers (Sorensen 1997). Further, non-resident fathers who self-identify as such tend to be a select group that pays child support (Seltzer and Brandreth 1994).

Finally, whether or not children are counted as living with a father may depend on the custodial arrangements after the divorce or separation. Many children in joint custody situations may very well be counted as being household members, even when they are going back and forth between two households. Thus, some of the "resident fathers" in the ATUS might in fact have children who usually or sometimes live in another household.

Given the possible biases, non-resident fathers identified in the ATUS might be a select group of fathers who are more involved with their non-household children. We have to keep this limitation in mind when interpreting results of non-resident fathers' level of involvement.

ATUS Data Files

Seven data sets were created from the main input file during the ATUS data processing. This study uses five of the datasets: The ATUS respondent file, the Roster file, the Activity file, the Who file, and the ATUS-CPS file. The first four data sets contain information gathered through the ATUS telephone interviews, and the ATUS-CPS file contains information collected in the CPS interviews about the household members living with the person selected to participate in the ATUS. All information on the ATUS-CPS file is from the eighth CPS interview and dates from 2 to 5 months prior to the ATUS interview.

Many CPS questions related to employment and school enrollment are updated in the ATUS interview. When a variable is available in both the ATUS and CPS interviews, I use the more up-to-date variable from the ATUS interview (e.g., respondent's employment status, earnings). However, some questions were not re-asked in the ATUS interview, such as the respondent's race and educational attainment. Further, spousal information on education is not available in the ATUS interview. Therefore, such variables are obtained either directly from the CPS file (e.g., respondent's race and education) or constructed from identifying the spouse in the CPS file and attaching the variable back to the respondent in the ATUS file. Detailed information about sources of the variables used in this study can be found in Appendix Table 3.1.

As there is a 2 to 5 month time lag between the CPS and the ATUS, the marital status of respondents could change during this time period (e.g., they can get married, get a divorce). Spousal information of those newly-wed respondents (i.e., education) is unknown. Therefore, only respondents whose marital status did not change during the 2-5 month time lag between the CPS and ATUS interviews are kept in the analysis involving spousal education (97.7 % of the cases).

Dependent Variables

I use a combination of measures from Lamb et al. (1985) and Budig and Folbre (2004) to examine father involvement. Direct care time, time with children, and minding time are the three general measures, and the direct care time is also disaggregated into four types of childcare activities - physical, recreational, educational and managerial activities.

Direct Care: Time and Activities

Father's direct childcare time is measured by the amount of time fathers report doing childcare activities during a 24 hour diary day. Total direct care is obtained through summing up each time segment when a father was doing childcare-related activities. Fathers' direct childcare time with own household children and with own non-household children is calculated separately. Each measure described below is attached to two variables, one is direct childcare time for fathers' own household children and the other is for fathers' own non-household children (only among those fathers who have non-household children).

Among all resident fathers (N=5,986), 60.5 % of them reported direct care time with own household children. Among all non-resident fathers (N=282), 18.9 % of them reported positive direct care time with their own non-household children.

I examine major types of activities fathers do for and with their children. The four subsets of activities are:

1. *Physical care activities.* These are basic care that parents provide to ensure children's physical well-being. Physical care includes activities such as feeding children, dressing children, providing medical care to children, etc.

2. *Recreational activities*. This subgroup of activities includes playing with children (sports or non-sports), arts and crafts with children, and other leisure activities.

3. *Educational activities.* These activities include reading to children, talking with/listening to children, and helping/teaching children how to do things, helping with children's homework.

4. *Managerial activities.* This subgroup of activities involves general parental responsibilities on a daily basis, which includes arranging childcare services, picking up/dropping off children, supervising and monitoring children, attending children's events, meetings and school conferences, etc.

Detailed childcare activity codes in the ATUS can be found in Appendix Table 3.2.

Time with Children

Time with children is coded as fathers' time in any activities (not only childcare activities) with his children present. For example, a father could be making a household repair or watching TV and as long as children are mentioned as being with him in response to the time diary questioning "Who were you with?" during the activity, that time is counted as time with children. This measure captures a part of Lamb's concept of accessibility, although accessibility for Lamb does not necessarily require a parent to be with children (Pleck and Masciadrelli 2004). Compared to the direct childcare measure, the "time with children" is more expansive because it includes both fathers' childcare and non-childcare time. It also requires less attention of fathers when they are with their children.

Among all resident fathers (N=5,986), about 90 % of them reported time with own household children. Among all non-resident fathers (N=282), 25% of them reported time with own non-household children.

"Minding" Time

Parents are often aware of what their children are doing even though they may not be physically with children. Fathers' minding time is captured by the secondary childcare

measure –"in your care" - in the ATUS. Minding time estimates are derived by summing the durations of activities during which respondents had a household child or their own non-household child under age 13 in their care while doing other things. If respondents report providing both primary and secondary childcare at the same time, the time is attributed to primary care only. Further, the calculation of "In your care" time does not include children's sleep time; it begins at the time the first household child under age 13 wakes up and ends when the last household child under age 13 goes to sleep and also removes time when the respondent is asleep.

The "in your care" measure does not require parents be with their children when an activity happens; it merely requires parents be generally aware of what their child is doing and be nearby and able to attend to the child's needs. Thus, this "in your care" measure may partially capture the "minding" component of fathers' care as well as Lamb's accessibility measure when fathers are not present but accessible to their children. Different from "time with children," this "minding" time picks up the passive and indirect care of children when fathers are not physically around.

Among all resident fathers with own children under age 13 (N=5,986), 84% of them report minding their household children on the diary day versus 66% among all non-resident fathers with children under age 13 (N=282).

Independent Variables

Fathers' Characteristics

Marital status of resident fathers is captured with three binary variables, married and living with a spouse, cohabiting with an unmarried partner, or being single and not cohabiting. Married fathers who live with a spouse are the reference group.

Living arrangement of single fathers is measured in three categories: Living with parent(s), living with other adults, or living alone. Single fathers living alone are the reference group.

Marital status of non-resident fathers has three categories: married, divorced, and never married. Separated fathers are included in the divorced fathers. Widowed fathers are too small a group to analyze separately (n=2) and are also combined with the divorced and separated group. The never married category is the reference group.

Age of a father is a continuous variable coded in years.

Race/ethnicity of a father has four categories: non-Hispanic White, non-Hispanic Black, Hispanic, and other races. Non-Hispanic White is the reference group. For ease of presentation, I refer to Whites and Blacks in subsequent discussion of race/ethnicity.

Education of a father is measured in four categories: high school or below, some college, college graduate and postgraduate education. Depending on the focus of the analysis, either college education or high school or below is the reference group. The original education measure in the CPS captures a respondent's highest level of schooling/degree, which contains 16 categories ranging from less than 1st grade to Doctorate degree. In some analyses, I treat fathers' education as a continuous variable.

Employment status of a father is a dichotomous variable coded as 1 if the father is employed and as 0 if he is not employed.

A father's work hours measure the usual total hours that a father works for the main job and at other jobs per week. In some analyses, fathers' work hours are categorized into three groups: employed part-time (1-34 hours per week), employed full-time (35-49 hours per week) and working overtime (50+ hours per week).

Occupation schedules. I use work schedule characteristics of a father's occupation to get a sense of the likelihood of shift work and the flexibility in a father's occupation. I match fathers' occupation in the 2003-2005 ATUS with those in the May 2004 CPS, where questions were asked about whether respondents have flexible work schedules (are able to vary the time they begin or end work) and whether they usually work a different time schedule other than a daytime schedule (BLS 2005). Two variables are created to index the father's occupation: *Shift work occupation* is coded 1 if a father works in an occupation where the proportion of workers who work a non-day shift is above the average value (M =.15), 0 if the proportion equals to or falls below the average. Similarly, *Flexible schedule occupation* is coded 1 if a father works in an occupation where the proportion of workers with flexible work schedules is above the average (M=.28), 0 if the proportion equals to or falls below the average. Detailed occupation categories can be found in Appendix Table 3.3.

Earnings of a father is measured by fathers' usual weekly earnings before taxes and other deductions (at the main job in the case of multiple job holders). In some analyses, fathers' weekly earnings are categorized into three groups: under or equal to $500, $501- $1,000, and more than $1,000 per week. I also use fathers' hourly earnings (weekly earnings / hours work per week) to more accurately capture fathers' implicit wage rate or earning power and as the "opportunity cost" of an hour of their time. The

ATUS only collects earnings among wage and salary workers employed in government or private organizations. Therefore, the self-employed fathers are not included in the analysis involving fathers' earnings.

Mothers' Characteristics

Education of a mother is measured in the same categories as education of the father: high school or below, some college, college graduate and postgraduate education. College graduate is the reference group.

Employment status of a mother is a dichotomous variable coded as 1 if the respondent's spouse or unmarried partner is employed and 0 if she is not employed.

Mothers' work hours measure the usual total hours that an employed spouse (or unmarried partner) works per week. Work hours of a mother are also categorized into a three-category variable including part-time employed mothers (< 35 hours per week), full-time employed mothers (35- 49 hours), and over-time employed mothers (50+ hours per week).

Mothers' occupation schedules. Similar to father's occupational schedules, I constructed mother's occupational schedule variable based on the May 2004 CPS. Two variables are created to index the mother's occupation: *Shift work occupation* is coded as 1 if mothers work in occupations where the proportion of female workers who work a non-day shift is above the average value (M =.15), and as 0 if the proportion equals to or falls below the average. Similarly, *Flexible schedule occupation* is coded as 1 if a mother works in an occupation where the proportion of female workers with flexible work schedules is above the average (M=.27), 0 if the proportion equals to or falls below the average.

Mothers' earnings are measured by weekly earnings of mothers. This variable comes from matching the ATUS respondents with the ATUS-CPS respondents where earnings of a father's spouse can be identified. Similar to fathers' earnings which are collected in the ATUS, the self-employed mothers are not included in the analysis involving mothers' earnings.

Fathers versus Mothers

There is often a high correlation between fathers and mothers' education in one family, thus these two variables can not be used in one model. To get around this issue, I use a measure to indicate fathers' relative education compared to mothers'. This measure is used in models where a comparison of fathers' and mothers' education is needed.

Relative education codes husbands and wives' education into three categories: a husband is better educated than his wife, a husband is equally educated as his wife, and a husband is less educated than his wife. The first category is used as the reference group.

To capture the relative resources between fathers and mothers, I use *Relative earnings* as the ratio of fathers' weekly earnings to mothers' weekly earnings. This variable is restricted to two-parent families where both fathers and mothers are employed and have positive earnings.

Characteristics of Children

Three sets of variables are used to capture children's characteristics: 1) age of the youngest child, 2) number of children a father has and 3) whether the family has a male child. These variables are measured separately for fathers' own household children and own non-household children.

The term "own children" in the ATUS refers to the respondent's own children who live either in the respondent's household or in another household. However, the term does not differentiate stepchildren and biological children; therefore stepchildren are considered own children, although foster children are not.

1) Own Household Children

Age of the youngest own household child is a continuous variable coded in years. When *Age of the youngest own household child* is used to separate analysis among fathers by the youngest child, it is categorized into three age groups: 0-2, 3-5, 6-12.

Number of own household children is measured as number of own household under age 13.

Gender composition of the sibship in a family is measured in four steps, and variables in each step go into separate models. First, I measure presence of a son among all children under age 13 in the family. *Presence of a son under age 13* is coded 1 if the family has a male child under age 13, and 0 if not. Second, I measure *presence of a son in three age categories*: 0-2, 3-5, and 6-12 to further examine how a boy's age is related to fathers' son preference in childcare time. In each age category, presence of a son is coded 1 if the family has a male child in that age category, and 0 if no son is in that age category in the family. There may be sons in more than one or all age categories: these three variables are not mutually exclusive.

Third, *presence of a son in three family sizes* compares the "son effect" in three families controlling for size: For one-child families, I code only son =1, versus only daughter =0. In two-child families, I create three dichotomous variables: two sons, one

son and one daughter, and two daughters. Families with two sons are the reference group. In families with three or more children, I code number of sons in four categories from 0 to 3+, number of sons = 0 is the reference group. The analysis in each family type is conducted separately.

Finally, *gender of the first-born child* is used to test whether having a first-born son rather than daughter is associated with higher levels of father involvement. It is a dichotomous variable coded 1 if the first-born child is male and 0 if female.

2) Own Non-household Children

Age of the youngest own non-household child is a continuous variable coded in years.

Number of own non- household children is measured as number of own non-household children under age 13.

Presence of a non-household son is coded 1 if the father has a male non-household child under age 13, and 0 if not.

Other Variables

Weekend diary day is a dichotomous variable which equals to 1 if the diary day is a weekend day, 0 if the diary day is a weekday.

ATUS final weight (in 2004 and 2005 file) and *ATUS final weight based on the 2004 methodology* (in 2003 file) are used to weight the combined 2003 -2005 data. Both descriptive analysis and multivariate analysis in this study are weighted.

Analysis Plan

Documenting variation of paternal involvement by fathers' family contexts and major covariates is the main analytical goal of this dissertation. I look at childcare time among resident fathers, non-resident fathers, and fathers in two parent families separately to provide a comprehensive view of fathers' parenting time in different family situations. The first analysis chapter (Chapter 4) describes resident fathers' childcare time, focusing on how marital status and living arrangements of resident fathers are related to resident fathers' childcare time. The second analysis chapter (Chapter 5) explores childcare time among non-resident fathers, with a focus on the relationship between non-resident fathers' marital status and their time in childrearing. The third through the fifth analysis chapters (Chapters 6-8) examine factors associated with father involvement among married fathers in two parent families, with each chapter concentrating on one set of factors. Children's age and gender are the focus of Chapter 6. Maternal employment and fathers' education are the focuses of Chapters 7 and 8, respectively.

Although focusing on different group of fathers and different factors, each chapter has a somewhat similar layout. The first part of each chapter presents an overview of characteristics of one group of fathers and fathers' direct care time (including different types of activities), time with children, and minding time. The descriptions are separated by the "focus" variable in that chapter, e.g., marital status/living arrangements of resident fathers. The chapter then moves to a multivariate analysis of how fathers' childcare time relates to this focus variable, holding other variables constant. Depending on the extension of the analysis, the interaction terms of other variables with this focus variable are tested and the interrelationships of variables are further explored. For example, how

mothers' education may moderate the link between maternal employment and fathers' childcare time is examined in Chapter 7. The detailed analysis steps are described at the beginning of each chapter.

Using cross-sectional time-diary data, this study aims to assess the strength of the association between various factors and father's time in childcare rather than estimating a causal model. Tobit models are used in the multivariate analyses, because the sample is limited by censoring due to the fact that many fathers report zero minutes of time in certain childcare activities on the diary day, and it is unknown how much time a father would have spent in the activity had he spent any time at all. According to Long (1997), an OLS regression of y on x for all observations (with the censored data included as 0s) will result in an underestimate of the intercept and overestimate the slope, therefore producing inconsistent estimates. If we exclude the cases with a censored dependent variable and use OLS to estimate the regression for the truncated sample, we will then overestimate the intercept and underestimate the slope, producing inconsistent estimates. The tobit model, instead, uses all the information of the dependent variable, including the censored cases and provides consistent estimates of the parameters.

The interpretation of tobit coefficients can depend on the interest of the research. A decomposition method can be used if the probability of an observation being uncensored given x and the conditional expected value of y for noncensored cases are of interest (McDonald and Moffitt 1980). However, this decomposition method has recently been critiqued by Kang (2007) because of its limitations. Nevertheless, if the changes in the latent dependent variable are of primary interest, then the tobit coefficients can be interpreted in the same way as the OLS regression (Long 1997: 207-208). The interest of

the current study is the latent variable of fathers' childcare time which can not be observed over its entire range. In other words, how much childcare would fathers be predicted to do if there was no censoring? Therefore, the tobit coefficients are interpreted in the same way as OLS regression coefficients (see the example in Long 1997:208). All analyses are weighted to adjust for the sample stratification, distribution of weekdays-weekends, and different response rates across demographic groups and days of the week. Analyses of three groups of fathers are conducted separately.

In summary, the goal of this study is to conduct a broad and comprehensive set of analyses of father's involvement with their children. The separate analysis of resident and non-resident fathers helps to understand the special situations each group of fathers face in parenting. The in-depth discussion of how children's, mothers', and fathers' characteristics are related to paternal care for fathers in two-parent families advances our knowledge of fatherhood in America today.

Chapter 4 Resident Fathers' Time with Children

Introduction

How much time do resident fathers spend with their children? This chapter addresses the question through exploring two "contextual" factors. First, resident fathers' marital status is used to identify three groups of resident fathers: married fathers who live with a spouse, cohabiting fathers who live with an unmarried partner, and single fathers. Single fathers are expected to have the highest level of father involvement given that they are the group who must take sole day-to-day responsibility of their children.

Second, single fathers are further disaggregated into three groups by their living arrangements: 1) single fathers who live by themselves (sole single fathers), 2) single fathers who live with their parents, and 3) single fathers who live with other adults, given that a significant proportion of single fathers live with their parents or other adults. Single fathers who live by themselves are expected to have the highest level of paternal involvement since they are the only adult in a family for parenting responsibilities.

The subsample of "resident fathers" in this chapter includes all 5,986 fathers who have household children under age 13 -- fathers who have only household children (n=5,873) plus fathers who have both household and non-household children (n=113). In the next chapter, I will take a disaggregated look at the 113 fathers who have both household and non-household children.

This chapter begins with the descriptive analysis of resident fathers' direct care time, total time with children and minding time. Then, tobit regressions are estimated to test whether resident fathers' marital status is associated with their different childcare time and childcare activities. Further, descriptive analyses of childcare time among three

subgroups of single fathers are presented and tobit regressions are estimated to test the effect of single fathers' specific living arrangements on their childcare time and childcare activities and to compare sole single fathers with married fathers, assessing whether single fathers' living arrangements affect the relationship between resident fathers' care time and their marital status.

Resident Fathers' Childcare Time: An Overview

The distribution of resident fathers based on their marital status and living arrangements is presented in Table 4.1. I show the unweighted sample size and the weighted percentage distribution for each group of resident fathers. The vast majority of fathers who live with their children are married and living with a spouse (over 90%). About 7% of resident fathers are single and about 3% live with an unmarried partner. Among single fathers in the sample, 72% are the sole adult in their family, about 18% live with other adults and 10% live with parents.

<Table 4.1 is about here >

Table 4.2 presents estimates of the average time resident fathers spend with their household children per day in Panel A. Given that a considerable number of fathers report zero minutes to the childcare questions, I also present the percentage of fathers who report positive childcare time for each childcare measure in Panel B. The estimates are shown for all resident fathers and for married, cohabiting and single fathers separately.

<Table 4.2 about here >

On average, resident fathers report about 67 minutes per day providing direct care to their children. Fathers report around 20 minutes per day providing physical care, another 20 minutes managing and organizing children's daily activities, and 19 minutes playing with children – an hour a day in total on these three categories of childcare. Fathers' time in helping with children's school work and other education related activities is relatively low, averaging only about 8 minutes per day. The total time resident fathers are with their children is about 275 minutes, or about 4.6 hours per day. Resident fathers report a similar amount of time minding their children.

Unlike previous studies, I find single fathers spend significantly less time in direct caregiving than married fathers, 55 versus 68 minutes per day, respectively. The mean difference is statistically significant for one subcategory of childcare activity: Single fathers engage in significantly less recreational activities with children than married fathers. Cohabiting fathers' overall direct care time is not statistically different from married fathers, but they provide significantly less physical care of their children than married fathers. Cohabiting fathers spend significantly more time playing with their children than single fathers. There are no statistically significant differences among the three groups of fathers in educational or managerial activities.

With respect to fathers' total time in the company of children, we see that single fathers spend significant less time with their children than married fathers and cohabiting fathers. A similar pattern also applies to the fathers' minding time where single fathers report the least amount of time minding their children among the three groups of fathers.

As shown in Panel B of Table 4.2, about 60 % of resident fathers report direct childcare time on their diary day. The most frequently reported childcare activities are

physical care (39 %), followed by managerial childcare activities (29 %). Only about 16 % of fathers report educational activities and 19% of fathers report recreational activities. About 90 % of fathers report spending some time with their children on the diary day and around 84 % of fathers report time minding children, or having children "in their care."

Married fathers are more likely to report doing at least some childcare on their diary day than either cohabiting or single fathers. There are statistically significant differences by marital status for three types of childcare activities: recreational, educational and managerial activities. Married fathers are more likely to report doing some recreational activities, but less likely to report doing any managerial childcare activities than single fathers. Married fathers are also more likely to report participating in educational activities than cohabiting fathers. Cohabiting fathers are more likely to report recreational activities, but less likely to report educational and managerial activities than single fathers.

The proportion of married fathers who reporting spending at least some time with children on the diary day (91%) is significantly higher than the proportion of cohabiting fathers (85%) and single fathers (74%); although it is relatively high for all groups. As for the likelihood of reporting time minding children, this percentage is lower for single fathers (77%) than married (84%) or cohabiting fathers (87%).

In brief, contrary to initial expectations, the bivariate analysis indicates that single fathers spend less time directly caring for their children than married fathers, especially in recreational activities. Single fathers also spend less overall time with their children and less time minding their children's care than married fathers. In contrast, cohabiting fathers' direct care time is not dramatically different from that of married fathers,

although they provide significantly less physical care, but more recreational time than married fathers.

Characteristics of Resident Fathers and Their Children

What are other potential factors that might be related to differences in paternal childcare time among single, married, and cohabiting resident fathers? Table 4.3 presents the characteristics of resident fathers and their children. Compared to married fathers, cohabiting fathers and single fathers have a lower level of educational attainment. About 76% percentage of cohabiting fathers and 62% of single fathers have a high school education or below, while only about 41% of married fathers have this level of education. Conversely, about 35% of married fathers have college or postgraduate education, but only 4% of cohabiting fathers and 13% of single fathers have achieved this level of education. The differences between single fathers and cohabiting fathers are statistically significantly – single fathers are better educated than cohabiting fathers.

<Table 4.3 about here >

About 93% of married fathers, but only 86% of cohabiting fathers and 75% of single fathers are employed. Cohabiting fathers and single fathers are younger than married fathers, with single fathers a bit older than cohabiting fathers. Cohabiting fathers have the lowest proportion White among the three groups, with the percent Black higher among single and cohabiting fathers than among married fathers.

Children of these three groups of fathers are different in various ways as well. First, compared to married fathers, single fathers have older children-- almost 2 years older, on average-- which may explain their overall lower levels of time with children.

Second, both cohabiting and single fathers have fewer children than married fathers. Single fathers also have older children and fewer children than cohabiting fathers. Finally, a slightly higher percentage of married fathers have sons in the family than cohabiting fathers. The percentage having a son is not statistically different among married and single fathers.

In sum, married, cohabiting and single resident differ on the dimensions of education, employment status, age, and race/ethnicity that may be associated with childcare time. Their children also differ in age, number, and gender composition of their sibships. In order to estimate variation in fathers' childcare for similarly situated groups of married, cohabiting and single fathers, I use tobit analyses to estimate the effect of marital status on fathers' childcare time, controlling for resident fathers' and children's characteristics.

Marital Status and Resident Fathers' Childcare

Table 4.4 presents the effect of marital status in tobit models predicting fathers' childcare. Panel A presents the association when the only predictor is marital status of resident fathers and replicates the bivariate crosstabular results in Table 4.2. Married fathers are the reference group. Panel B presents the full model results with controls for fathers' characteristics (education, employment status, age, race/ethnicity), children's characteristics (age of youngest child, number of children, presence of a son), whether the father also has non-household children, and whether the diary day was a weekend day.

<Table 4.4 about here >

Consistent with the results from bivariate analyses, the tobit model in Panel A shows that single fathers spend significantly less time directly participating in childcare than married fathers. Specifically, after adjusting for the left-censoring, single fathers are expected to spend about 26 minutes less than married fathers in direct childcare. Single fathers also spend significantly less overall time with their children than married fathers, and they spend significantly less time than married fathers minding their children. There is no statistically significant difference between cohabiting fathers and married fathers in any of these measures of childcare time.

The full model results in Panel B suggest that after controlling for fathers' and children's characteristics, single fathers' direct care time is no longer significantly different from married fathers. Single fathers continue to spend significantly less overall time with their children than married fathers – about an hour less a day-- although the size of the coefficient is reduced in the multivariate model. Finally, single fathers spend significantly less time minding their children than married fathers and the size of the coefficient for single fathers is basically unchanged in the tobit regressions that control for other covariates.

Panel B of Table 4.4 also reports the coefficient of each control variable in relation to resident fathers' childcare time. Consistent with previous studies, fathers' education is highly associated with their time in direct caregiving. Compared to fathers with a high school education or below, fathers with some college, college and postgraduate education engage in significantly more time in direct care of children. However, fathers' education is not strongly associated with their total time with children or with fathers' reports of the amount of time minding or being responsible for children.

Fathers' employment status is also highly associated with their childcare time. Employed fathers spend significantly less time in direct caregiving, less time with children and less time minding children than fathers who are not employed. Older fathers spend more time in direct care but the size of the association is very small. Compared to White fathers, Black fathers and Hispanic fathers do less direct caregiving. Black fathers also spend less time with their children than White fathers, and Hispanic fathers spend less time minding their children than White fathers.

Children's characteristics are also associated with resident fathers' childcare time. Fathers' time in direct caregiving and being with their children deceases as their youngest child ages. More children in the household are associated with a higher level of fathers' direct care time and minding time. Having a male child in the family is also associated with increase in fathers' time in direct care and time with children.

Resident fathers who also have non-household children spend significantly more time in direct caregiving than resident fathers who do not. A check of direct childcare time of fathers who have both household and non-household children and fathers with only household children shows that fathers with both types of children spend about 82 minutes per day providing direct childcare for their household children, but fathers with only household children spend 67 minutes per day providing direct care for their household children (see Table 5.5). I suspect that fathers with both types of children might be a selected group of fathers who are more family oriented and enjoy taking care of children, either biological or stepchildren. Presence of non-household children does not affect resident fathers' total time or their time minding children.

Different from previous studies, resident fathers spend less time directly providing childcare during the weekends than during the weekdays, but they spend more time with their children and minding their children during the weekends. It could be that a significant part of direct care time such as physical care, helping children with school work, and so forth happens more often during the weekdays. Not surprisingly given most fathers' weekday employment schedule, fathers tend to have more time available for their children during the weekends.

Childcare Activities: What Do Resident Fathers Do?

Table 4.5 presents results from bivariate and full tobit regression models predicting resident fathers' direct childcare time in the four childcare activities of physical, recreational, educational and managerial care. These results complement the findings on fathers' total time in direct care and give a sense of what resident fathers do when they are engaged in direct caregiving.

<Table 4.5 about here>

The bivariate tobit models in Panel A suggest that single fathers provide less physical care and spend less time playing with their children than married fathers after adjusting for the left censoring. Cohabiting fathers spend less time in physical childcare and also spend less time doing educational activities than married fathers. The tobit model results are somewhat different from the results from the bivariate t-tests in Table 4.2, probably because of the large number of left-censored cases in fathers' reports for specific childcare activities.

With controls for fathers' and children's characteristics, the time differences in physical and educational activities among the three groups of resident fathers disappear. Only differences in recreational activities are statistically significant in the full model. Single fathers are estimated to spend about 36 minutes less than married fathers in recreational childcare activities, whereas cohabiting fathers are estimated to spend about 33 minutes more than married fathers in recreational activities with their children. Results for other covariates are similar to those reported for Table 4.4.

Highly educated fathers tend to do more of each childcare activity than less-educated fathers. Similarly, employed fathers engage in less time in all four childcare activities than fathers who are not employed. Older fathers spend significantly more time in physical and managerial childcare activities than younger fathers. White fathers spend the most amount of time providing physical care to their children, and they also spend more time playing with their children than Black or Hispanic fathers. Moreover, Hispanic fathers spend significantly less time than White fathers in educational-related childcare activities.

As children age, fathers provide less physical care and spend less time in recreational activities, but fathers of older children spend increased time in educational-related childcare activities. Children's age does not affect fathers' time in managerial activities. More children in the family is linked to more fathers' time in educational and managerial activities, but less fathers' time in recreational activities, perhaps because demands are high for instrumental types of care in large families. Finally, although fathers spend more time in childcare if they have sons, the effect is concentrated in physical caregiving and recreational activities, not in educational or managerial activities.

Resident fathers who also have non-household children do more managerial childcare activities than fathers who only have household children, but not in other childcare activities. In terms of weekend-weekday differences, resident fathers play more with their children during the weekends, but do less of other activities during the weekends.

A Closer Look at Single Resident Fathers by Their Living Arrangements

As shown previously in Table 4.1, not all single fathers live alone with their children: 72% of single fathers in the sample (n=410) are the sole adult in the family (living by themselves), but 28% of single fathers either live with their parents or with other adults. Table 4.6 shows the characteristics of these three groups of single fathers. Single fathers who live by themselves have higher education than single fathers living with parents or with other adults. About 21% of single fathers who live by themselves have college or postgraduate education, while only about 5% of single fathers living with parents and about 2 % of single fathers who live with other adults have college or postgraduate education. Single fathers who live by themselves also have a higher level of employment than single fathers who live with parents. Single fathers living by themselves are older than those living with parents or other adults. Moreover, a higher percentage of single fathers living by themselves are White compared to single fathers who live with other adults. A high percentage of single fathers who live with other adults are Hispanic compared with fathers who live with parents or by themselves.

<Table 4.6 about here >

Children's characteristics are somewhat different for single fathers with different living arrangements. Single fathers who live by themselves have older children than those who live with parents or other adults. However, there is no significant difference in the number of young children and whether the family has a son among single fathers with different living arrangements. Fathers who live by themselves are more likely to have children who do not live with them - nonhousehold children - than fathers who live with their parents.

Fathers living with parents and fathers living with other adults are homogenous in many aspects; except that fathers who live with their parents have a lower employment rate than fathers who live with other adults. In fact, about 51% of single fathers who live with their parents are not employed, compared to 83% of fathers who live with other adults.

Childcare Time by Living Arrangements

Table 4.7 presents the average time single fathers spend with their children per day in general and by single fathers' living arrangements (Panel A). Similar to what is reported for resident fathers' childcare time in general, I also present the percentage of single fathers who report positive childcare time in Panel B, given that a considerable number of single fathers report zero minutes to the childcare questions.

<Table 4.7 about here>

On average, single fathers spend about 55 minutes per day providing direct childcare to their children. However, the childcare time is different for single fathers in different living arrangements. Single fathers who live by themselves spend about 72

minutes per day providing direct childcare, but fathers' direct childcare time is only about 33 minutes and 35 minutes per day respectively for those living with parents and with other adults. These differences are highly statistically significant (P<.001). A further look at fathers' childcare activities during the time they provide direct care suggests that single fathers who live by themselves spend significantly more time than the other two groups of single fathers in physical, educational and managerial activities, but not in recreational activities.

Single fathers who live with their parents spend less total time with their children than fathers who are the only adult or fathers who live with other adults. Therefore, among the three groups of single fathers, single fathers who live with parents spend the least amount of time with their children. However, there is no statically significant difference in fathers' reports of "minding" time among these three groups of single fathers, although the estimate appears lower for fathers who live with their parents.

The proportions of single fathers who report childcare time on the diary day are presented in Panel B of Table 4.7. About 53 % of single fathers report direct childcare time, and the most frequently reported childcare activities is managerial childcare activities (36 percent), followed by physical care (34 percent). Only about 20 percent of fathers report educational activities and 12 percent of fathers report recreational activities. About 74 percent of fathers report spending some time with their children on the diary day and around 77 percent of fathers report time minding and being responsible for their children.

The proportions of single fathers who report childcare are significantly different by single fathers' living arrangements. Single fathers who live by themselves are more

likely to report direct childcare time than single fathers who live with their parents. The differences are significant for three types of childcare activities: physical, educational and managerial activities. Moreover, a higher percentage of single fathers who live by themselves report educational and managerial activities with children than single fathers who live with other adults.

Single fathers who live by themselves are more likely to report spending at least some time with their children on the diary day than single fathers who live with parents or live with other adults. Single fathers who live by themselves are also more likely to report time minding and being responsible for their children than single fathers who live with other adults. In contrast, single fathers living with parents are less likely to report spending any time with children and minding time than single fathers who live with other adults.

To see whether the bivariate t-test results hold after controls, I run a series of tobit models comparing single fathers' direct care time, total time with children and minding time. The results are presented in Table 4.8. Panel A presents the association when the only predictor is single fathers' living arrangement and replicates the bivariate crosstabular results in Table 4.7. Panel B presents results from the full model with controls for fathers' characteristics, children's characteristics, whether the father also has non-household children, and whether the diary day was a weekend.

<Table 4.8 about here >

The bivariate tobit model shows that single fathers who live by themselves have the highest level of paternal involvement in direct childcare. After adjusting for left-censoring, single fathers living with parents are expected to spend about 84 minutes less

than single fathers living by themselves in direct childcare, and single fathers living with other adults are expected to spend about 53 minutes less than single fathers living by themselves. Single fathers living with their parents also spend less total time with their children than single fathers who live by themselves.

The full model results in Panel B suggest that after controlling for fathers' and children's characteristics, the differences in direct childcare time among fathers in different living arrangements remain statistically significant, although the size of the coefficients is reduced slightly. Holding all other variables constant, single fathers who live with parents are estimated to spend 75 minutes less in direct childcare than single fathers who live by themselves, and single fathers who live with other adults are estimated to spend 47 minutes less in direct childcare than single fathers who live by themselves. Similarly, single fathers who live with parents spend significantly less total time with their children than single fathers who live by themselves. This time difference is estimated to be 129 minutes, or more than 2 hours less per day with their children.

Single fathers' and children's demographic characteristics, rather than fathers' education or employment status, are most often associated with their childcare time in these models. Older single fathers spend more time in direct childcare than younger single fathers. Compared to White fathers, Black single fathers spend significantly more time minding their young children. Single fathers' time in direct caregiving deceases as their youngest child ages. Having a male child in the family increases single fathers' time in direct care and total time with children.

Similar to the results in models for all resident fathers (presented in Table 4.4), single fathers who also have non-household children tend to spend more time in direct

caregiving to their household children than fathers who only have household children. Single fathers spend less time directly providing childcare during the weekends than during the weekdays, but they have more time with their children and spend more time minding their children during the weekends.

Single Fathers' Childcare Activities

Table 4.9 presents bivariate and full model results of tobit regressions predicting single fathers' direct childcare time in the four subcategories of childcare activities: physical, recreational, educational and managerial activities. The bivariate tobit models suggest that single fathers who live by themselves spend significantly more time than single fathers with other living arrangements in all types of childcare activities, except for the recreational activities. After controlling for fathers' and children's characteristics, most time differences in physical, educational and managerial activities among the three groups of single fathers remain statistically significant. The size of the effects for single fathers living with parents and living with other adults increases for physical activities, but it decreases for managerial activities. Single fathers who live with their parents or other adults spend significantly less time in physical care activities and managerial activities than single fathers who live by themselves. Single fathers who live with their parents also spend less time in education-related activities than single fathers who live by themselves. There is no significant difference for the recreational activities among single fathers with different living arrangements. Therefore, we see that single fathers who live by themselves actually do more of the regular/fundamental aspects of childcare than other single fathers.

Single fathers' employment status is positively related to their physical and recreational childcare activities. However, employed single fathers do less educational-related activities with their children than unemployed or nonemployed single fathers. Fathers' age is only related to fathers' physical activities. Older single fathers provide more physical care to their children than younger fathers. Fathers' race/ethnicity is related to their time in physical and managerial activities: Hispanic single fathers provide less physical care to their children than White fathers and both Black and the "other" race group (including American Indians, Asian, and Pacific Islanders) spend significantly more time in managerial activities than White single fathers.

Single fathers' time in physical and recreational activities decreases as their youngest child gets older. However, single fathers' time in education-related activities increases when the youngest child gets older. This reflects children's needs at different stages: younger children need more physical care and play time, but older, school age children need more time for fathers' help with homework and other educational activities.

The number of children that a single father has is positively related to his time in education related activities, but not in other activities. Having a male child increases single fathers' time in physical childcare, but not in other activities. Similar to results in models for all resident fathers, single fathers who also have non-resident children spend more time in managerial activities with their household children than those who only have resident children. Single fathers also spend less time in education and managerial activities during weekends than during a week day.

Single Fathers versus Married Fathers: A Re-comparison

Overall, single fathers seem to provide less rather than more childcare than married fathers (see Table 4.4.). However, the variation of childcare time among single fathers with different living arrangements suggests that the single fathers who live by themselves are perhaps the group that should be compared with married and cohabiting fathers, given that these "sole" single fathers are the ones who actually take care of their children alone and are fully responsible for their children.

To see the differences between using single fathers and single fathers who parent alone as comparison groups, I replace the general single fathers' group with the sole single fathers and replicate the t-test analysis in Table 4.2 and present the results in Table 4.10. A different picture of single fathers' childcare time emerges: Unlike single fathers in general who spend significantly less time than married fathers engaging in childcare, sole single fathers spend a similar amount of time as married fathers in direct childcare (72 minutes vs. 68 minutes) (see Table 4.10). Further, sole single fathers spend more time in educational and managerial childcare activities than married fathers, although sole single fathers spend significantly less time than married fathers in recreational activities. With respect to total time with children and minding time, sole single fathers, similar to single fathers in general, spend significantly less time with children than married fathers. However, the difference of minding time between single fathers and married fathers is no longer statistically significant. Using sole single fathers as the comparison group also changes the results of comparison between cohabiting fathers and single fathers. The sole single fathers are shown to spend more time in physical care, educational, and managerial

activities than cohabiting fathers, even though sole single fathers spend significantly less time in recreational activities than cohabiting fathers.

<Table 4.10 about here>

Using the "sole" single fathers as the group in comparison with married fathers, I further replicate multivariate analyses of resident fathers' overall childcare time and time in different childcare activities and present the results in Panel B of Table 4.11 and 4.12, respectively. For comparison purposes, Panel A of these two tables shows the original coefficients of single fathers in general from Table 4.4 and 4.5. In Panel C I show the full array of marital status and living arrangement of single fathers: single fathers living with parents and single fathers living with other adults along with the sole single fathers who parent alone.

<Table 4.11 and 4.12 about here >

After controlling for fathers' and children's characteristics, sole single fathers in fact spend significantly more time (about 32 minutes more) in direct childcare than married fathers (Panel B in Table 4.11), a result which is different from the previous finding of no difference between single fathers and married fathers (Panel A). Moreover, the difference in total time with children between married fathers and sole single fathers is not statistically significant, whereas it was negative and large for the whole group of single fathers (Panel A). The result that stays the same is for minding time: sole single fathers spend significantly less time than married fathers minding children. Adding single fathers living with parents(s) and single fathers living with other adults (n =115) in the model (Panel C) does not change the differences between sole single fathers and married fathers.

Unlike the previous finding of no difference between single fathers and married fathers in most childcare activities, Panel B of Table 4.12 shows that single fathers spend significant more time than married fathers in physical, educational and managerial activities. However, the previous time difference in recreational activities between single fathers and married fathers (Panel A of Table 4.12) is not significant when using sole single fathers as the comparison. Adding the other two groups of single fathers in the model (Panel C of Table 4.12) does not change the pattern.

I suspect that previous studies of single fathers might focus on the group of single fathers with the highest level of involvement, who usually live by themselves. The variation of childcare time among single fathers in different living arrangements points to the need to consider the heterogeneity of single fathers' experiences, given that living with other adults, especially grandparents can be a big help in meeting single fathers' childcare burden. Grandparents may step in when single fathers are least able to care for their children alone.

Summary

The results presented in this chapter point to a number of findings about resident fathers' childcare time. Unlike what is expected from previous research, I find that single fathers in general do not spend more time directly providing childcare than married fathers. However, more than one quarter of single fathers in fact live in households with parents or other adults present. The sole single fathers (who live by themselves) spend significantly more time directly providing childcare than single fathers who live with parents or other adults. Recognizing single fathers' special living arrangements alters the

results of comparison between single fathers and married fathers. The sole single fathers spend significantly more time directly participating in childcare activities than married fathers, a result which is consistent with what Hofferth (2006a) found using the children's diary data of PSID. Cohabiting fathers and married fathers are similar in their direct childcare time, regardless of which single father group we use in the model.

Recreational activities are the only type of childcare activities on which the three groups of resident fathers differ: single fathers in general engage in less time in recreational activities with children than married fathers, but cohabiting fathers engage in more time playing with children than married fathers. In contrast, sole single fathers spend more time than married fathers in most childcare activities except for recreational activities, which is close to what Cooksey and Fondell (1996) found. Among the single fathers group, sole single fathers also spend more time doing most childcare activities (except for recreational activities) than single fathers who live with parents or other adults.

Results of the other two childcare measures - time with children and minding time - indicate that single fathers in general spend significantly less time with their children than married fathers, and their time minding children is also less than that of married fathers. There is no time difference between cohabiting fathers and married fathers in these two measures. Using the sole single fathers for comparison, we see that single fathers actually spend a similar amount time with their children as married fathers, although their minding time is still less than that of married fathers.

Chapter 5 Non-resident Fathers' Time with Children

Introduction

Compared to resident fathers, non-resident fathers are assumed to spend less time caring for their children. Yet we know relatively little about nonresident fathers' involvement with their children. Using new time-diary data, this chapter examines non-resident fathers' time with their children for the first time and addresses the following questions.

First, how "involved" are non-resident fathers, assessed by the amount of time and the type of activities with children? Do non-resident fathers engage (proportionally) more often in playing with their children and do less basic childcare and education-related activities with their children compared to resident fathers?

Second, is non-resident fathers' time with their non-household children affected by their family situations, specifically, marital status? Divorced non-resident fathers might be the group who are most involved with their non-household children, given that they probably have more freedom and time to visit their non-household children than remarried non-resident fathers whose attention might be occupied by new unions and new children. Studies have shown that when fathers remarry after divorce, their contact with children tends to decrease (Seltzer 1991; Stephens 1996). Although rarely studied until recently, never-married non-resident fathers might be less involved than either divorced or (re)married fathers. They may be less "family-oriented" than divorced fathers, younger, less mature and ready for the responsibilities of fatherhood.

The subsample in this chapter includes all 282 non-resident fathers who have non-household children under age 13 --- 169 fathers who have only non-household children plus 113 fathers who have both household and non-household children. This chapter begins with a description of nonresident fathers' characteristics and childcare time vis-à-vis those of resident fathers. I also report average childcare time for the 113 "overlapping" fathers. Then I take three steps to examine the relationship between non-resident fathers' marital status and their childcare time. I first report the characteristics of non-resident fathers by their marital status: married, divorced and never married. Second, I report results of descriptive analysis for non-resident fathers' childcare time by their marital status. Finally, tobit regressions are estimated to test whether non-resident fathers' marital status is associated with their childcare time with and without controls for non-resident fathers' other characteristics and their non-household children's characteristics.

Who Are the Nonresident Fathers?

Non-resident fathers in this study are limited to those fathers who report that they have at least one own child under age 13 who does not live in their household. Table 5.1 shows selected characteristics of these non-resident fathers in comparison to resident fathers. Note that 113 fathers who have both household and non-household children are included in both columns. Non-resident fathers have lower levels of education than resident fathers: only 12 % of non-resident fathers compared to over 32% of resident fathers have college or post-graduate education[3]. Further, a lower percentage of non-resident fathers are employed than resident fathers (83 % versus 92%). Compared to

[3] Test of significance is not conducted because the two samples are not independent from each other.

resident fathers, non-resident fathers on average are about two years younger and a higher percentage of non-resident fathers are Black (29% versus 10%). Children of non-resident fathers are also different from those of resident fathers. Non-resident fathers have older children and fewer children than resident fathers. Finally, non-resident fathers seem to have more complex parenting responsibilities than resident fathers. About 34 % of fathers with non-household children also have children who live with them, only about 2% of fathers with co-resident children have non-household children.

<Table 5.1 about here >

As noted earlier, the overall sample size for men with non-resident children is fairly small in the ATUS, and non-resident fathers identified in the ATUS might be a select group of fathers who are more involved with their non-household children and hence are more likely to report that they have childcare living elsewhere. To get a sense of the representativeness of the non-resident fathers in the ATUS, Table 5.2 compares the ATUS non-resident fathers with the non-resident fathers indentified in two other data collection: the 1987-1988 National Survey of Families and Households (NSFH) and the 2002 National Survey of Family Growth (NSFG).

<Table 5.2 about here >

As the NSFH sample includes non-resident fathers with children under age 18, I provide the sample of non-resident fathers with children under age 18 in the ATUS for comparison purposes. The NSFH sample used in the table was interviewed in 1987-1988, and it is restricted to fathers who have children living with their biological mother. All fathers in the sample have a non-resident biological child[4]. The NSFG sample[5] was

[4] The sample characteristics of non-resident fathers in the NSFH are from Manning, Stewart and Smock (2003).

collected in 2002, and only includes men of age 15 to 44 years who have a biological or adopted child they are not living with. Characteristics of children of these nonresident fathers are unavailable. In contrast, the ATUS non-resident fathers report all own children (including stepchildren) who do not live with them, and the non-resident children may not be biological children.

Despite the differences between the three surveys, we see substantial similarity between non-resident fathers in the samples of ATUS and NSFH in terms of fathers' education, age, race/ethnicity and children's characteristics. The sample of NSFG shows similarity of non-resident fathers' education compared to the sample in the ATUS, although there is a lower percentage of White fathers and a higher percentage of Hispanic fathers in the NSFG than in the ATUS. Overall, we see that the sample of non-resident fathers in the ATUS is relatively comparable to samples from other nationally representative surveys.

Childcare Time/Activities: Non-resident Fathers versus Resident fathers

The sample used in this study includes non-resident fathers who have at least one non-household child under age 13 (n = 282). Nonresident fathers' average time per day in direct childcare (including different childcare activities), total time with children and minding time is presented in Panel A of Table 5.3. For comparison purposes, the corresponding childcare time measures for resident fathers are also presented in the table. The percentage of fathers who report childcare time in each childcare measures is reported in Panel B of the table.

[5] The sample characteristics of non-resident fathers in the NSFG are based on the NCHS report: Martinez GM, Chandra A, Abma JC, Jones J, Mosher WD (2006).

<Table 5.3 about here >

On average, nonresident fathers spend about 21 minutes per day providing direct care to children who do not live with them, the total time non-resident fathers are with their children is about 77 minutes. These numbers are less than 1/3 of what resident fathers report doing with their children at home. Non-resident fathers report a much higher level of time - 231 minutes per day- minding or being responsible for their children, which is very close to what resident fathers report (275 minutes per day). As shown in Panel B of the table, only about 19 percent of non-resident fathers report direct care time and a quarter of non-resident fathers report spending time with their children on the diary day. The corresponding numbers for resident fathers are 60 percent and 90 percent. Again, a much higher percentage of non-resident fathers (65 percent) report time minding and being responsible for children, though lower than the proportion of resident fathers who report this kind of caring time (84 percent).

Table 5.3 also presents non-resident fathers' time in four subsets of childcare activities during the time when they provide direct care to their children, compared to resident fathers. On average, non-resident fathers spend about 8 to 9 minutes in recreational or managerial activities, and around 2 minutes in physical or educational activities. As shown in Panel B, the most frequently reported activities for non-resident fathers are managerial activities, about 13 percent of non-resident fathers reported that they engage some time in the managerial activities which include organizing and planning activities for children, picking up children, attending children's events, etc. About 5 percent of non-resident fathers reported spending some time providing time in physical care and recreational activities. Least frequently reported are the educational

activities, only about 3 percent of non-resident fathers reporting this type of childcare activity on a diary day. Resident fathers spend much more time in each set of childcare activities and also have a higher rate of reporting spending any time in these activities. The most frequently reported activities for resident fathers are physical caregiving activities (about 39 percent), followed by managerial activities (about 29 percent). Similar to non-resident fathers, the least frequently reported activities for resident fathers are educational activities. The percentage of resident fathers reporting time in educational activities is 17 percent, about 14 percentage points higher than among non-resident fathers.

To better compare time allocation of non-resident and resident fathers, Table 5.4 presents the distribution of childcare time across types of activities. Non-resident fathers spend the bulk of their care time in managerial (42%) and recreational activities (38%), and only a little of their care time is in physical (10%) and educational activities (11%). Previous studies suggest that non-resident fathers tend to engage in leisure activities when they are with their non-household children. Findings from the current study indicate that although non-resident fathers spend a considerable part of their care time playing with children (around 38 percent), they spend a slightly higher proportion of their care time (42 percent) on managerial childcare activities such as picking up/dropping off children, attending children's events, supervising and monitoring children, etc. compared with resident fathers. In contrast, resident fathers allocate their childcare time almost equally among physical, educational and managerial activities (28-30 percent). All fathers have a relatively small proportion of their time (about 11-12 percent) devoted to education-related childcare activities.

<Table 5.4 about here>

Non-resident Fathers' Care Time: A Further Check

One factor that could possibly affect non-resident fathers' childcare time is the handling of the subgroup of fathers with both non-household and household children. The sample size of fathers with both types of children is 113 and I include these fathers in both groups of fathers. Table 5.5 presents these 113 "overlapping" fathers' average childcare time and percentage reporting childcare time for their household children, non-household children, and all children combined in the first three columns. Childcare time and percentage reporting care time among fathers with non-household children and fathers with household children are presented in the columns (4) to (7). In each group of fathers, I first present the childcare time for fathers with only non-household children or only household children, and then the childcare time for all fathers with non-household children or household children, the latter estimates include the 113 fathers who have both non-household and household children.

< Table 5.5 about here>

Fathers with both types of children contribute a much higher level of time to their household children than to their non-household children (first two columns of Table 5.5). On a diary day, these fathers spend about an average of 82 minutes providing direct care to their household children, but only about 5 minutes to the children who do not live with them. Similarly, these fathers report about 255 minutes per day physically with their household children, but about 31 minutes per day for their non-household children. As these 113 fathers who have both household and non-household children count for about

40% of total non-resident fathers and only about 2 percent of total resident fathers, the inclusion of this subgroup of fathers should have a bigger impact on the estimates of non-resident fathers' childcare time than on the estimates of resident fathers' time.

As shown in columns (4) and (5) of Table 5.5, fathers with only non-household children average 29 minutes per day directly participating in childcare of their children, and adding the 113 fathers with both types of children reduces non-resident fathers' direct care time to about 21 minutes per day. Non-resident father's total time with their non-household children also drops from 100 minutes per day to 77 minutes per day when fathers with both types of children are included. As expected, resident fathers' childcare time hardly changes with the inclusion of these 113 fathers.

Non-resident fathers' average childcare time drops when adding the non-resident fathers who have both household children and non-household children. This change can be explained by the low level of childcare time the 113 "overlapping" fathers have for their non-household children. For example, these fathers only spend about 5 minutes per day directly taking care of their non-household children (column 2), which is far below the average direct childcare time among fathers who only have non-household children – 29 minutes per day (column 4). Adding these fathers with less childcare time for non-household children to the fathers who only have non-household children brings down the average (column 5), especially when these fathers count for about 40% of the total. The same reason applies to non-resident fathers' overall time with children.

Different from direct care and total time with children, non-resident fathers' minding time increases once the subgroup of fathers with both household and non-household children is added. Unlike the measure for direct care time and total time with

children, the ATUS does not separate respondents' "in your care" time for own household children and own non-household children under age 13.[6] Minding time for household children or non-household children can be identified among fathers who only have one type of children. However, for fathers with both non-household and household children, this means that the minding time they report could be for household children, non-household children, or both type of these children. Therefore, the estimate of fathers' minding time for their non-household children becomes larger when adding the 113 fathers who have both household and non-household children.

In short, including the subgroup of fathers with both non-household and household children in non-resident fathers affects the estimates of non-resident fathers' time with children. Non-resident fathers' direct childcare time and total time with children are somewhat reduced, nonresident fathers' minding time increases. We need to keep this in mind when interpreting results of non-resident fathers' childcare time.

To check the estimates of non-resident fathers' time minding children, I did an episode-level analysis of how the minding time coincides with time spent with children and direct childcare time among non-resident and resident fathers, and also the distribution of fathers' episodes by whether they report minding children and whether they report being with a child. In Table 5.6, it can be seen that fathers with both household and non-household children are not included in each group given that we can not identify whether their children are non-household or household. The first two columns of Table 5.6 indicate that when fathers report "minding" time, a child is present about 59 percent of the time for non-resident fathers and 64 percent of the time for

[6] The ATUS collected the "in you care" time separately for respondent's household children and non-household children in 2004 and 2005, but not in 2003. I use the 2003 measure in the analysis for consistency.

resident fathers, and a similar percentage of "minding" time was spent providing direct care for the two groups of fathers (19-21 percent). The remaining four columns in Table 5.6 divide all activity episodes to time fathers are minding children and time they are not. Minding time is then divided into time the father is with a child and time he is not. Similarly, time a father is not minding children is divided into time he is with a child and time he is not. These four categories sum to 100 percent of fathers' episodes in a diary day. The distribution of episodes among non-resident and resident fathers are similar: non-resident fathers report minding children with a non-household child present in about 12 percent of all episodes, and resident fathers report minding children with a household child present in about 14 percent of episodes.

<Table 5.6 about here>

For both group of fathers, almost 20 percent of their episodes are minding time. Non-resident fathers are not with their children for about 40% of their minding time, and resident fathers are not with their children for about 35 % of their minding time. The bigger difference between these two groups of fathers is the episodes when they are not reporting minding time. During the episodes that non-resident fathers report they are not mindful of their children, only about 1 % of time are they with their children. In contrast, resident fathers report about 29 % of the episodes that they are with their children but not being mindful of their children. The higher rate for resident fathers is presumably because someone else (e.g., a spouse) is considered to be the one in charge of the children.

In summary, we see that non-resident fathers and resident fathers are similar in their reports of how minding time coincides with time spent with children and the direct childcare time. The differences between these two groups of fathers are more about

whether a child is with them during the episodes when they are not reporting minding their children. These findings indicate that the "minding time" measure is relatively reliable across different types of fathers and it does not seem to be affected by whether fathers live with children or not. This is consistent with the characteristics of "minding" time - the passive care which does not require fathers be with their children.

Characteristics of Non-resident Fathers and Their Children

Nonresident fathers' current marital status can be associated with their time contributing to their children who do not live with them. Table 5.7 presents the characteristics of nonresident fathers and their children for all non-resident fathers and for divorced, (re)married and never married non-resident fathers.

<Table 5.7 about here>

First, the social economic status of non-resident fathers differs by their marital status. Both divorced fathers and (re) married fathers have a higher level of educational attainment than never-married fathers. About 12 percent of divorced or (re) married non-resident fathers have a college degree, but less than 1 percent of never-married fathers are college graduates. Accordingly, a significantly higher percentage of divorced and (re) married fathers are in the top earning category (> $1000 per week) than never-married fathers.

Second, demographic characteristics of these three groups of non-resident fathers are also statistically different. On average, never-married fathers are younger than both divorced and (re)married fathers by about 7-8 years. About 73% of divorced fathers are White, which is significantly higher than (re) married fathers (58 %) and never-married

fathers (32%). In contrast, about 52 % of never-married fathers are Black, which is much higher than among the other two groups of fathers.

Finally, children of these three groups of fathers are different in many aspects. We see that non-resident fathers who are currently (re)married have older non-household children compared to the other two groups. The youngest non-household child averages 11 years for (re)married fathers, but only 7 years for divorced fathers and 5 years for never-married fathers. Divorced non-resident fathers have more non-household children than the never-married fathers. Interestingly, divorced fathers are more likely to have a son who does not live with them than either (re) married or never-married fathers.

To indicate the complexity of parenting obligations of non-resident fathers, I include a flag of whether non-resident fathers also have resident children living with them. Table 5.7 shows that about 71% of (re)married non-resident fathers also have resident children, compared with 12% of divorced and 13% of never-married fathers.

Marital Status and Non-resident Fathers' Care

Table 5.8 presents the estimates of non-resident fathers' care time among divorced, (re)married and never married fathers in Panel A and the percentage of non-resident fathers who report any time in each childcare measure in Panel B. Here non-resident fathers' care refers to their care time for non-household children, regardless of whether they have household children living with them or not.

<Table 5.8 about here>

Consistent with my expectations, t-tests of the mean childcare time among divorced, (re)married and never married fathers suggest significant differences.

Compared to (re)married non-resident fathers, divorced fathers spend significantly more time in direct caregiving to their non-household children (around 45 minutes versus 6 minutes). The direct childcare difference is statistically significant for two categories of childcare activities: physical and recreational activities. In fact, (re)married non-resident fathers did not report spending any time in these two activities, and divorced non-resident fathers spend about 4 minutes in physical activities and 22 minutes in recreational activities with their non-household children. Divorced non-resident fathers also spend significantly more time in recreational childcare activities than non-resident fathers who have never been married (22 minutes versus 3 minutes). A similar pattern holds for non-resident fathers' total time in activities with non-household children present: Divorced non-resident fathers spend much more time together with their non-household children than (re)married fathers and never married fathers. Divorced fathers average about 143 minutes per day doing things when their non-household children are around, which is around three times of what (re)married and never married fathers with their non-household children. No significant time difference is found between non-resident fathers who are remarried and who have never been married, and the three groups of non-resident fathers also report similar amounts of time minding children who do not live with them.

The three groups of non-resident fathers differ in their reports of any childcare time in each childcare measure. Compared to (re)married non-resident fathers, divorced non-resident fathers are more likely to report direct childcare: About 26 percent of divorced non-resident fathers report some time directly providing childcare to their non-household children, but only about 9 percent of (re) married non-resident fathers report

direct childcare time. The higher percentage of divorced fathers reporting childcare is reflected in three subsets of childcare activities: Physical care, recreational care, and educational activities. In addition, divorced non-resident fathers are more likely to report direct care time in physical and recreational activities than never married non-resident fathers. Never-married non-resident fathers are more likely to report providing direct childcare than (re)married non-resident fathers. Divorced non-resident fathers are also more likely to report spending at least some time minding or being responsible for their non-household children than (re) married fathers. The percentage of non-resident fathers reporting doing activities with their non-household children present is similar across the three groups of non-resident fathers.

In sum, the bivariate analysis indicates that divorced non-resident fathers spend more time providing childcare to their non-household children than non-resident fathers who are currently (re)married, especially in physical and recreational childcare activities. Divorced fathers also spend more time physically being with their children than (re)married fathers. This is probably because currently (re)married non-resident fathers have more parenting obligations with new children in the new family, which limits their time with children who do not live with them. Moreover, divorced non-resident fathers have younger children who demand more care than (re)married non-resident fathers. The childcare time differences between divorced fathers and never married fathers are less significant, divorced fathers do more in childcare, but only in recreational childcare activities and time physically being with their children.

Does non-resident fathers' marital status matter for their childcare time when we take into consideration of other characteristics of non-resident fathers and their children?

Table 5.9 presents the effect of marital status in tobit models predicting non-resident fathers' childcare time for their non-household children. Panel A shows the association when the only predictor is marital status of the father and replicates the bivariate cross-tabular results in Table 5.8. Divorced fathers are the reference group given that they spend the most time with non-household children, and few childcare differences are found between (re)married fathers and never-married fathers in the bivariate analysis. Panel B presents the full model results with controls for father characteristics (education, employment status, age, race/ethnicity), non-household children's characteristics (age of youngest child, number of children, presence of a son), whether the father also has resident children, and whether the diary day was a weekend.

<Table 5.9 about here>

Consistent with the results from bivariate analyses, the tobit model in Panel A shows that (re)married non-resident fathers spend significantly less time providing the childcare directly than divorced fathers. After adjusting for the left-censoring, (re)married fathers are estimated to spend about 173 minutes or close to 3 hours less than divorced fathers in direct childcare for their non-household children. Never married fathers' direct care time for non-household children is not significantly different from that of divorced fathers. A similar pattern holds for non-resident fathers' total time with children, (re)married non-resident fathers spend around 270 minutes (4.5 hours) less time doing activities with their non-household children around than divorced fathers. There is no statistically significant difference between divorced non-resident fathers and the other two groups of fathers in their time minding and being responsible for their children.

The full model results in Panel B suggest that after controlling for non-resident fathers and children characteristics, the coefficient for (re)married fathers time in direct care of their non-household children decreases but remains highly significant. (Re)married fathers are predicted to spend 134 minutes less than divorced fathers in direct childcare time, holding all other variables constant. However, (re) married fathers' total time with children is no longer statistically different from that of divorced fathers after introducing the controls (P =.06).

Panel B of Table 5.9 also reports the coefficient of each control variable in relation to non-resident fathers' childcare time. Compared to high school graduates, non-resident fathers with college education spend more time in the company of children and more time minding their children. Non-resident fathers with post-graduate education also spend more time minding their children than those with high school or less education.

Non-resident fathers' employment status is a strong predictor of their childcare time for non-household children. Employed non-resident fathers spend significantly less time in direct caregiving, time with children and minding time than nonemployed fathers. This is probably because employed non-resident fathers, with working obligations, have less time available to care for non-household children than those who are unemployed or not employed.

Previous studies show that non-resident fathers' income is positively related to the level of their contact with children (Amato and Sobolewski 2004). Therefore, I redo the models in Table 5.7 using fathers' weekly earnings instead of employment status. The results show that non-resident fathers' earnings are not associated with their care time for children who do not live with them. Alternatively, I tried non-resident fathers' work

hours per week and their wage rate (weekly earnings/ hours of work per week), but these employment characteristics of non-resident fathers are not related to their time for their non-household children (see Appendix Table 5.1 and Table 5.2).

Age of non-resident fathers is negatively associated with non-resident fathers' care time, although only in the last measure of childcare- minding time. Compared to White fathers, both Black and Hispanic fathers spend less time in direct caregiving. Black fathers also spend less time in the company of their children than White fathers.

The number of non-household children a father has is positively related to his childcare time in all three measures. However, other characteristics of non-household children, such as age of youngest non-household child and gender of the non-household child, do not seem to be associated with non-resident fathers' care time. One interesting finding is that non-resident fathers who also have household children tend to spend more time in minding and being responsible for children who do not live with them than non-resident fathers who only have non-household children. Non-resident fathers spend more time providing direct childcare and being with their non-household children during the weekends, but non-resident fathers' minding time for their nonhoueshold children is not affected by the weekend and week day difference.

Summary

The results presented in this chapter document original findings of American non-resident fathers' time spent in childcare. Compared to resident fathers, non-resident fathers spend much less time providing direct childcare to their children and physically being with their children, which is consistent with the assumption that non-resident

fathers do not have the daily access or involvement in the care of their children that co-resident fathers do. However, non-resident fathers report a high level of minding or being responsible for their non-household children, even though they live away from their children. Surprisingly, playing or recreational activities are not the most frequently reported activities non-resident fathers do when they provide direct childcare. Instead, more fathers report doing managerial activities than playing with their children when they are together. Compared to resident fathers who distribute their direct care time almost evenly to physical, recreational and managerial activities, non-resident fathers' direct childcare time is mostly concentrated on recreational or managerial activities.

As expected, a comparison based on non-resident fathers' marital status shows that situational factors of non-resident fathers do affect their childcare participation. The major childcare time differences are between divorced fathers and (re)married fathers. Divorced fathers spend more time than (re) married fathers in direct childcare, specifically, physical and recreational activities. The total time divorced fathers spend with their non-household children is also higher than (re)married fathers. After controlling for fathers and children's characteristics, divorced fathers still spend more time than (re) married fathers in direct childcare, but differences in total time with non-household children do not achieve statistical significance (though estimates are large). Never-married non-resident fathers' direct care time and minding time appears somewhere in between (re)married fathers and divorced fathers, although the difference is not statistically significant. Never-married non-resident fathers spend less time being with their non-household children than divorced non-resident fathers in the bivariate t-test, but the difference is not statistically significant in the tobit models.

Finally, the complexity of fathering responsibilities is associated with non-resident fathers' time investment in childcare. The more non-household children a father has (possibly from different previous marriages), the more time he spends in providing care. Further, having household children does not seem to curtail fathers' time with their non-household children. Instead, non-resident fathers spend more time minding and being responsible for their non-household children when they also have children at home. This may be because non-resident fathers who also have children living with them are a selected group of fathers who are more family oriented and therefore are more aware of their parenting responsibilities even when their children live away from them.

Chapter 6 Children and Father Involvement

Introduction

What are the major factors associated with a higher level of paternal involvement? Are these factors related to each other? Using a demand and capacity framework, this chapter examines three actors who affect father's life: children, mothers or wives, and fathers themselves. Married fathers in two parent families are the focused group, given that these fathers are the majority of today's American fathers and may have the greatest support and hence potential to be "good dads."

This is the first of three chapters that examine factors associated with father involvement among married fathers. As receivers of father's care, children's characteristics are directly associated with how much time fathers are involved and what kind of activities they do with their children. Younger children need more childcare than older children overall, and fathers' childcare activities might be different when children are at different stages of development. Child's gender reflects fathers' "preference" in childcare. Fathers are often thought to have a "son preference" in terms of time in childcare, although the empirical findings are mixed. I suspect that better educated fathers may have less "son preference" than less educated fathers, given that they have more gender egalitarian ideas in general and a greater propensity to share parenting responsibilities.

The analysis sample is restricted to 4,917 employed, married fathers whose youngest household child is under age 13[7]. Table 6.1 presents characteristics of fathers in

[7] Among 5,411 married fathers who live with their children (Figure3.1), 370 are non-employed and 129 changed their marital status change during the 2 to 5 month time lag between the CPS and the ATUS.

the sample. About 35% of fathers have an infant/toddler at home (ages 0-2), 25 % of fathers have the youngest child of preschool age (ages 3-5), and another 40% of fathers have the youngest child of school age (ages 6-12). A majority of fathers (about 67%) have a son under age 13 at home.

<Table 6.1 about here >

I conduct the analysis in two parts, the first presenting results of descriptive and multivariate analyses of fathers' time in direct care (including childcare activities), time with children, and minding time by three categories of age of youngest child (0-2, 3-5, 6-12). The second part of the analyses focuses on children's gender, describing the pattern of father involvement by gender of their children and explore whether fathers' education is associated with their "son preference" in childcare.

Children's Age and Paternal Care

Fathers' average time per day spent in childcare by age of their youngest child is presented in Panel A of Table 6.2. We see that in general fathers' direct childcare decreases as their children age. Fathers who have an infant/toddler at home spend 89 minutes per day on average providing direct childcare. Fathers' direct care time reduces to 69 minutes per day when their youngest child is preschool age, and then to 42 minutes per day when their youngest child is school age. The differences among these three age categories of children are statistically significant (P<.001).

<Table 6.2 about here >

However, the change of fathers' childcare time is not the same for all types of activities. Fathers' physical care declines dramatically as their children age: fathers with

preschool age children at home only spend about half of the time that fathers with infants and toddlers spend in physical care, and fathers with school age children's time in physical care is about 1/5 that of fathers with infants and toddlers. Fathers' recreational time with children also declines as children age. Yet fathers' time in educational and managerial activities increases as their youngest child ages. Time in educational activities is not large for any group of fathers, but the small increases in fathers' time in these activities as children age is statistically significant from infant/toddlers to preschoolers and from infants/toddlers to school age children. The same changes are in fathers' time in managerial activities. Childcare time in these two activities is not statistically different among fathers with preschool age children and those with school age children.

Fathers' overall time with children also decreases as children get older. Fathers who have infants/toddlers at home spend about 309 minutes per day doing activities with their children present. Fathers' time with their children is about 30 minutes less per day when the youngest child is preschool age, and about 72 minutes less per day when their youngest child is school age. However, fathers' time minding their children does not change as their youngest child ages.

Panel B of Table 6.2 shows the proportion of married fathers who report any time in various types of childcare by age of youngest child. We see a similar pattern as shown in Panel A. Overall, the percentage of fathers who report participating in direct childcare drops when their youngest child gets older. Fathers are less likely to report participating in physical and recreational activities when their children are older, but they are more likely to report participating in educational or managerial activities (although there is no statistically significant difference between fathers with preschoolers and fathers with

school age children). The proportion of fathers who report being with their children on a diary day drops from 94 % to 88 % when their youngest child reaches school age. The proportion of fathers reporting being mindful of their children is slightly higher among fathers with an infant/toddler than those with children of school age, but is not statistically different from the proportion of reporting among fathers with preschoolers. However, the difference is very small: 85% reporting minding infants and toddlers versus 82 % reporting minding school age children on the diary day.

Table 6.3 presents tobit coefficients for age of the youngest child in models predicting fathers' childcare time, controlling for characteristics of fathers, mothers, and children. Model A uses age of the youngest child in three age categories and Model B uses age of the youngest child in years. Consistent with the bivariate results, fathers' direct care and time with children declines as their children age, holding other variables constant. Compared to fathers who have infants/toddlers at home, fathers with preschoolers report about 25 minutes less and fathers with school age children report about 70 minutes less per day in direct childcare activities. Specifically, each year increase in youngest child's age is associated with about a 10 minute drop in father's direct care per day. Fathers' overall time with children follows a similar pattern. However, fathers' time minding children does not change as their youngest child ages.

<Table 6.3 about here >

Table 6.4 show tobit coefficients for age of the youngest child in models predicting fathers' direct care time in different types of activities. Similar to what the bivariate results have shown, the multivariate results indicate that fathers' time in physical care and recreational activities decreases as their children age, but fathers' time

in educational and managerial activities increases as their children get older. For example, fathers with preschoolers are estimated to spend about 33 minutes less and fathers with school age children 76 minutes less per day than fathers with infants and toddlers in physical care. On the other hand, fathers with preschoolers and school age children spend about 20 minutes more per day than fathers with infants and toddlers in education and enrichment activities.

Sons versus Daughters

Past research has operationalized fathers' "son presence" in a variety of ways which I replicate here (Raley 2003; Mammen 2005). In Tables 6.5- 6.6, I first present how fathers' childcare time and time in different activities differs by whether the father has a son under age 13. I then use three measures of the gender composition of children's sibship to further describe this relationship: 1) whether a father has a son in any of the age categories: 0-2, 3-5, 6-12; 2) The gender composition of the sibship by family sizes: one-child families (only son versus only daughter), two-child families (two sons, one son, one daughter, versus two daughters) and families with three or more children (number of sons); and 3) The gender of the first-born child.

<Table 6.5 about here>

Consistent with my expectations, fathers report about 17 minutes more per day in direct child care activities when they have at least one son rather than all daughters under age 13. Having a son ages 0-2 or 3-5 is related to more direct childcare time for fathers compared to having no son in the same age ranges. However, fathers report less time in direct childcare when they have a son of school age versus no school age sons. As fathers

who have a son in three age categories are not mutually exclusive, the comparison group in each category varies. Fathers who have no sons of school age may have younger or preschool age sons, which may affect fathers' time in direct care. In order to better assess the relationship between having sons and father involvement, I examine the role of gender composition of the children's sibship controlling for family size. Among families with one, two and three more children, fathers generally spend a greater amount of time in direct child care when they have sons rather than daughters. The exception is in families with only one child, where fathers are estimated to spend a little more time in childcare of a son than a daughter but the difference is not statistically significant. In two child families, fathers with two sons spend significantly more time in childcare than fathers who have only one or no sons. Finally, fathers engage in more direct childcare when their first-born child is a son.

Fathers also show some "son preference" in their overall time with children but hardly any preference in minding time. Having a son under age 13, especially having a son at younger ages (0-2 or 3-5) increases fathers' overall time with their children. Fathers in families with two children show a "son preference" when they have more sons: compared to having two daughters, having one son and one daughter is associated with an increase in fathers' time with their children of about 10 minutes per day, and having two sons increases their time by about 34 minutes per day. However, fathers with three or more children do not spend significantly more time with their children when they have more sons. Fathers with only one child do not differ in their time with children by children's gender, either. When the first-born child is a son rather than a daughter, fathers

spend about 20 minutes more per day with their children than when the first born child is a daughter.

A further look at fathers' time in different childcare activities in Table 6.6 shows that fathers' "son preference" in childcare is mostly concentrated in physical care and recreational activities. Fathers report about 23 minutes of physical childcare activities when they have at least one son under age 13, but only 16 minutes when they do not have a son under age 13. Fathers' physical care time almost triples when they have a son under age 3 compared to having no sons of this age. However, fathers spend less time in physical care when they have a son of school age compared to having no sons of this age. Although fathers with only one child do not do more physical care if the child is a boy, fathers with two children in a family do more physical care when they have more sons at home compared to more daughters. Fathers with the first-born son also spend more time in physical childcare than fathers with the first-born daughter. Fathers' time in recreational activities follows a similar pattern as their time in physical care, with the additional finding that fathers who only have one child spend more time in playing and recreational activities if the child is a boy.

<Table 6.6 about here>

Fathers show less "son preference" in educational and managerial activities. Fathers spend about 1.3 minute more in educational activities per day when they have a son rather than having all daughters. The difference gets larger (4.2 minutes per day) when fathers have a son of school age. Fathers also spend more time in managerial activities when they have a son of school age or have more sons in families with 3+

children. However, fathers spend less time in educational and managerial activities when they have a boy of 0-2 years old compared to having no boys of this age.

Table 6.7 presents tobit coefficients for six models with each using a different measure of children's gender predicting fathers' direct care time, time with children, and minding time, net of maternal employment, fathers' education, work hours, occupation schedules, age, race/ethnicity, weekend diary day. Number of children in a family and age of youngest child are not included in the model because of the high correlations between these two variables and measures of gender composition in these models. Consistent with the descriptive results, having a son is positively associated with fathers' direct childcare time and time with children in many of the models. Younger sons (under age 6) seem to promote more father involvement in direct childcare and time with children, whereas older sons (ages 6-12) seem to increase fathers' time minding children. For fathers with one child at home, having one son versus one daughter does not affect fathers' time in any of three childcare measures once other factors are controlled. However, when fathers have two children, fathers with two daughters spend significantly less time in direct care and time with children than fathers with two sons. For fathers who have three or more children at home, the number of sons is positively related to fathers' time in direct care. Finally, fathers whose first-born child is a son spend more time in direct childcare and more overall time with their children than fathers whose first born child is a girl. This is consistent with Morgan and Pollard (2002)'s hypothesis that the gender of the first-born child may affect the overall pattern of father involvement in the family.

<Table 6.7 about here>

Consistent with the descriptive results, children's gender is related to fathers' time in different childcare activities. As shown in Table 6.8, having a son is associated with a 21 minute increase in fathers' time in physical childcare activities and a 36 minute increase in recreational activities, but no significant differences in other childcare activities. Having younger sons (under age 6) is associated with more father time in physical care and recreational activities, and having preschool age sons is also associated with more father time in educational and managerial activities. Sons of school age are associated with more father time in educational and managerial activities, but less time in recreational activities. For fathers who only have one child, having a son versus having a daughter is associated with a 30 minute increase in father time in recreational activities, but no significant differences in other activities. Fathers who have more than one child generally increase their time in physical and recreational childcare activities when they have more sons at home. Finally, a first-born son rather than a daughter increases fathers' time in physical and recreational activities as well.

<Table 6.8 about here>

Fathers' Education and "Son Preference" in Childcare

Are better educated fathers less gender biased in childcare time than less educated fathers? I include the interaction terms of gender composition of children's sibship and fathers' educational attainment in the multivariate models shown in Table 6.7, and present the coefficients of gender composition of children's sibship, fathers' education, and interaction terms in Table 6.9. I use fathers' education in a continuous scale based on fathers' highest degree received.

<Table 6.9 about here >

Among six models each using a different measure capturing gender of children in the household, only the interaction terms in Model 2 (direct care time) and Model 4 (minding time) are statistically significant. The significant interaction term between fathers who have a son ages 0-2 and his education in Model 2 suggest that having a son ages 0-2 versus having no son in this age range is associated with more fathers' time in direct care, and the time difference is positively related to fathers' educational attainment. In addition, the interaction term in Model 4 suggests that in two children families, fathers with one son and one daughter spend less time than fathers with two sons minding their children, and the time difference between these two groups of fathers declines as fathers' level of educational attainment increases.

To better see the interaction effect in Model 2 and Model 4 of Table 6.9, I present the tobit coefficients for gender composition of children's sibship in these two models in Table 6.10. Models run separately for four educational groups of fathers. Panel A shows the coefficients for having a son in ages 0-2 in the model of predicting fathers' direct care time. Fathers with all levels of education do more direct childcare when they have an infant or toddler son at home. However, unlike what the interaction term in Table 6.9 suggests, the effect of having an infant or toddler son by fathers' education seems curvilinear. The size of the coefficient increases from high school to some college, but declines after some college education: Fathers with some college education spend the highest amount of time in direct childcare when they have a son of ages 0-2. Panel B of Table 6.10 shows the coefficients for gender composition of children's sibship in the model of predicting fathers' minding time in two children families. Fathers with high

school or below or some college education report less time minding their children if they have one son and one daughter rather than two sons, but fathers with college or postgraduate education do not.

<Table 6.10 here>

In brief, fathers' "son preference" in a majority of the measures of gender composition of children's sibship does not vary by their educational attainment. In a few measures where we find the interaction effect of children's gender and fathers' education on fathers' care time, better educated fathers do show slightly less gender bias in parenting than less educated fathers.

Summary

Fathers' childcare time is closely associated with how old their children are. Fathers spend much less time in childcare when their children get older, especially in direct childcare and total time with children. Despite the overall childcare time decline as children age, fathers' time in education-related and managerial activities with children increases, which indicates that fathers' childcare time also corresponds with children's demands at different stages of development. Older children need more support for school work, but younger children need more physical and other basic care.

Gender and gender composition of children in a family are also associated with fathers' childcare time. The extended measures of children's gender in this study show that having a son, especially a son under age 6, is associated with more fathers' childcare time. In families with more than one child, more sons are associated with more fathers' care time. Fathers also do more childcare when their first born child is a boy. Further,

fathers' "son preference" in childcare is mostly related to their time in physical and recreational activities, and older sons also contribute to more father time in educational and managerial activities. Fathers' "son preference" observed in this study is more salient in direct childcare time and time physically being with children than in minding time. Finally, fathers' "son preference" in childcare time by their education is generally negligible.

Chapter 7 Maternal Employment and Father Involvement

Introduction

An unexpected but consistent finding in the time use literature of the past few decades is that married mothers' employment is not associated with fathers' overall time in childrearing (Nock and Kingston 1988; Pleck 1985; Marsiglio 1991; Sandberg and Hofferth 2001; Bianchi 2006). Some evidence supports that mothers' employment characteristics (e.g., work hours and work schedules) are linked to more fathers' care, but the findings are not robust nor can be generalized to fathers' care to children of all ages (Aldous et al.1998; Brayfield 1995).

I reexamine the link between maternal employment and father care in this chapter, hypothesizing that mothers' education might play a confounding role in the relationship between mother's employment and father involvement. Women who have higher levels of educational attainment and modern gender role expectations might be more likely to urge their husbands to share parenting responsibilities than women who are less educated. I also separate dual-earner fathers from the sample and examine whether employment characteristics of mothers are associated with fathers' childcare time.

I first conduct descriptive analyses of fathers' care time in general and by spousal employment, and then I run tobit regressions to see whether mother's employment status is associated with fathers' time in different childcare activities, net of other differences. The interaction term of mothers' employment and their educational attainment is tested to see whether the relationship between spouse's employment and fathers' childcare time varies by spousal education. Finally, I restrict the sample to the 3,146 fathers in dual-

income families and explore the relationship between mothers' work hours, occupation characteristics, and earnings and father involvement.

Overview of Father Care by Spousal Employment

I present characteristics for fathers with and without an employed spouse in Table 7.1, characteristics for the total sample of fathers are also presented in the table for comparison purposes. Bivariate t-tests are performed to test for significance differences between fathers with and without an employed spouse. Among the 4,917 married and employed fathers within the sample, about 36% have a wife who is not employed and 64% have an employed wife. Fathers with an employed wife are a bit older than fathers with a nonemployed wife. They are more likely to be White or Black, but less likely to be Hispanic. Fathers work similar hours per week, on average, regardless of their wives' employment status, although fathers whose wives are employed are a little less likely to work full time or long hours (50+ hours per week) than fathers whose wives are not employed. Employed wives have a higher level of education than wives who are not employed: about 40% of employed wives have college or postgraduate education, compared with only 33 % of nonemployed wives. The percentage of fathers who are less educated than their wives is higher among fathers with an employed spouse than among those with a nonemployed spouse (34% versus 27 %). Finally, compared to fathers with nonemployed wives, fathers with employed wives have older children, fewer children and they are less likely to have a son.

<Table 7.1 about here >

The average minutes per day employed, married fathers spend with their children in families with and without an employed mother are shown in Panel A of Table 7.2. On average, American married fathers spend about 66 minutes (1.1 hours) in direct childcare activities per day. Fathers who are sole earners of the family spend about 6 minutes less in direct childcare than fathers in dual-earner families, a difference that is small but statistically significant ($p<.05$). A further look at specific activities during fathers direct care time shows that fathers with a employed wife in fact spend more time in managerial activities than fathers with a nonemployed wife.

<Table 7.2 about here>

In addition to direct childcare time, married fathers have children with them about 272 minutes (4.5 hours) per day. Fathers with an employed spouse and fathers with a nonemployed spouse do not differ in this measure. Fathers report 268 minutes (4.5 hours) per day when they are minding their children, with fathers whose spouses are employed spending about half an hour more per day being mindful of their children than fathers with spouses who are at home full time ($P <.01$). Therefore we see that fathers' time in direct childcare and minding children differs by their wives' employment status, which is different from what some previous studies have found (Sandberg and Hofferth 2001; Bianchi 2006).

Panel B of the table shows the proportion of married fathers who report different types of childcare by maternal employment status. Similar to the results in Panel A, dual-earner fathers are more likely to report participating in direct childcare, especially in managerial activities than single-earner fathers. However, they report a slightly lower rate of playing with their children than single-earner fathers. Dual-earner fathers are more likely to report minding their children than single-earner fathers.

Multivariate Analysis

Table 7.3 presents results of tobit models predicting fathers' direct care time, total time with children, and minding time. Panel A presents the tobit model results when spouses' employment status is the only predictor, Panel B adds all other control variables including education of spouse, relative education between a father and his spouse and fathers' and children's characteristics. Similar to previous t-test results in the bivariate regressions (Model 1), a spouse being employed is significantly associated with a higher level of father's direct childcare involvement and their time minding children-- but not with their total time with children. After controlling for other variables, the positive link between a spouse's employment and father's childcare is statistically significant for all three childcare measures.

<Table 7.3 about here>

A higher level of a wife's education is strongly positively related to fathers' direct childcare. The measure of relative education of a husband and a wife indicates that at a given level of a wife's education, husbands who are less educated than their wives do less direct childcare and spend less time minding their children than those who are better educated than their wives.

Father's age is not associated with his time in any of the childcare measures[8]. Father's work hours are negatively related to his time in childcare in general. Fathers who work long hours (50+ hours) spend less time in childcare than fathers who work full time,

[8] A quadratic term was added in the models to test if the relationship between father's age and his childcare time was curvilinear. The results indicate a slight curvilinear relationship between father's age and his direct childcare, but not in other childcare time, after centering, the slope (dy/dx) = 0.79 +2*(-0.1084) age. The negative coefficient associated with the quadratic term indicates a slightly downward curve, the effect is small but statistically significant (P<.001). I did not include this in the final model because of the significant linear relationship between age of father and types of childcare activities discussed later.

and fathers who work part-time hours spend more time in childcare than those who work full-time hours. Fathers in occupations with above average work schedule flexibility spend a little more time in direct childcare than other fathers, whereas those in above average shift work occupations spend a bit less time in direct childcare than other fathers. Fathers' occupational characteristics are not associated with other childcare measures.

Children's characteristics are strongly associated with fathers' care, especially direct childcare time. Younger children and more children in the household are related to higher levels of father's direct care involvement, and fathers spend more time in direct childcare if they have a son under age 13 (results discussed in more depth in the previous chapter). Fathers also spend more time doing any activities with children present when they have younger children and have a son. Yet fathers' minding time is only related to the number of children in a family (positively), not child's age or gender.

In general, minority fathers spend less time than White fathers in childcare. Although married fathers spend more time being with their children and minding their children during weekends than weekdays, their time in direct childcare is not different between weekends and weekdays. This might have to do with the nature of childcare activities during fathers' direct care time, given that most of the physical and routine activities happen both on weekdays and weekends.

Which childcare activities are most responsive to maternal employment? Table 7.4 presents the tobit regression results of fathers' childcare time by type of direct childcare activity. In the bivariate models, fathers spend more time only on managerial childcare activities if their spouse is employed. In the multivariate models, fathers spend more time on physical care as well as managerial activities, but not on recreational or

educational activities. This suggests that wives' paid work does put more childcare demands on fathers, and fathers seem to contribute more, at least in basic or routine childcare activities.

<Table 7.4 about here>

Some new findings about the control variables emerge in these models. First, fathers' age is positively associated with his time in managerial activities with older fathers doing more. Second, fathers in occupations where shift work schedules are more common spend less time playing with their children, but their childcare time in other activities is not affected by his occupational location. In contrast, fathers in occupations where flexible work schedules are more common spend more time in physical care of their children, but not in other activities.

Fathers of older children spend less time in physical and recreational activities, but more time in educational activities. Fathers with more children spend more time in most childcare activities except for recreational activities. This indicates that fathers with more young children might do more routine childcare because of the higher childcare demands in the household. Therefore they may curtail recreational activities with children. Although fathers spend more time in childcare if they have sons, the effect is only significant for physical care and recreational activities.

Finally, fathers' time in different childcare activities varies by the weekend-weekday difference. Fathers do more recreational activities, but less educational or managerial activities during weekends. This may balance out the effect of the weekend-weekday difference and be why we found no difference in the overall direct childcare in previous models (Table 7.3, Column 1).

Spousal Education, Employment Status, and Father Care

A father's response to childcare demands from a mother's employment may depend on mothers' educational attainment. Better educated mothers could be more career-minded and have more gender egalitarian ideology than less educated mothers, so that they may be less likely to view sharing childcare with their husbands as giving up "authority" and thus urge their husbands/partners to share more parenting responsibilities. On the other hand, less educated mothers may be more likely employed in occupations which requires shift work and therefore create a situation that promotes father care (Presser 1988, 2003; Brayfield 1995; Casper and O'Connell 1998; Wight et al. forthcoming).

I include the interaction terms of maternal employment and maternal education attainment in the multivariate models and present the coefficients of maternal employment, education, and interaction terms in Table 7.5. Consistent with what was expected, spouses' educational attainment moderates the relationship between fathers' childcare and spouses' employment, but only in fathers' direct care time. The significant interaction term between maternal employment and postgraduate education suggests that compared to employed mothers' with a college education, employed mothers with postgraduate education get more childcare help from fathers. To further examine and better see this interaction effect, I run separate tobit models predicting fathers' direct childcare time by mothers' educational attainment, and the results are presented in Table 7.6.

<Table 7.5 and Table 7.6 about here >

In the model estimates in Table 7.6, a wife's employment status is significantly associated with fathers' direct childcare time at two levels of her education attainment. First, when wives with post-graduate education work for pay, their husbands spend about 48 minutes more in direct childcare than husbands with nonemployed wives, other things equal. At the other end of the educational spectrum, when wives with a high school or less education work outside the home, their husbands also do more direct childcare (about 26 minutes more) than husbands with similarly-educated wives who are home full time. Therefore, men appear to respond to their spouse' employment, but only for those spouses who are the least-educated or the best educated, not among the middle group of spouses who have some college or a college education.

Dual-income Families: Spouses' Other Work Characteristics

Table 7.7 shows the characteristics of mothers and fathers in 3,146 dual-earner families. On average, employed mothers work about 35 hours per week, which is less than the 47 hours that employed fathers do per week. A higher percentage of employed mothers work part-time (35%) than employed fathers (7%). About 37 % of mothers and 45% of fathers work in occupations with above average flexibility in schedules, and a similar proportion of mothers and fathers (40%) work in occupations where shift schedules are above average. Employed mothers' weekly earnings are lower than those of employed fathers.

<Table 7.7 about here >

Table 7.8 presents the results of tobit regression models for dual earner fathers' childcare time in three measures-direct care, overall time with children, and time minding

children. Models include an expanded set of employment characteristics for both mothers and fathers. Employment characteristics of mothers are not significant predictors of fathers' childcare time. None of the three variables-- mothers' work hours, occupational schedules, and earnings -- is statistically associated with fathers' time in childcare.[9] The relative earnings between fathers and mothers are associated with fathers' childcare, but only in total time with children: fathers who make more money than their spouses spend less time with their children than fathers who make equal or less money than their spouses.

<Table 7.8 about here >

In contrast, fathers' work hours are strongly associated with their time in childcare: fathers who work part-time do more in both direct care and total time with children than fathers who work full time. Fathers who work overtime do less childcare in all three levels compared to fathers who work fulltime. However, fathers' occupational schedules and earnings are not associated with their time in childcare.

To see whether mothers' and fathers' employment characteristics are associated with fathers' time in specific childcare activities, I further run the model of fathers' direct childcare across the childcare activities they engage in and present the results in Table 7.9. It seems that the association between mothers' employment characteristics and fathers' childcare time is specific to different childcare activities. Fathers' time playing with children decreases as their spouses work longer hours for pay. Compared to fathers whose spouses work full time, fathers whose spouses work part-time spend about 30 minutes more in recreational activities with their children, and fathers whose spouses

[9] The correlations between maternal education and mothers' work hours, occupation schedules and earnings are fairly low ($r<.40$). I tried models without maternal education, the results are similar.

work overtime engage in about 45 minutes less. However, fathers' time in managerial childcare activities seem to increase as their spouses work longer hours. Fathers with spouses working part-time spend about 15 minutes less in managerial activities than fathers with spouses working full-time. These results suggest that when mothers work longer hours, fathers may pick up more routine activities (e.g., managerial activities), but sacrifice their time in the "fun" activities with their children.

<Table 7.9 about here >

For mothers, working in occupations where flexible schedules are more common than average is associated with a 10-minute increase in father time in educational childcare activities, and working in occupations where shiftwork schedules are more common than average is associated with a 15- minute increase in fathers' educational childcare activities. Further, mothers' earnings are positively associated with fathers' time in physical childcare and educational activities. The effects of mothers' earnings are very small (2 minutes per 100 dollars) but statistically significant ($p<.05$).

Summary

Unlike what is reported in previous studies, this study finds that married fathers do more childcare when their spouses are employed and working for pay, holding characteristics of fathers, mothers and children constant. The positive association of maternal employment and fathers' childcare time holds for all types of fathers' childcare time. Fathers whose spouses are employed take over more fundamental childcare rather than just playing with children or doing other "fun" activities, things fathers have always done with and for their children. In addition, fathers whose spouses are employed spend

19 minutes more per day with their children and about 35 minutes more being mindful of their children than fathers whose spouses are nonemployed, net of other controls.

Mothers' education attainment interacts with the relationship between maternal employment and father care. Husbands married to wives with post-graduate degrees do more childcare when their wives work outside the home, while husbands married to wives with some college or college degrees do not. This supports the hypothesis that highly educated women may have more gender egalitarian ideals and therefore may be more likely to urge their husbands to share more in childcare, or they may select husbands who are more committed to active involvement in childcare. However, husbands married to wives with the lowest levels of education also do more childcare when their wives work. Previous research finds that when mothers work a non-day shift, fathers are more likely to be the primary childcare providers (especially to young children) (Presser 1988, 2005; Brayfield 1995). Perhaps mothers with lower educational attainment are more likely to take low-pay or service jobs which often require a shift work schedule and fathers may take over the childcare responsibility to save on childcare expenses and accommodate the mother's work schedule (see Appendix Table 7.1).

Among dual-earner families, mothers' employment characteristics, specifically, work hours, occupation schedules and earnings are not related to fathers' overall childcare time. However, maternal employment characteristics are linked to fathers' childcare time in specific activities. Mothers' longer work hours are associated with a decline of fathers' childcare time in recreational activities, but an increase of fathers' time in managerial activities. Mothers employed in occupations with greater than average flexibility or shiftwork schedules are positively associated with fathers' time in

educational childcare activities. Finally, higher earnings of mothers are associated with more fathers' time in physical childcare and educational activities.

Chapter 8 Educational Attainment and Father Involvement

Introduction

Whether or not fathers are actively involved in childcare largely depends on their own capacity and motivation. Better educated parents (fathers) are often thought to be more involved parents given that they might have different norms and attitudes about parenting and prioritize childcare time over other activities. However, education could reflect a number of things which compete with each other. Better educated fathers may be more likely to work in occupations with above average flexibility in schedules; therefore the capacity to respond to childcare demands may be higher for these fathers. Spouses of better educated fathers are often better educated themselves and have a higher employment rate than less educated wives. Thus, fathers with higher education may do more childcare because of the childcare demands from employed wives, though as we saw in the last chapter this relationship may not be linear. On the other hand, higher earnings and therefore higher opportunity costs associated with the choice of spending time with children for better educated fathers might reduce the capacity of these fathers to respond to childcare demands. This chapter attempts to disentangle the different factors that fathers' education might work through to influence paternal childcare time.

As shown in the previous chapter, fathers with highly educated spouses do more childcare than fathers with less educated spouses, though maternal education also interact with maternal employment. To some extent, spousal education reflects fathers' own education given the high correlation between couples' education ($r = .65$). Does fathers' education have the same effect on his childcare time as their wives' education? I also

compare the education effect on father involvement from fathers themselves and their spouses in this chapter.

This chapter starts with descriptive analyses of fathers' childcare time by fathers' education. I then conduct a set of stepwise (nested) models to examine the extent to which educational differences in fathers' direct childcare time remain after controlling for fathers' work hours, occupation characteristics, earnings, and mothers' employment. Fathers' direct childcare time is the focus of the analysis. Finally a set of tobit regressions are used to determine the effect of education on all levels of father involvement: direct care, time with children, minding time as well as fathers' direct care time in different childcare activities.

Childcare Time by Paternal Education

Table 8.1 shows characteristics of fathers by fathers' educational attainment. Better educated fathers seem to work longer hours and have higher earnings and a higher wage rate per hour than less educated fathers. Compared to fathers with a college education, fathers with a high school or some college education are also less likely to be in occupations where flexible work schedules are more prevalent and more likely to be in occupations where shift work schedules are more common.

Some other differences are noteworthy: spouses of fathers with postgraduate degrees seem to have the lowest rate of labor force participation among the four groups of women. This is unexpected because this group of women has higher education and makes higher earnings when they work for pay. Also, college educated fathers have younger children on average than the other three groups of fathers.

<Table 8.1 about here>

Table 8.2 Panel A presents fathers' time in direct care and activities, time with children, and minding time by fathers' educational attainment, and Panel B shows the percent of fathers who report any time in each type of childcare. Compared to college-educated fathers, high school graduates spend less time engaging in direct childcare (50 minutes versus 78 minutes per day, $P<.001$), specifically, in most childcare activities except managerial activities. Fathers with some college education spend about 10 minutes less in direct care time than fathers with a college education ($p<.05$), but there is no significant difference in direct care time between fathers with a college education and fathers with a postgraduate education. Further, there are no significant differences in fathers' time with children or minding time among the four groups of fathers.

<Table 8.2 about here>

Similar to the results in Panel A, Panel B shows that fathers with high school and some college education are less likely to report participating in direct childcare and most childcare activities than college educated fathers. A similar percentage of postgraduate educated fathers report direct childcare time as college graduate fathers, although postgraduate fathers seem to be more likely to report participating in managerial activities than college graduate fathers.

The Mediating Effect?

Table 8.3 shows nested tobit models to test the effect of fathers' education on their childcare time controlling for fathers' work hours, work schedules, earnings, and mothers' employment. In the first model, fathers' direct childcare time is regressed on

education only. Then fathers' work hours, occupation characteristics, earnings, and mothers' employment status are added respectively. Children's characteristics and other control variables are added in the last two models.

<Table 8.3 about here >

Model 1 shows that compared to college graduates, fathers with some college and with high school or below education spend significantly less time in direct childcare. However, fathers with a post-graduate degree spend no more time with children than college graduates. The same pattern remains after fathers' work hours are controlled in Model 2. With controls for fathers' occupation, the coefficient for fathers with some college education becomes somewhat smaller but remains statistically significant in Model 3. Fathers with high school or less than high school education do less direct childcare than college graduates. Adding fathers' earnings in Model 4 makes the significant difference of direct childcare time between fathers with some college education and fathers with college education disappear, but the childcare difference between fathers with high school or below and fathers with a college education remains. Adding mothers' employment status in Model 5 does not change the pattern observed in Model 4. With children's characteristics and other controls introduced in the model, the size of coefficient associated with fathers with high school and below education reduces but remains statistically significant (Models 6-7).

Fathers' work hours are negatively related to their time in childcare in all models with fathers' work hours. Fathers in occupations where flexible schedules are more common than average spend more time in childcare than fathers who are not in these occupations (Models 3-4), but the effect of flexible schedule occupations is no longer

significant once maternal employment status is controlled (Models 5-7). In contrast, fathers in shift work occupations spend less time in childcare than fathers who are not in these occupations, and the effect becomes stronger as the other controls are introduced (Models 4-7). Fathers' earnings become positively associated with their direct childcare time only after children's characteristics are included in the model (Models 6-7).

These results suggest that fathers' occupations and earnings seem to be two factors that could mediate the education effect. Fathers with some college education no longer do less direct childcare than college-educated fathers once fathers' occupational characteristics and their earnings are controlled. Further, although fathers with higher education are generally more involved with childcare, the major difference is between fathers with high school or below education and those with some college education or more. Among fathers who have at least some college education - some college, a college degree or postgraduate education - their time in direct childcare is not significantly different from each other.

The Education Effect on Other Childcare Measures

Table 8.4 presents the results of tobit models predicting fathers' direct care, time with children, and minding time. The model for direct childcare time is also the full model from Table 8.3 and is included here for a comparison purpose. The three models in Table 8.4 are similar to previous models in Table 7.3 of Chapter 7 which analyzes the link between maternal employment and father involvement. The difference is that instead of using mothers' education and relative education between fathers and mothers, fathers'

education is used in these models to focus on the effect of fathers' own education on his time in childcare.

<Table 8.4 about here>

Different from fathers' direct childcare time, fathers' overall time with children does not differ by their education attainment. However, fathers' minding time follows a similar pattern as their direct care time: Fathers with high school or below education less often report minding their children than college-educated fathers, but there is no significant difference in this minding or "in your care" time between other fathers and fathers who are college graduates.

In contrast, in models using mothers' education (Table 7.3), the effect of maternal education on fathers' direct care time is strong and linear. Compared to fathers whose wives are college graduates, fathers whose wives have postgraduate education spend more time in direct care, and fathers whose wives have some college and high school (or below) education spend less time. Yet maternal education hardly has any effect on fathers' time with children or minding time.

A further look at whether fathers' education is related to their childcare time across different childcare activities (Table 8.5) indicates that holding other variables constant, fathers with high school or less education spend significantly less time on all childcare activities than college-educated fathers, although the negative association is a bit weak for managerial activities ($P<.05$). Further, no time difference is found among fathers with some college, college and postgraduate education in any of the childcare activities.

<Table 8.5 about here >

Summary

The results in this chapter show that the effect of fathers' education on their childcare time is fairly strong. Fathers' occupation and earnings explain the childcare time difference between fathers with some college education and fathers with college education, but the childcare time difference between fathers with high school or below education and fathers with college education remains. More importantly, unlike the common assumption that better educated fathers are more "involved" fathers, this analysis suggests that the relationship between fathers' education and their time with children is not linear: The major difference is between fathers with a high school education or less and everyone else. Fathers with high school (or below) education do less direct childcare and minding children than fathers with at least some college education, but no variations were found in these childcare measures among fathers with at least some college education[10].

In contrast, the relationship between maternal education and fathers' direct care time is positive and linear: fathers whose wives are better educated spend more time in direct childcare than fathers whose wives are less educated. Thus, mothers' education seems more predictive of fathers' childcare time than fathers' own education. This echoes the results in previous chapters that fathers' response to maternal employment varies by mothers' education. Similarly, it could be that highly educated women, who have more gender-egalitarian ideas, are more likely to push their spouses into sharing the childcare than are less educated women.

[10] I alternated the reference group to fathers with other education levels in Table 8.4, the results are consistent.

Chapter 9 Conclusions

This dissertation makes three major contributions. First, I use new measures and conceptualizations for fathers' passive care and time in various childcare activities to capture paternal care along multiple dimensions. Second, I examine childcare time and activities among all types of fathers – single, married, and cohabiting fathers – as well as non-resident fathers, and document original findings of American non-resident fathers' time spent in childcare using recent time-diary data. Finally, I analyze key covariates of paternal involvement to clarify previous inconclusive findings about factors contributing to fathers' time allocation to childrearing. Fathers' time with children is affected by the family contexts in which they live, the demands from children and mothers and their own capacity to respond to these demands.

I examined fathers' childcare time in different family contexts – resident fathers, non-resident fathers and fathers in two-parent families. Table 9.1 summarizes hypotheses and findings from bivariate and multivariate analyses regarding the three groups of fathers. First, I expected single fathers to have the highest level of involvement among resident fathers, because they do not have a partner to share the childcare burden as married or cohabiting fathers do. This is partially supported by the multivariate finding in that "sole" single fathers spend more direct childcare time than married fathers. Among single fathers, the "sole" single fathers who live by themselves spend more time in direct childcare than single fathers who live with parent(s) or other adults, a finding that supports my hypothesis. My assumption that married fathers and cohabiting fathers are similar in their childcare time level is supported, although the two groups of fathers differ

in their time in recreational childcare activities: cohabiting fathers engage in more time playing with their children than married fathers.

<Table 9.1 about here>

My hypotheses about non-resident fathers are mostly supported by the bivariate findings. First, divorced non-resident fathers spend more time in the presence of their children than never-married fathers. Second, the hypothesis that married non-resident fathers spend less time in taking care of their non-household children than divorced non-resident fathers is supported by both bivariate and multivariate findings. Finally, I find evidence to support my expectation that non-resident fathers have proportionally more time devoted to playing with children, although both non-resident and resident fathers spend a small portion of them time in education-related activities.

For fathers in two-parent families, first I expected that fathers' time in childcare activities to respond to children's needs at different ages. This is supported by the findings from both bivariate and multivariate analyses that as children age, fathers' time in physical care and recreational activities goes down, but time in education-related and managerial activities goes up. The hypothesis that fathers' "son preference" in childcare would depend on fathers' education is not supported. Second, my expectation that mothers' education interacts with mothers' employment status to influence fathers' childcare time is supported. Fathers' direct care time responds to maternal employment of the most highly educated spouses as well as the least-educated spouses. The former, I expect, is due to better-educated mothers' stronger egalitarian gender ideology, and the latter may have to do to the financial pressure in dual-income families where wives (and often husbands as well) often work different schedules so as to reduce childcare costs.

Fathers care for children when mothers work and vice versa. These couples are more often employed in occupations with non-standard work schedules.

Finally, all three hypotheses about fathers' education in relation to their childcare time are supported by the bivariate findings, and the hypothesis about fathers' employment in flexible schedule occupations is also supported by the multivariate findings. First, better educated fathers are more likely to work in occupations where flexible schedules are common than less educated fathers, and the flexible schedule occupations are associated with more father time in physical care of children. Second, better educated fathers also have higher earnings than less educated fathers, but the higher earnings (as an opportunity cost) are positively, not negatively associated with fathers' time in childcare. Finally, less educated fathers are more likely to be employed in occupations requiring nonstandard hours. However, I find that working in these occupations reduces fathers' time in direct childcare (recreational activities) instead of increasing these fathers' capacity to respond to childcare demands.

Who Are the Involved Dads?

Documenting the variation of father involvement in different family contexts is a major goal of this dissertation. Who are the most involved fathers? Figure 9.1 reviews all fathers' average time per day in direct childcare activities discussed in this dissertation. The five bars on the left represent direct care time by childcare activities among resident fathers (all, married, cohabiting, single, and "sole" single resident fathers), the right four bars are direct care time for non-resident fathers (all, divorced, never-married, and (re)married non-resident fathers).

<Figure 9.1 about here >

Compared to resident fathers, non-resident fathers report much less time in direct childcare. They report 21 minutes per day directly taking care of their children, which is less than 1/3 of what resident fathers report. Non-resident fathers' direct care time is mostly spent on recreational and managerial activities, which partially supports the assumption that nonresident fathers' activities with children tend to be leisure rather than instrumental (Furstenberg and Nord 1985; Lamb 1999; Stewart 1999), although managerial activities can be instrumental. Findings from this dissertation indicate that divorced non-resident fathers spend about half of their direct care time in recreational activities and they may be the group of non-resident fathers who fit the "Disneyland Dad" image (Stewart 1999).

Resident and non-resident fathers' parenting time is influenced by the family contexts in which they live. Resident fathers who are married or living with an unmarried partner do not differ much in their direct childcare time. Single fathers' time is lower but more than one quarter of single fathers in fact live in households with parents or other adults and these single fathers engage in much less direct care time than the "sole" single fathers who live by themselves. Removing these single fathers from the single fathers' group increases single fathers' direct care time by about 20 minutes per day. The sole single fathers spend significantly more time directly participating in childcare activities than married fathers, a result which is consistent with what Hofferth (2006a) finds using the PSID-CDS children's diary data. Cohabiting fathers do not differ significantly from married fathers in their direct childcare time.

Recreational activities are the only type of childcare activities on which the three groups of resident fathers differ significantly: single fathers engage in less time in recreational activities with children and cohabiting fathers engage in more time playing with children than married fathers. Sole single fathers engage in more time in most childcare activities except recreational activities than married fathers. The results are somewhat different from those of Cooksey and Fondell (1996).Using the 1987-1988 NSFH data, they find that single fathers report more frequent sharing of activities in leisure, talking and reading or helping with homework with the children ages 5-18 than fathers in two biological parent families.

Non-resident fathers' current marital status is associated with their direct care time for children. Previous studies show that new marriages and new children (especially new biological children) are negatively related to the frequency of contact between fathers and their nonresident children (Stephens 1996; Manning and Smock 1999). This dissertation finds similar results: Divorced fathers spend more time than (re) married fathers directly providing childcare, especially in physical and recreational activities. Never-married non-resident fathers are not different from (re)married fathers in their childcare time. The results from bivariate and multivariate analyses are consistent.

Figure 9.2 reviews all fathers' average time per day in the other two measures of paternal involvement: time with children and minding time. Similar to the direct childcare findings, non-resident fathers' time overall time with their children is less than 1/3 of resident fathers'. Despite the low involvement level for direct childcare and time together with children, non-resident fathers report about 231 minutes (3.9 hours) per day minding their children, which is close to what resident fathers report on this measure.

This might suggest that the major barrier for non-resident fathers' involvement is their physical absence: They do not live with their children and therefore have limited opportunities to provide direct childcare or be with their children compared to resident fathers. However, non-resident fathers do report being mindful of children, probably because they do not have to be with their children for this dimension of childcare.

<Figure 9.2 about here >

For resident fathers, single fathers in general report less overall time than married fathers being with children and being mindful of children. Sole single fathers seem to spend less time with their children than married fathers, yet the difference is not significant in multivariate models. Sole single fathers' minding time remains significantly less than that of married fathers in both bivariate and multivariate models. In contrast, cohabiting fathers and married fathers do not differ significantly in these two measures. For non-resident fathers, bivariate results suggest that divorced non-resident fathers spend more time with their children than either (re) married or never-married non-resident fathers. Yet the variation in time with children among these three groups of fathers is insignificant once fathers' and children's characteristics are held constant. The three groups of non-resident fathers do not differ significantly in their time minding children.

How involved are fathers compared to mothers? Previous time-diary studies show that married fathers' childcare time is about half of what married mothers spend in parenting children (see Sayer et al. 2004; Bianchi et al. 2006), and married fathers' time with children is about 65% of married mothers' time in 2000 (Bianchi et al. 2006: Figure 4.3). Using the 2003 and 2004 ATUS data, Kendig and Bianchi (forthcoming) find that

married mothers, on average, spend about 2.4 hours in primary (direct) childcare and 7.2 hours overall time with children on a diary day. My numbers are 1.1 hours of direct care and 4.6 hours of time with children for married fathers. A comparison of these numbers from the ATUS shows amazingly consistent findings with those of previous studies: married fathers spend about half of time that married mothers do in direct care, and their total time with children is about 64% of married mothers. Moreover, cohabiting mothers spend about 2.2 hours in direct care and 6.9 hours in time with children in Kendig and Bianchi (forthcoming), whereas I find that cohabiting fathers spend 1 hour of direct care and 4.8 hours of time with children. Single mothers spend 2 hours in direct care and 6.5 hours time with children, compared with 0.9 hour of direct care and 3.6 hours of time with children for single fathers. Therefore, fathers who are cohabiting or living by themselves follow a similar pattern as married fathers in comparison to mothers in the same category[11].

Constraints and Facilitators of Paternal Involvement

The second goal of this dissertation is to explore the mechanisms through which fathers manage to provide care to their children. I focus on fathers in two-parent families and view father care as a function both of childcare demands placed on fathers and fathers' capacity to respond to these demands. I present updated findings about three factors in this process: children's age and gender, maternal employment, and fathers' education.

[11] Cohabiting fathers' time in direct care is half of cohabiting mothers', and their time with children is 69% of cohabiting mothers'. Single fathers' also spend half of the time that single mothers spend in direct childcare, and their total time with children is about 55% that of single mothers.

The demand for fathers' time in childcare first comes from children. Fathers' childcare time decreases as their youngest child ages, especially their direct childcare and overall time with children. This is consistent with what Yeung et al. (2001) find using the PSID-CDS data. However, fathers' childcare time decline does not apply to all childcare activities. Fathers' time in education related activities with children in fact increases as their children get older. Moreover, fathers' time minding children does not vary by their children's age.

The multiple measures of gender composition in this study largely support fathers' "son preference" in childcare. Fathers with younger sons not only tend to do more recreational activities, but do more physical childcare as well. This updates the previous finding that having sons is related to more father time in leisure and play activities (Marsiglio 1991; Mammen 2005).Although highly educated men might be presumed to have a more gender egalitarian ideology and therefore be less gender biased in the practice of parenting /childrearing, the empirical evidence is lacking. Highly educated fathers are just as likely to show son preference as less educated fathers.

Analyses of the new time-diary data in this dissertation support a link between maternal employment and father care, which is missing in a number of previous studies. Married fathers spend about 24 minutes more per day in direct childcare when their wives are employed and working for pay, net of other controls. Fathers seem to take over activities which are more routine and basic (physical and managerial activities) when their spouses are employed. In addition, fathers whose spouses are employed spend more time physically being with their children and minding children than their counterparts whose spouses are not employed.

Fathers' response to maternal employment is conditioned upon mothers' education attainment. Fathers do more direct childcare when their employed spouses are at the two ends of the educational spectrum: high school or below or postgraduate education, but not when the spouses have some college or college education. The fact that fathers' childcare is more responsive to the better-educated spouse's employment coincide with Marsiglio (1991)'s suspicion that wife's power to urge or convince their husbands to share childcare is more important than their employment in getting more father involvement. In contrast, fathers' response to employed wives with the lowest level of education may reflect the inflexible or shift work schedules these mothers have. It is consistent with the literature on nonstandard work schedules and father care in Presser (1988, 2003), Brayfield (1995), Casper and O'Connell (1998), and Wight et al. (forthcoming). The couples at the bottom of the educational distribution may share childcare more equally because they cannot afford not to. They need two incomes and they need to keep childcare costs to a minimum.

Finally, fathers' education, an important factor related to fathers' own capacity and motivation for parenting, is positively associated with paternal involvement. The effect of fathers' education partially works through fathers' occupation and earnings. Findings from this dissertation suggest that this education effect on paternal involvement is largely a difference between fathers with high school (or below) education and fathers with some college education or more. In contrast, mothers' education seems more linear in predicting fathers' time in childcare than fathers' own education.

Besides the major contributing factors discussed above, fathers face constraints that pull them back from active participation in childbearing. One consistent finding in

previous studies and this dissertation is that fathers' paid work hours are negatively associated with their childcare time. Fathers who work 50 hours or more per week spend about 19 minutes less in direct childcare per day than fathers who work regular hours (35-49 hours per week). In contrast, fathers who work part-time spend about 30 minutes more in direct childcare than full-time working fathers (Table 7.3. Panel B). Further, fathers who work in occupations where shift work schedules are common spend less time in direct care than fathers who work in other occupations. Occupations with more flexible work schedules are positively linked to fathers' childcare time, although the effect may reflect the education attainment of these fathers.

More About "Minding" Time and Other Measures

Using the secondary childcare measure in the ATUS, this dissertation is original in capturing the "state of mind" aspect of parental care. As discussed in Chapter 2, this measure also matches part of paternal accessibility discussed in Lamb et al. (1985, 1987) where fathers are accessible to children even when they are not physically present. The "minding" time measure by and large reflects the passive component of childcare, because it is about being mindful of or being accessible to children whether or not a father has direct interaction with children.

One striking finding in this dissertation is the large amount of time non-resident fathers report minding their children. Unlike the time spent in direct childcare and in the company of children which is much lower than what resident fathers' report, non-resident fathers' minding time is very close to resident fathers' minding time. We could argue that whether or not fathers live with their children should not make a difference in their

minding time, given that the "minding" time picks up the mental awareness of parenting which does not require parental presence.

However, the amount of time non-resident fathers report minding their children could be overestimated and needs to be treated with caution. As discussed in Chapter 5, about 40% of the 282 non-resident fathers also have children who live in the household. The minding time of these "overlapping" fathers could be for their household children. According to Table 5.5, non-resident fathers' average minding time per day is about 84% of resident fathers. When removing the fathers with both types of children from the sample, the "pure" non-resident fathers report about 76% of what resident fathers do. Second, the secondary childcare time in the ATUS is restricted to "the time between when the first *household* child under 13 woke up and the last *household* child went to bed[12]," but for minding non-household children, this restriction does not apply (see Appendix 9.1 for the questions asked in the survey). Therefore, non-resident fathers could report minding their non-household children while their non-household children were asleep. Finally, as a summary question asked after the time diary is complete, the secondary childcare question in the ATUS may involve a higher level of social desirability bias than the time-diary questions. Respondents may over report the activities during which their children are in their care. Non-resident fathers, whose time diaries do not include many direct care activities, may be more likely to overestimate the time when their children are in their care than resident fathers.

Non-resident fathers' time in childcare is explored for the first time in this study. Limited by the small sample size, non-resident fathers identified in the ATUS could be a

[12] See P.35 in the American Time Use Survey User's Guide (http://www.bls.gov/tus/atususersguide.pdf)

select group of fathers who are more involved with their non-household children. Further, among fathers identified as having non household children, only a small portion of these fathers report providing direct childcare (19%) or doing activities in the company of their children (25%), therefore the time estimates for non-resident fathers could be biased by a few fathers who are highly involved. We need to be aware of these limitations when interpreting non-resident fathers' childcare time.

To what extent does this measure of "minding" time add to our knowledge of fathers' parenting time? As a new secondary childcare measure introduced in the ATUS, the minding or "in your care" time can not be compared to the secondary childcare measure used in earlier U.S. time-diary studies because of the different concepts and methods of collection (Allard, et al. 2007). Here I compare the minding time to time with children in the ATUS to get some hint. Non-resident fathers' minding time is much higher than their time of physically being with children, but for resident fathers, this measure of minding time is not different from their overall time with children[13]. Although minding time does not require fathers' presence with their children, my calculation based on the episodes of fathers indicates that a child is present about 64 percent of the time for resident fathers and 59 percent for nonresident father when they report time being mindful of their children. Checking the correlations among these two variables, we see that for resident fathers, fathers' minding time is highly correlated with their overall time with children ($r = 0.7$, $P<.001$). The correlation coefficient between these two measures is 0.4 ($P<.001$) for non-resident fathers, which is considerably lower.

[13] The calculation of "minding" time excludes times when a respondent reports doing primary childcare, but "time with children" does not. Technically speaking, estimates of "minding" time should be slightly higher than "time with children" if fathers' primary childcare time is included in the calculation.

Therefore, the minding time measure captures some part of fathers' passive care to their children, yet to a large extent the minding time measure in the ATUS overlaps with fathers' overall time with children, especially for fathers who live with their children[14]. We need to be aware of this issue when interpreting the results. For example, resident fathers on average spend 67 minutes (1.1 hours) per day on direct childcare, 275 minutes (4.6 hours) per day being with children, and 275 minutes (4.6 hours) being mindful of their children. Because part of fathers' minding time overlaps with fathers' time with their children, we can not conclude that resident fathers spend 4.6 hours per day being with their children, and another 4.6 hours being mindful of their children.

This dissertation also estimates that on average, married resident fathers report 8 hours per week[15], cohabiting fathers report 7 hours per week and sole single fathers report about 8 hours per week in engaged childcare activities. Other studies using parents' diaries estimate about 6.5 hours per week for married fathers' childcare time in 2000 (Bianchi et al. 2006), which is close to the numbers in the ATUS. However, these numbers are considerably lower than what Hofferth (2006a) finds using the PSID-CDS data: 15 hours per week for married biological fathers, 10.6-12 hours[16] per week for cohabiting fathers, and 22 hours per week for single biological fathers.

One could argue that the PSID estimates should be lower than the ATUS estimates given that children's time diaries reflect the amount of time each child spend with his/her father, but fathers' time diaries capture his time spent with all his children. I

[14] The extent of overlapping between fathers' overall time with their children and minding time is difficult to know as we can not identify whether the child being present is the child who a father refers to "in your care."
[15] To be consistent with estimates in Bianchi, Robinson, & Milkie, 2006, the weekly estimate is calculated by minutes per day multiplies seven.
[16] 12 hours per week for a biological parent and 10.6 hours per week for mother's partner.

suspect that the following factors could be related to the differences. First, the activities included in "direct childcare" in the ATUS and "engaged time" in the PSID are not the same. The PSID-CDS is child-centered, asking about a child's flow of activities over a 24-hour period. Fathers' engaged care time is recorded when he is the one doing the activity with the child – any activity that the child does. According to Yeung et al. (2001), a child's diary includes activities such as eating meals at home/not at home, watching TV or videos, using computers, doing household work, shopping, visiting, helping others, church/religion. In contrast, the ATUS is adult-focused, a father's direct childcare time is recorded when he reports doing childcare activities. The activities mentioned above by Yeung et al.(2001) are not coded as "childcare" activities in the ATUS, and therefore not recorded in the "direct childcare" measure. Given that activities such as watching TV, and using computers takes up a considerable amount of children's time, I would expect that the "engaged time" used in the PSID to be higher than the "direct care time" in this study.

Second, the biological relationship of fathers and children can be identified in the PSID, but not in the ATUS. In the ATUS, fathers can be either biological fathers or stepfathers. Within the same family, the time that stepchildren received is not different from that of a half-sibling who is the biological child of both parents. However, children living with a stepfather are estimated to spend about 4.8 fewer hours per week engaged with their fathers than children living with a married biological father (Hofferth and Anderson 2003). Therefore, the level of father involvement among the ATUS fathers may be lower than the PSID fathers in two-parent families because the ATUS combine biological fathers and stepfathers.

Finally, many childcare activities can be done with multiple children at the same time, such as playing with children, reading to children, picking up/dropping off children. Therefore, the increase of fathers' childcare time by the number of children in a family may not be dramatic. The multivariate results from this study show that for married fathers, each additional child under age 13 only increases fathers' direct care time by about 9 minutes per day (Table 7.3).

Limitations and Future Directions

This study covers a wide range of fathers and touches on the major factors related to their involvement in different family settings. It by no means tells a complete story of how paternal involvement is determined. In addition to paternal motivation, Lamb et al. (1985, 1987) point out three other factors that are linked to the level of paternal involvement: fathers' skills and self-confidence, social supports, and institutional policies and practices. Fathers' perceptions of their own competence and their knowledge about child development can be important mediators of the impact of motivational factors on involvement. Social supports of father involvement come from mothers and other social networks of fathers. And finally, supports from workplaces and other social institutions such as childcare providers and health care providers also play a role in promoting father involvement (Pleck 1997; Pleck and Masciadrelli 2004). Limited by the data, this study touches on only a few factors related to fathers' motivation and social support from mothers. Future research incorporating a diverse set of factors in the analysis and comparing these factors in fathers' different family settings would be desirable.

The ATUS does not collect information about a respondent's work schedules (e.g., working a non-day shift), this could be a major limitation of findings in this study. Previous studies on parents' work schedules and childcare time have suggested that when mothers work a non-day shift, fathers are more likely to be the primary childcare provider (especially to young children) (Presser 1988, 2003; Brayfield 1995). I use an alternative measure in this study to proxy work schedules of fathers and mothers, but the findings are a bit different from previous studies. My measure based on a respondent's occupation indicates that the effect of work schedules may be specific to childcare activities. A father's time in educational childcare activities is higher when the mother is employed in occupations with greater than average flexibility or shiftwork schedules.

Fathers who have nonstandard work schedules themselves spend more time in childcare than fathers with a conventional work schedule (Wight, et al. forthcoming). I find that fathers who are employed in occupations with above average flexibility engage in more time in physical childcare and fathers employed in occupations where shiftwork are more common engage in less time in recreational childcare activities than fathers with other work schedules. Further work including fathers' actual work schedules would be helpful and more directly comparable to previous studies on parental work schedules.

One other limitation of findings is the lack of information about fathers' biological relationship to children in the ATUS. Although biology indeed plays a less significant role in father involvement than marriage (Hofferth and Anderson 2003), the biological relationship to the child is an important factor influencing fathers' motivation for involvement (Lamb et al. 1985, 1987). Lacking this information poses difficulties in obtaining an accurate estimate and comparison of fathers' time in different family

settings. For example, married fathers may have stepchildren at home, cohabiting fathers can have biological children at home, and married or remarried non-resident fathers may have stepchildren living with them and biological children living with their biological mothers. This can be a reason why I find little evidence supporting childcare time differences between married and cohabiting fathers, even though previous studies suggest that cohabiting fathers who are not the biological father of the child spend less time in childcare than a married biological father, but cohabiting biological fathers do not (Hofferth and Anderson 2003; Hofferth 2006a).

Weekend versus weekday difference is an important dimension that previous studies use to explore fathers' childcare patterns. Married fathers are often found to spend more time with their children during the weekends than the weekdays (Yeung et al. 2001). Yet findings from multivariate analyses in this study suggest that married fathers' direct childcare time is not different on weekends compared to weekdays. I suspect that this has to do with how the "direct childcare" versus "engaged time" is measured. If the direct childcare contains more regular, routine activities (such as picking up children, helping children with homework) as in the current study, then a weekend versus weekday difference is unlikely to be detected. In fact, results in this study show that recreational activities are the only type of activities resident fathers spend more time on during the weekends.

The current study also shows that the weekday versus weekend difference varies by type of childcare measures and whether fathers live with children. Resident fathers spend more time with children and minding children during the weekends, but they spend somewhat less time in most direct childcare activities on weekends. Non-resident fathers,

instead, do more direct childcare during the weekends than the weekdays. Non-resident fathers also spend more time physically being with their children during the weekends, but their time being mindful of their children is not different on weekends versus weekdays.

Therefore, future research on this topic needs to be aware of the nature of childcare activities and how they are related to the weekend-weekday childcare differences among fathers. Moreover, as fathers have different levels of access to children, the weekend versus weekday differences need to be examined in a broader context where both resident fathers and nonresident fathers are considered and where children's school schedules, which limit children's availability, are also taken into account.

Despite the fact that spousal employment is positively associated with fathers' childcare time, characteristics of a wife's employment (work hours, occupations, and earnings) are hardly related to fathers' childcare time in families where both mothers and fathers work for pay. Dual-earner families with young children probably have very high childcare demands as well as heavy workloads for both husbands and wives. How a husband juggles between paid work and childcare depends on the balancing act of his wife. Because the ATUS only collects time-diary data on one individual per household, we can not assess a husband's time allocation in comparison with his wife's, which could be key to understanding how dual-earner and single-earner families are different in childcare and paid work time.

From a developmental perspective, the potential impact of paternal involvement on children's well-being and outcome is one of the primary reasons to study paternal

involvement. Although quantity of time may often reflect fathers' underlying desire to provide their children with positive life experiences, it does not ensure that fathers' interaction with their children will promote their children's development and wellbeing. For example, unemployed fathers spend more time with their children, but not necessarily time higher in quality (Harold-Goldsmith et al. 1988). In some cases greater father involvement may negatively affect children's quality of life, particularly if fathers are abusive or if children do not feel valued because they feel that their fathers are doing things with them out of a sense of duty (Marsiglio 1991). Thus, Pleck (1997) recommends that the conceptualization and study of paternal involvement be reformulated to focus on positive involvement which emphasizes fathers' instrumental and mentoring activities with children.

The current study categorizes childcare activities into physical, play, educational, and managerial activities. Lacking the information on child outcomes, it is difficult to tell which childcare activities are "positive." Nevertheless, it is interesting to note that across all types of fathers examined in this study, fathers seem to spend the least amount of time in educational activities (including talking to children). Higher demands of childcare due to maternal employment promote more father time in physical or managerial activities, but not in educational or recreational activities. This may reflect fathers' own time constraints and also have implications for children's development. Therefore, understanding the ways that the quantity and quality of fathers' childcare activities influence children's as well as fathers' social and emotional well-being could be an important direction for future research.

Tables

Table 4.1 Distribution of Resident Fathers by Marital Status and Living Arrangements

		Unweighted Sample Size (N)	Weighted Percentage Distribution (%)
Panel A.	Total	5,986	100.0
	Married, living with a spouse	5411	90.4
	Cohabiting, living with an unmarried partner	165	2.8
	Single	410	6.9
Panel B.	Total Single fathers	410	100.0
	Sole adult	295	72.0
	Living with parents	41	10.0
	Living with others	74	18.0

Source: American Time Use Survey 2003-2005

Table 4.2 Resident Fathers' Mean Minutes per Day in Childcare and Activities with Children by Family Composition

	Total	Married	Cohabiting	Single
Panel A. Overall minutes per day				
Direct care time				
Total	67.3	68.3 [c]	61.4	55.3 [c]
Physical	20.3	20.8 [a]	13.4 [a]	15.9
Recreational	18.7	19.1 [c**]	25.7 [b**]	7.9 [b**c**]
Educational	7.9	7.8	6.0	10.4
Managerial	19.6	19.7	16.3	20.9
Time with children	275.2	278.4 [c**]	288.9 [b**]	214.7 [b**c**]
Minding time	275.2	276.2 [c*]	307.1 [b**]	238.4 [b**c*]
Panel B. Percent Reporting				
Direct care time				
Total	60.5	61.1 [ac*]	54.3 [a]	53.1 [c*]
Physical	38.6	39.2	32.7	33.9
Recreational	19.1	19.5 [c**]	21.5 [b*]	11.6 [bc**]
Educational	16.5	16.5 [a*]	9.2 [a*b**]	20.1 [b**]
Managerial	29.1	28.8 [c*]	24.8 [b*]	36.0 [b*c*]
Time with children	90.1	91.2 [a*c**]	85.2 [a*b*]	74.4 [b*c**]
Minding time	83.8	84.1 [c**]	86.6 [b*]	76.7 [b*c**]
N	5,986	5,411	165	410

Note:Weighted means and percentages are reported.

[a]<.05, [a*] <.01, [a**] <.001 indicates means of married fathers and cohabiting fathers are significantly different

[b]<.05, [b*] <.01, [b**] <.001 indicates means of cohabiting fathers and single fathers are significantly different

[c]<.05, [c*] <.01, [c**] <.001 indicates means of married fathers and single fathers are significantly different

Table 4.3 Means or Percentages of Independent Variables among Resident Fathers by Family Composition

	Total	Married	Cohabiting	Single
Fathers' characteristics				
Education (%)				
High school or below	43.3	40.9 ^{a**c**}	76.0 ^{a**b**}	62.0 ^{b**c**}
Some College	24.4	24.5	20.1	24.8
College graduate	20.8	22.1 ^{a**c**}	3.2 ^{a**b*}	9.2 ^{b*c**}
Postgraduate	11.6	12.5 ^{a**c**}	0.8 ^{a**b*}	4.0 ^{b*c**}
Employment status (%)	91.7	92.9 ^{a**c**}	86.2 ^{a**b*}	75.5 ^{b*c**}
Age	37.2	37.5 ^{a**c**}	32.2 ^{a**b**}	35.1 ^{b**c**}
	(7.8)	(7.6)	(8.9)	(8.4)
Race/ethnicity (%)				
Non-Hispanic White	64.9	65.5 ^{a**}	51.3 ^{a**b*}	62.9 ^{b}
Black	9.5	8.5 ^{a**c**}	22.1 ^{a**}	18.2 ^{c**}
Hispanic	19.9	20.1	21.1	17.1
Other	5.7	5.9 ^{c*}	5.5 ^{b}	1.8 ^{bc*}
Children's characteristics				
Age of youngest child	4.9	4.8 ^{c**}	4.4 ^{b**}	6.4 ^{b**c**}
	(3.8)	(3.7)	(4.5)	(3.5)
Number of children under age 13	1.7	1.8 ^{a**c**}	1.5 ^{a**b}	1.4 ^{bc**}
	(0.8)	(0.9)	(0.8)	(0.6)
Presence of a son under age 13 (%)	66.9	67.4 ^{a*}	58.9 ^{a*}	63.4
Having non-household children (%)	2.0	1.7 ^{a**c**}	8.0 ^{a**}	5.1 ^{c**}
Weekend diary day (%)	30.0	30.0	36.3 ^{b*}	25.2 ^{b*}
N	5,986	5,411	165	410

Note: Numbers in parentheses are standard deviations. Weighted means and percentages are reported.

^{a}<.05, ^{a*} <.01, ^{a**} <.001 indicates means of married fathers and cohabiting fathers are significantly different

^{b}<.05, ^{b*} <.01, ^{b**} <.001 indicates means of cohabiting fathers and single fathers are significantly different

^{c}<.05, ^{c*} <.01, ^{c**} <.001 indicates means of married fathers and single fathers are significantly different

Table 4.4 Tobit Coefficients in Models for Resident Fathers' Minutes per Day in Direct Care, Time with Children, and Minding Time (N=5,986)

	Direct care time		Time with children		Minding time	
	tobit	s.e.	tobit	s.e.	tobit	s.e.
A. Bivariate Model						
Marital status of fathers (vs. married fathers)						
Cohabiting	-16.7	11.2	2.7	18.3	35.9	21.0
Single fathers	-25.6 **	9.0	-90.7 ***	14.8	-52.7 **	17.0
Intercept	27.1 ***	2.2	266.9 ***	3.5	250.4 ***	4.0
Loglikelihood	-24935.4		-38157.5		-36585.8	
B. Multivarite Model						
Marital status of fathers (vs. married fathers)						
Cohabiting	1.9	10.9	-4.1	16.8	20.1	19.2
Single fathers	-2.9	8.8	-66.0 ***	13.7	-50.8 **	15.7
Fathers						
Education (vs. High school or below)						
Some College	35.0 ***	5.0	17.1 *	7.8	15.7	9.0
College graduate	42.0 ***	5.5	6.4	8.6	14.2	10.0
Postgraduate	46.6 ***	6.7	13.8	10.6	10.6	12.2
Employment status	-52.7 ***	7.0	-91.3 ***	11.0	-111.2 ***	12.7
Age	1.0 **	0.3	0.4	0.5	-0.5	0.6
Race/ethnicity (vs. non-Hispanic White)						
Black	-23.8 ***	6.8	-44.0 ***	10.6	-7.4	12.1
Hispanic	-33.7 ***	5.4	-15.4	8.1	-50.4 ***	9.5
Other	-14.0	8.4	13.2	13.1	7.2	15.2
Children						
Age of the youngest child	-9.8 ***	0.7	-9.0 ***	1.0	0.6	1.2
Number of children under age 13	6.5 **	2.5	6.2	4.0	9.2 *	4.6
Presence of a son under age 13	18.2 ***	4.3	17.9 **	6.7	11.2	7.7
Having non-household children	43.3 **	13.7	-7.4	21.6	-0.1	24.8
Weekend diary day	-9.6 *	4.2	213.4 ***	6.5	251.3 ***	7.5
Intercept	48.8 ***	13.2	291.2 ***	20.6	276.1 ***	23.8
Loglikelihood	-24624.4		-37564.7		-36029.3	
Censored n	2357		549		892	

* $P<.05$ ** $P<.01$ ***$<.001$ (two-tailed)

Table 4.5 Tobit Coefficients in Models for Resident Fathers' Minutes per Day in Childcare Activities (N=5,986)

	Physical		Recreational		Education		Managerial	
	tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.
A. Bivariate Model								
Marital status of fathers (vs. married fathers)								
Cohabiting	-19.6 *	8.5	19.9	16.7	-25.9 *	10.7	-14.1	11.3
Single fathers	-14.2 *	6.7	-64.8 ***	16.1	13.2	7.0	15.5	8.4
Intercept	-35.2 ***	1.9	-152.5 ***	5.7	-88.81 ***	3.3	-72.5 ***	2.9
Loglikelihood	-15875.3		-9274.3		-7454.0		-12804.9	
B. Multivarite Model								
Marital status of fathers (vs. married fathers)								
Cohabiting	-3.8	8.1	33.0 *	16.5	-9.4	10.7	0.3	11.4
Single fathers	12.4	6.5	-36.3 *	16.0	13.6	7.2	16.1	8.6
Fathers								
Education (vs. High school or below)								
Some College	29.2 ***	3.7	23.1 **	8.2	15.7 ***	4.5	16.4 **	5.2
College graduate	35.0 ***	4.0	36.4 ***	8.8	24.3 ***	4.8	17.3 **	5.7
Postgraduate	37.0 ***	4.9	46.7 ***	10.7	30.2 ***	5.7	26.4 ***	6.9
Employment status	-14.9 **	5.1	-36.2 **	11.1	-39.2 ***	5.6	-33.1 ***	7.0
Age	0.6 *	0.2	-0.3	0.5	0.5	0.3	1.0 **	0.3
Race/ethnicity (vs. non-Hispanic White)								
Black	-18.2 ***	5.1	-68.3 ***	12.8	-6.9	5.9	4.5	6.9
Hispanic	-39.7 ***	4.2	-28.7 ***	8.6	-15.8 **	5.0	0.1	5.5
Other	-11.8 *	6.0	-4.2	12.8	5.6	7.0	-3.6	8.7
Children								
Age of the youngest child	-11.1 ***	0.5	-17.4 ***	1.2	2.9 ***	0.6	1.1	0.7
Number of children under age13	2.2	1.8	-9.7 *	3.9	17.6 ***	2.2	12.9 ***	2.6
Presence of a son under age13	11.2 ***	3.2	31.8 ***	7.1	-1.7	3.8	-0.5	4.5
Having non-household children	16.5	10.2	6.5	23.7	8.7	11.8	39.1 **	13.4
Weekend diary day	-6.3 *	3.1	14.3 *	6.6	-27.8 ***	4.0	-30.6 ***	4.6
Intercept	-12.0	9.6	-45.1 *	21.2	-116.8 ***	12.0	-109.8 ***	13.8
Loglikelihood	-15352.3		-9020.0		-7317.1		-12729.3	
Censored n	3,614		4,769		5,005		4,351	

* $P<.05$ ** $P<.01$***$<.001$ (two-tailed)

Table 4.6 Means or Percentages of Independent Variables among Single fathers by Living Arrangement

	Total	Living by themselves	With parents	With other adults
Fathers' characteristics				
Education (%)				
High school or below	62.0	52.9 [a**]	78.4 [a**]	70.3 [c*]
Some College	24.8	25.9	17.1	27.5
College graduate	9.2	14.8 [a*c**]	2.0 [a*]	2.2 [c**]
Postgraduate	4.0	6.4	2.5	0.0 [c*]
Employment status (%)	75.5	79.8 [a**]	51.3 [a**b**]	82.8 [b**]
Age	35.1	37.6 [a**]	30.1 [a**]	33.2
	(8.4)	(7.6)	(12.0)	(11.1)
Race/ethnicity (%)				
Non-Hispanic White	62.9	68.6 [c**]	77.0 [b**]	41.1 [b**c**]
Black	18.2	21.1	12.4	15.8
Hispanic	17.1	7.7 [c**]	8.5 [b**]	43.1 [b**c**]
Other	1.8	2.5	2.1	
Children's characteristics				
Age of the youngest child	6.4	7.7 [a**c**]	4.2 [a**]	5.3 [c**]
	(3.5)	(3.2)	(4.5)	(4.6)
Number of children under age 13	1.4	1.3	1.4	1.4
	(0.6)	(0.6)	(0.8)	(0.8)
Presence of a son under age 13 (%)	63.4	61.7	61.6	68.5
Having non-household children (%)	5.1	6.3 [a**]	0.0 [a**]	6.0
Weekend diary day (%)	25.2	22.5 [c]	23.6	32.1 [c]
N	410	295	41	74

Note: Numbers in parentheses are standard deviations. Weighted means and percentages are reported.

[a]<.05, [a*] <.01, [a**] <.001 indicates means of single fathers living by themselves and fathers living with parents are significantly different

[b]<.05, [b*] <.01, [b**] <.001 indicates means of single fathers living with parents and fathers living with other adults are significantly different

[c]<.05, [c*] <.01, [c**] <.001 indicates means of single fathers living by themselves and fathers living with other adults are significantly different

Table 4.7 Single Fathers' Mean Minutes per Day in Childcare and Activities with Children by Living Arrangement

	Total	Living by themselves	With parents	With other adults
Panel A. Overall minutes per day				
Direct care time				
Total	55.3	71.8 [a**c**]	33.3 [a**]	35.1 [c**]
Physical	15.9	21.7 [a*c*]	6.7 [a*]	9.7 [c*]
Recreational	7.9	6.9	13.5	6.3
Educational	10.4	15.0 [a**c*]	2.5 [a**]	6.1 [c*]
Managerial	20.9	27.9 [a*c*]	10.7 [a*]	13.0 [c*]
Time with children	214.7	229.3 [a*]	147.3 [a*b]	230.1 [b]
Minding time	238.4	240.6	189.2	267.4
Panel B. Percent Reporting				
Direct care time				
Total	53.1	60.8 [a**]	32.0 [a**b]	51.3 [b]
Physical	33.9	39.1 [a]	24.1 [a]	29.4
Recreational	11.6	10.0	17.2	10.9
Educational	20.1	26.5 [a*c*]	10.2 [a*]	13.4 [c*]
Managerial	36.0	44.2 [a**c]	18.9 [a**]	30.4 [c]
Total time with children	74.4	76.5 [a**c*]	47.4 [a**b**]	88.4 [b**c*]
Minding time	76.7	75.0 [c]	68.3 [b]	85.9 [bc]
N	410	295	41	74

Note:Weighted means and percentages are reported.

[a]<.05, [a*] <.01, [a**] <.001 indicates means of single fathers living by themselves and fathers living with parents are significantly different

[b]<.05, [b*] <.01, [b**] <.001 indicates means of single fathers living with parents and fathers living with other adults are significantly different

[c]<.05, [c*] <.01, [c**] <.001 indicates means of single fathers living by themselves and fathers living with other adults are significantly different

Table 4.8 Tobit Coefficients in Models for Single Fathers' Minutes per Day in Direct Care Time with Children, and Minding Time (N=410)

	Direct care time		Time with children		Minding time	
	tobit	s.e.	tobit	s.e.	tobit	s.e.
A. Bivariate Model						
Single fathers' living arrangements (vs.living by themselves)						
living with parent(s)	-83.9 ***	19.2	-150.3 ***	39.3	-68.7	40.2
living with other adults	-53.7 ***	15.6	20.1	32.1	46.9	34.4
Intercept	38.9 ***	8.8	192.1 ***	18.5	198.0 ***	19.8
Loglikelihood	-1488.5		-2234.0		-2317.0	
B. Mutivariate Model						
Single fathers' living arrangements(vs.living by themselves)						
living with parent(s)	-75.5 ***	20.2	-129.2 **	40.5	-46.8	42.3
living with other adults	-47.2 **	17.3	35.4	35.0	60.9	38.0
Fathers						
Education(vs. High school and below)						
Some college	29.5	15.6	15.0	32.4	-15.5	35.0
College graduate	5.8	23.1	81.0	47.8	40.9	52.2
Postgraduate	18.6	31.8	-35.9	68.8	-41.6	75.1
Employment status	2.5	15.9	19.2	33.2	48.2	36.0
Age	2.6 **	0.9	3.3	1.8	1.7	1.9
Race/ethnicity (vs. non-Hispanic White)						
Black	8.6	17.0	44.8	35.7	102.9 **	38.5
Hispanic	-18.4	19.8	-55.8	39.9	-69.2	43.2
Other	63.6	44.5	176.8	96.2	70.7	105.2
Children						
Age of the youngest child	-6.1 **	2.2	-6.4	4.6	-5.1	4.9
Number of children under age 13	-2.3	11.0	12.4	22.4	13.3	24.4
Presence of a son under age 13	39.4 **	14.4	59.0 *	29.0	43.4	31.2
Having non-household children	75.7 **	29.0	16.9	61.9	57.3	67.9
Weekend diary day	-34.5 *	15.3	125.0 ***	30.5	113.6 ***	33.3
Intercept	-42.2	35.4	-0.8	71.2	46.4	75.5
Loglikelihood	-1469.2		-2214.8		-2303.6	
Censored n	188		100		110	

* P <.05 ** P <.01***<.001 (two-tailed)

Table 4.9 Tobit Coefficients in Models for Single fathers' Minutes per Day in Childcare Activities (N= 410)

	Physical		Recreational		Education		Managerial	
	tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.
A. Bivariate Model								
Single fathers' living arrangements(vs.living by themselves)								
living with parent(s)	-40.7 **	13.3	44.9	26.5	-61.5 **	18.8	-58.3 ***	15.1
living with other adults	-28.1 *	11.0	2.8	25.3	-42.0 **	14.8	-36.0 **	11.9
Intercept	-20.2 **	6.8	-166.9 ***	27.6	-51.9 ***	10.0	-12.0	7.0
Loglikelihood	-936.8		-390.9		-602.3		-1002.7	
B. Mutivariate Model								
Single fathers' living arrangements(vs.living by themselves)								
living with parent(s)	-53.2 ***	13.3	36.9	27.7	-62.9 **	20.5	-37.2 *	15.7
living with other adults	-36.1 **	11.8	-28.2	29.3	-18.2	16.2	-29.3 *	13.1
Fathers								
Education(vs. High school and below)								
Some college	14.5	9.9	17.3	24.9	8.3	14.7	16.0	11.7
College graduate	-9.7	15.6	44.1	35.3	21.8	18.9	9.8	17.0
Postgraduate	23.4	19.4	-7.2	54.3	18.3	26.3	17.2	23.4
Employment status	22.4 *	11.2	69.9 *	30.5	-65.5 ***	14.5	14.4	12.2
Age	1.3 *	0.6	2.4	1.4	0.4	0.8	1.0	0.6
Race/ethnicity (vs. non-Hispanic White)								
Black	-1.4	11.4	-74.8	40.9	1.7	14.6	40.0 **	12.3
Hispanic	-32.5 *	14.3	12.5	29.9	-13.2	19.2	12.6	15.0
Other	-5.9	30.3	76.8	54.0	-24.4	48.0	69.7 *	30.8
Children								
Age of the youngest child	-9.4 ***	1.6	-17.4 ***	4.2	4.5 *	2.2	-0.1	1.7
Number of children <13	0.3	7.1	-27.1	17.1	34.0 ***	10.1	1.1	8.6
Presence of a son <13	27.9 **	9.8	31.5	23.6	4.9	13.1	20.2	10.8
Having non-household children	36.8	19.9	56.6	57.0	8.3	24.7	58.0 **	20.6
Weekend diary day	-9.9	10.0	13.5	22.2	-57.8 ***	16.8	-43.3 ***	12.7
Intercept	-32.4	23.2	-177.9 **	61.2	-91.3 **	32.4	-88.7 **	27.8
Loglikelihood	-899.4		-369.2		-576.1		-978.0	
Censored n	269		363		346		261	

* P <.05 ** P <.01***<.001 (two-tailed)

Table 4.10 Comparison of Fathers' Mean Minutes per Day in Childcare and Activities with Children among Married, Cohabiting, and "Sole" Single Fathers

	Total	Married	Cohabiting	"Sole"single fathers
Direct care time				
Total	67.3	68.3	61.4	71.8
Physical	20.3	20.8 [a]	13.4 [ab]	21.7 [b]
Recreational	18.7	19.1 [c*]	25.7 [b**]	6.9 [b**c*]
Educational	7.9	7.8 [c**]	6.0 [b*]	15.0 [b*c**]
Managerial	19.6	19.7 [c]	16.3 [b]	27.9 [bc]
Time with children	275.2	278.4 [c*]	288.9 [b*]	229.3 [b*c*]
Minding time	275.2	276.2	307.1 [b*]	240.6 [b*]
N	5,986	5,411	165	295

Note:Weighted means are reported. Statistics use weighted data.

[a]<.05, [a*] <.01, [a**] <.001 indicates means of married fathers and cohabiting fathers are significantly different

[b]<.05, [b*] <.01, [b**] <.001 indicates means of cohabiting fathers and single fathers are significantly different

[c]<.05, [c*] <.01, [c**] <.001 indicates means of married fathers and single fathers are significantly different

Table 4.11 Comparison of Fathers' Mean Minutes per Day in Childcare and Activities with Children among Married, Cohabiting, and "Sole" Single Fathers

	N	Direct care time		Time with children		Minding time	
		tobit	s.e.	tobit	s.e.	tobit	s.e.
A. Marital status of fathers (vs. married fathers)	5,986						
Cohabiting		1.9	10.9	-4.1	16.8	20.1	19.2
Single fathers		-2.9	8.8	-66.0 ***	13.7	-50.8 **	15.7
B.Marital status of fathers (vs. married fathers)	5,871						
Cohabiting		1.3	10.9	-5.4	16.7	19.2	19.2
Sole single fathers		32.0 **	11.2	-28.3	17.7	-44.6 *	20.5
C. Marital status of fathers (vs. married fathers)	5,986						
Cohabiting		1.2	10.9	-5.0	16.7	19.7	19.2
Sole Single fathers		31.5 **	11.2	-28.8	17.8	-45.3 *	20.5
Single fathers living with parent(s)		-27.0	16.8	-47.0	25.1	-3.0	29.0
Single fathers living with other adults		-92.2 ***	21.9	-228.2 ***	32.8	-144.3 ***	36.0

Note: Each model controls for fathers' education, employment status, age, race/ethnicity, age of youngest child, number of children, presence of a son, having non-household children, and weekend diary day.

Table 4.12 Comparison of Tobit Coefficients in Models for Single Fathers' Minutes per Day in Childcare Activities

	N	Physical		Recreational		Education		Managerial	
		tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.
A. Marital status of fathers (vs. married fathers)	5,986								
Cohabiting		-3.8	8.1	33.0 *	16.5	-9.4	10.7	0.3	11.4
Single fathers		12.4	6.5	-36.3 *	16.0	13.6	7.2	16.1	8.6
B. Marital status of fathers (vs. married fathers)	5,871								
Cohabiting		-4.0	8.2	31.9	16.6	-9.4	10.8	0.4	11.5
Sole single fathers		34.8 ***	8.2	-31.7	22.1	26.4 **	8.8	35.2 **	10.8
C. Marital status of fathers (vs. married fathers)	5,986								
Cohabiting		-4.4	8.1	33.0 *	16.5	-9.6	10.7	-0.2	11.4
Sole Single fathers		34.3 ***	8.2	-30.1	22.0	26.2 **	8.7	34.3 **	10.8
Single fathers living with parent(s)		-4.4	12.8	-54.3	30.9	5.1	14.8	-0.2	17.0
Single fathers living with other adults		-41.6 **	16.0	-29.5	32.0	-32.6	20.2	-33.6	22.4

Note: Each model controls for fathers' education, employment status, age, race/ethnicity, age of youngest child, number of children, presence of a son, having non-household children, and weekend diary day.

Table 5.1 Means or Percentages of Selected Characteristics of Fathers by Fathers' Resident Status

	Non-resident fathers	Resident fathers
Education (%)		
High school or below	65.8	43.3
Some College	22.6	24.4
College graduate	8.2	20.8
Postgraduate	3.4	11.6
Employment status (%)	83.1	91.7
Age	35.4	37.2
	(8.2)	(7.8)
Race/ethnicity (%)		
Non-Hispanic White	54.5	64.9
Non-Hispanic Black	29.2	9.5
Hispanic	14.4	19.9
Other	2.0	5.7
Age of youngest child (non-household/ household)	7.6	4.9
	(4.5)	(3.8)
Number of children under age 13 (nhh/ hh)	1.5	1.7
	(0.8)	(0.8)
Presence of a son under age 13 (nhh/hh) (%)	55.9	71.9
Having both household and nonhousehold children (%)	33.6	2.0
N	282	5,986

Notes: Numbers in parentheses are standard deviations. Weighted means and percentages are reported. Test of significance is not conducted because the two samples are not independent from each other.

Source: American Time Use Survey 2003 - 2005

Table 5.2 Means or Percentages of Selected Characteristics of Non-resident Fathers in the ATUS, the NSFH and the NSFG

	ATUS 2003-2005	NSFH 1987-1988	NSFG 2002
Education (%)			
Below high school	18.1	18	21.3
High school graduate	45.0	39.9	40.4
Some College	21.9	27.9	34.3[a]
College graduate	15.0	14.1	
Age[b] (%)			
15-29	24.0[c]	---	20.9
30-44	62.9	---	79.1
45+	13.1		---
Mean age	37.1	36.1	---
Race/ethnicity (%)			
Non-Hispanic White	56.8	69.6	43.1
Non-Hispanic Black	26.0	20.5	23.6
Hispanic	14.2	9.9	25.6
Other	3.0		7.7
Age of youngest child/Age of the focal child	9.1	10.3	---
Presence of a son /Gender of the focal child	57.4	52.8	---
N	380	649	629

[a] The number includes some college or higher education [b] The sample in the NSFG only includes men 15-44 years of age [c] The minimum age of ATUS fathers is 18.

Note: Standard deviations are not available for the NSFH and the NSFG data.

Source:Manning, W. D., S. D. Stewart, and P. J. Smock. 2003. "The Complexity of Fathers' Parenting Responsibilities and Involvement With Nonresident Children." Journal of Family Issues 24(5):645-67 ; Martinez GM, Chandra A, Abma JC, Jones J, Mosher WD.2006. Fertility, contraception, and fatherhood: Data on men and women from Cycle 6 (2002) of the National Survey of Family Growth. National Center for Health Statistics. Vital Health Stat 23(26).

Table 5.3 Non-resident and Resident fathers' Mean Minutes per Day in Childcare and Activities with Children

	Non-resident fathers	Resident fathers
Panel A. Overall minutes per day		
Direct care time	21.3	67.3
Physical	2.0	20.3
Recreational	8.0	18.7
Educational	2.4	7.9
Managerial	8.8	19.6
Time with children	77.1	275.2
Minding time	231.5	275.2
Panel B. Percent reporting		
Direct care time	18.9	60.5
Physical	4.5	38.6
Recreational	5.3	19.1
Educational	2.9	16.5
Managerial	13.1	29.1
Time with children	24.7	90.1
Minding time	65.5	83.8
N	282	5,986

Notes:Weighted means and percentages are reported. Test of significance is not conducted because the two samples are not independent from each other.

Table 5.4 Percentage Distributions of Non-resident and Resident Fathers' Time in Childcare Activities

	Non-resident fathers	Resident fathers
Physical	9.6	30.5
Recreational	37.6	28.1
Educational	11.2	11.8
Managerial	41.6	29.6
Total (%)	100.0	100.0
N	282	5,986

Note:Weighted percentages are reported.

Table 5.5 Mean Minutes per day in Childcare for Fathers with Both Household and Non-Household Children, Fathers with Non-household Children, and Fathers with Household Children

	Fathers with both household and non-household children			All fathers with non-household children		All fathers with household children	
				With non-household children only	Total	With household children only	Total
Childcare time for types of children	Household children	Non-household children	All children combined	Non-household children	Non-household children	Household children	Household children
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Overall minutes per day							
Direct care time	82.4	5.1	87.6	29.4	21.3	67.0	67.3
Time with children	254.6	31.1	285.8	100.3	77.1	275.6	275.2
Minding time	--	--	--	211.8	231.5	275.3	275.2
Percent reporting							
Direct care time	61.4	10.4	62.7	23.2	18.9	60.4	60.5
Time with children	80.9	19.5	84.3	27.3	24.7	90.3	90.1
Minding time	--	--	--	54.7	65.5	83.7	83.8
N	113			169	282	5,873	5,986

Notes: Weighted means and percentages are provided. The ATUS does not separate minding time for own household children and non-household children under age 13 until 2004.

Table 5.6 Percentage Distribution of Episodes by Report of Minding Time and Presence of Children: Non-resident Fathers vs. Resident Fathers

			Percent of all episodes (%)				
			Reporting minding time		Not reporting minding time		
Non-resident fathers	Percent of minding time episodes with a child under age 13 present(%)	Percent of minding time providing direct care (%)	With a nonhh child	Not with a nonhh child	With a nonhh child	Not with a nonhh	Total
	58.9	21.5	11.6	8.1	0.8	79.6	100%
Resident fathers			With an own hh child	Not with an own hh child	With an own hh child	Not with an own hh	Total
	64.2	19.1	13.8	7.7	22.4	56.1	100%

Note: Fathers with both nonhousehold children and household children are not included in this analysis.

Table 5.7 Mean or Percentages of Independent Variables among Non-resident Fathers by Marital status

	Total	Divorced	(Re)married	Never-married
Fathers' characteristics				
Education (%)				
High school and below	65.8	63.2	62.6	72.1
Some College	22.6	20.6	20.7	26.8
College graduate	8.2	12.4 ^{c**}	11.5 ^{b*}	0.2 ^{b*c**}
Postgraduate	3.4	3.9	5.3	0.8
Employment status (%)	83.1	78.5	84.8	85.9
Mean weekly earnings	594.0	602.4	687.1 ^{b*}	479.8 ^{b*}
	(514.4)	(539.8)	(563.6)	(350.8)
Weekly earnings distribution(%)				
<=$500	46.7	44.9	42.4	53.4
$501-$1000	41.2	41.8	38.8	43.2
>$1000	12.1	13.3 ^{c}	18.8 ^{b*}	3.4 ^{cb*}
Work hours	37.0	33.4 ^{a}	40.5 ^{a}	36.8
	(19.4)	(18.1)	(20.1)	(19.3)
Wage rate per hour	13.6	14.1	14.9	11.5
	(12.3)	(13.3)	(12.6)	(10.1)
Age	35.4	37.0 ^{c**}	38.1 ^{b**}	30.6 ^{b**c**}
	(8.2)	(7.7)	(6.8)	(8.4)
Race/ethnicity				
Non-Hispanic White	54.5	72.9 ^{ac**}	58.1 ^{ab**}	31.5 ^{b**c**}
Non-Hispanic Black	29.2	14.8 ^{c**}	21.8 ^{b**}	52.2 ^{b**c**}
Hispanic	14.4	11.2	15.5	16.3
Other	2.0	1.1	4.6 ^{b}	0.0 ^{b**}
Children's characteristics				
Age of youngest nonhousehold child	7.6	6.7 ^{a**c*}	10.6 ^{a**b**}	5.1 ^{b**c*}
	(4.5)	(3.5)	(3.9)	(4.2)
Number of children under age 13 (nhh)	1.5	1.7 ^{c}	1.5	1.4 ^{c}
	(0.8)	(0.8)	(0.8)	(0.7)
Presence of a son under age13 (nhh)	0.6	0.7 ^{a*c**}	0.5 ^{a*}	0.5 ^{c**}
Having both household and nonhousehold children	33.6	11.8 ^{a**}	71.0 ^{a**b**}	13.3 ^{b**}
Weekend diary day	0.3	0.3	0.4	0.3
N	282	104	107	71

Notes: Numbers in parentheses are standard deviations. Weighted means and percentages are reported.

^{a}<.05, ^{a*} <.01, ^{a**} <.001 indicates means of divorced fathers and (re)married fathers are significantly different

^{b}<.05, ^{b*} <.01, ^{b**} <.001 indicates means of (re)married fathers and never-married fathers are significantly different

^{c}<.05, ^{c*} <.01, ^{c**} <.001 indicates means of divorced fathers and never-married fathers are significantly different

Table 5.8 Non-resident fathers' Mean Minutes per Day in Childcare and Activities for Non-household Children by Marital Status

	Total	Divorced	(Re)married	Never married
Panel A. Overall minutes per day				
Direct care time				
Total	21.3	44.9 [a**]	5.5 [a**]	15.0
Physical	2.0	3.4 [a*]	0.0 [a*]	2.9
Recreational	8.0	21.7 [a**c*]	0.0 [a**]	3.1 [c*]
Educational	2.4	6.7	0.0	0.7
Managerial	8.8	13.0	5.5	8.4
Time with children	77.1	142.8 [a**c*]	42.1 [a**]	49.5 [c*]
Minding time	231.5	247.0	243.9	201.6
Panel B. Percent reporting				
Direct care time				
Total	18.9	26.5 [a**]	8.7 [a**b*]	22.7 [b*]
Physical	4.5	11.8 [ca**]	0.0 [a**]	2.2 [c]
Recreational	5.3	13.1 [ca*]	0.0 [a**]	3.4 [c]
Educational	2.9	5.6 [a]	0.0 [a]	3.5
Managerial	13.1	13.1	8.7	18.2
Time with children	24.7	30.0	18.9	25.8
Minding time	65.5	54.9 [a*]	74.8 [a*]	65.8
N	282	104	107	71

Note: Weighted means and percentages are reported.

[a]<.05, [a*] <.01, [a**] <.001 indicates means of divorced fathers and (re)married fathers are significantly different

[b]<.05, [b*] <.01, [b**] <.001 indicates means of (re)married fathers and never-married fathers are significantly different

[c]<.05, [c*] <.01, [c**] <.001 indicates means of divorced fathers and never-married fathers are significantly different

Table 5.9 Tobit coefficients in Models for Non-resident Fathers' Minutes per Day in Direct Care, Time with Children, and Minding Time (N=282)

	Direct care time		Time with children		Minding time	
	tobit	s.e.	tobit	s.e.	tobit	s.e.
Panel A.						
Marital status (vs. Divorced)						
(Re)married	-172.6 ***	45.1	-270.1 **	95.8	49.8	55.9
Never married	-64.0	38.1	-181.7	94.4	-20.5	58.0
Intercept	-102.2 **	32.4	-193.3 *	75.3	135.1 ***	42.0
Loglikelihood	-433.2		-620.8		-1434.6	
Panel B.						
Marital status (vs. Divorced)						
(Re)married	-134.3 **	50.2	-206.4	110.5	-92.6	64.8
Never married	-38.0	45.7	-23.1	106.8	-32.7	64.1
Fathers						
Education (vs.High school or below)						
Some College	-2.1	39.3	-14.9	91.1	78.0	53.7
College graduate	74.0	58.8	277.6 *	129.5	186.5 *	81.3
Postgraduate	104.7	87.4	233.1	197.0	300.9 *	117.2
Employment status	-87.3 *	42.2	-319.3 ***	94.9	-261.7 ***	57.9
Age	-3.3	2.6	-9.0	5.6	-11.4 ***	3.4
Race/ethnicity (vs. non-Hispanic White)						
Black	-86.0 *	42.1	-213.1 *	94.2	54.0	54.1
Hispanic	-143.6 *	60.2	-232.0	122.0	-16.7	65.7
Other	-50.5	138.0	169.1	246.3	240.6	145.7
Non-household Children						
Age of the youngest child	-3.7	5.6	5.7	12.1	7.4	7.0
Number of children	64.1 **	21.1	132.3 **	48.7	75.2 *	29.8
Presence of a son	-65.7	35.2	-22.2	78.1	26.8	44.9
Having household children	-20.9	44.8	-28.5	101.1	223.9 ***	59.6
Weekend diary day	91.9 **	34.7	209.9 **	77.6	66.6	46.0
Intercept	43.4	93.1	108.4	210.2	466.9 ***	131.7
Loglikelihood	-415.8		-603.5		-1406.8	
Censored n	231		210		81	

* P <.05 ** P <.01***<.001 (two-tailed)

Table 6.1 Means or Percentages of Characteristics of Employed Fathers in Two-parent Families with children under age 13 (N=4,917)

	Mean/Percentage	(S.D)
Fathers' Characteristics		
Age	37.5	(7.4)
Race/ethnicity (%)		
Non-Hispanic White	67.2	
Non-Hispanic Black	8.0	
Hispanic	19.2	
Other	5.6	
Mean work hours	46.8	(11.0)
Work hours distributions (%)		
Part-time[a] (1-34 hours)	6.9	
Full-time (35-49 hours)	56.2	
Over-time (50+ hours)	37.0	
Education (%)		
High school or below	38.8	
Some College	24.7	
College graduate	23.3	
Postgraduate	13.2	
Occupation schedules		
Flexible schedule occupation (%)	43.9	
Shift work occupation (%)	39.5	
Spouses' Characteristics		
Employment status (%)	63.0	
Education (%)		
High school or below	35.8	
Some College	26.4	
College graduate	26.5	
Postgraduate	11.4	
Fathers relative to mothers		
The relative education (%)		
H>W	30.3	
H=W	38.3	
H<W	31.4	
Children's Characteristics		
Mean age of the youngest child	4.8	(3.7)
Age distributions (%)		
Ages 0-2	34.6	
Ages 3-5	24.8	
Ages 6-12	40.6	
Number of household children under age 13	1.8	(0.8)
Presence of a son under age 13 (%)	66.8	
N	4,917	

[a] Include hours vary workers (about 3.1% of the sample)

Note: Weighted percentages and means are provided.
Source: American Time Use Survey 2003- 2005

Table 6.2 Mean Minutes per day in Childcare and Activities with Children of Fathers in Two-Parent Families by Age of Youngest Child

	0-2	3-5	6-12
Panel A. Overall minutes per day			
Direct care			
Total	89.2 [a**c**]	69.0 [a**b**]	42.3 [b**c**]
Physical	36.7 [a**c**]	18.2 [a**b**]	7.4 [b**c**]
Recreational	30.4 [a**c**]	21.3 [a**b**]	6.7 [b**c**]
Educational	5.6 [a*c**]	7.7 [a*]	8.2 [c**]
Managerial	15.7 [a*c]	21.5 [a*]	19.1 [c]
Time with children	308.9 [a**c**]	276.3 [a**b**]	236.3 [b**c**]
Minding time	266.2	269.3	269.7
Panel B. Percent Reporting			
Direct care time			
Total	69.9 [a*c**]	64.5 [a*b**]	50.1 [b**c**]
Physical	54.7 [a**c**]	43.3 [a**b**]	22.3 [b**c**]
Recreational	30.2 [a**c**]	20.7 [a**b**]	8.5 [b**c**]
Educational	13.3 [a**c*]	19.2 [a**]	16.6 [c*]
Managerial	23.2 [a**c**]	32.2 [a**]	30.0 [c**]
Time with children	93.8 [c**]	92.1 [b**]	88.2 [bc**]
Minding time	85.4 [c]	84.3	82.3 [c]
N	1,703	1219	1,995

Note: Weighted means and t-test results are provided.

[a]<.05, [a*] <.01, [a**] <.001 indicates means of fathers with children ages 0-2 and fathers with children ages3-5 are significantly different

[b]<.05, [b*] <.01, [b**] <.001 indicates means of fathers with children ages 3-5 and fathers with children ages6-12 are significantly different

[c]<.05, [c*] <.01, [c**] <.001 indicates means of fathers with children ages 0-2 and fathers with children 6-12 are significantly different

Table 6.3 Tobit Coefficients for Age of Youngest Child in Models for Minutes per Day in Direct Care, Time with Children, and Minding Time of Fathers in Two-Parent Families (N= 4,917)

	Direct care time		Time with children		Minding time	
	tobit	s.e.	tobit	s.e.	tobit	s.e.
Model A						
Age of youngest child (vs. ages 0-2)						
ages 3-5	-25.4 ***	5.4	-36.0 ***	8.5	-2.5	10.1
ages 6-12	-69.0 ***	5.8	-73.7 ***	9.0	0.7	10.7
Model B						
Age of youngest child (in years)	-10.0 ***	0.7	-9.5 ***	1.1	0.03	1.3

Note: All models control for maternal employment, maternal education, relative education of fathers and mothers, fathers' age, work hours, occupation, number of children in a family, presence of a son under age 13, fathers' race/ethnicity, and weekend diary day

* $P < .05$ ** $P < .01$ *** $P < .001$ (two-tailed)

Table 6.4 Tobit Coefficients for Age of Youngest Child in Models for Minutes per Day in Childcare Activities of Fathers in Two-Parent Families (N=4,917)

	Physical		Recreational		Educational		Managerial	
	tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.
Model A								
Age of youngest child (vs. ages 0-2)								
ages 3-5	-32.6 ***	4.0	-35.6 ***	8.5	18.6 ***	4.8	26.3 ***	6.0
ages 6-12	-75.5 ***	4.6	-128.6 ***	10.4	19.8 ***	5.1	19.7 **	6.3
Model B								
Age of youngest child (in years)	-11.3 ***	0.6	-17.4 ***	1.3	1.9 **	0.6	1.4	0.8

Note: All models control for maternal employment, maternal education, relative education of fathers and mothers, fathers' age, work hours, occupation, number of children in a family, presence of a son under age 13, fathers'
* $P<.05$ ** $P<.01$ *** $P<.001$ (two-tailed)

Table 6.5 Mean Minutes per day in Direct Care, Time with Children, and Minding Time of Fathers in Two-Parent Families by Gender Composition of Children's Sibship

	N	%	Direct care time		Time with children		Minding time	
			Mean	% reporting	Mean	% reporting	Mean	% reporting
Have a son under age 13	4,917	100.0						
Yes	3,327	67.7	70.9	63.2	278.2	91.7	269.7	83.8
No	1,590	32.3	54.1 ***	55.5 ***	255.7 ***	89.9 *	262.4	83.7
Son in different ages								
Presence of a son in ages 0-2	4,917	100.0						
Yes	930	19.2	94.2	71.4	307.3	94.7	263.1	83.5
No	3,987	80.8	58.1 ***	58.0 ***	261.5 ***	90.2 ***	268.3	83.8
Presence of a son in ages 3-5	4,917	100.0						
Yes	999	20.4	85.9	67.7	294.3	91.5	270.2	84.5
No	3,918	79.6	60.5 ***	59.0 ***	265.2 ***	91.0	266.6	83.6
Presence of a son in ages 6-12	4,917	100.0						
Yes	1,992	40.2	57.8	59.0	263.9	90.6	271.2	83.2
No	2,925	59.8	70.3 ***	61.8	275.3	91.4	264.7	84.2
Sibship (in three family types)								
One child family	1,391	100.0						
Only son	701	48.4	65.0	58.2	269.4	91.0	271.9	83.2
Only daughter	690	47.7	55.8	56.7	257.3	90.3	264.4	85.1
Two children family	2,240	100.0						
Two sons [a]	576	25.7	78.1	63.4	290.5	90.4	277.4	86.3
One son, one daughter	1,151	50.5	66.7 *	64.6	265.9 *	91.9	254.1 *	83.5
Two daughters	513	22.5	55.6 ***	57.1 *	256.6 *	90.3	267.1	84.1
3+ children in a family	730	100.0						
Number of sons >=3	253	19.3	77.2 **	63.4 *	280.2	88.5	261.5	77.4
Number of sons =2	477	36.4	68.3 *	61.9 *	268.0	92.7 *	255.6	83.2
Number of sons =1	404	30.8	68.4 *	62.6 *	298.6	93.5	293.1	85.2
No sons[a]	152	20.8	50.8	51.8	267.7	87.8	292.0	81.2
Gender of the first-born child	4,917	100.0						
Son	2,499	49.6	71.5	61.8	280.2	91.5	272.7	84.4
Daughter	2,418	48.0	59.2 ***	59.6	261.4 **	90.7	261.8	83.1

[a] Reference category for the t-test

Note: Weighted percentages and means are provided.

* $P < .05$ ** $P < .01$ *** $P < .001$ (two-tailed)

Table 6.6 Mean Minutes per day in Childcare Activities of Fathers in Two-Parent Families by Gender Composition of Children's Sibship

	Physical		Recreational		Educational		Managerial	
	Mean	% reporting	Mean	% reporting	Mean	% reporting	Mean	% reporting
Have a son under age 13								
Yes	22.6	41.8	21.2	20.8	7.6	16.3	19.0	28.1
No	16.1 ***	33.4 ***	13.4 ***	16.0 ***	6.3 *	15.0	17.1	28.1
Son in different ages								
Presence of a son in ages 0-2								
Yes	40.0	55.8	33.4	32.5	5.5	12.6	14.3	20.7
No	15.5 ***	34.8 ***	14.9 ***	15.8 ***	7.6 *	16.7 **	19.4 **	30.0
Presence of a son in ages 3-5								
Yes	26.0	50.5	30.1	25.6	8.2	19.2	21.4	28.8
No	19.1 ***	36.3 ***	15.9 ***	17.7 ***	6.9	15.1 **	17.6	28.0
Presence of a son in ages 6-12								
Yes	14.5	34.0	12.6	13.9	9.7	18.5	20.6	31.0
No	24.3 ***	42.4 ***	22.6 ***	22.6 ***	5.5 ***	14.2 ***	16.9 **	26.2
Sibship (in three family types)								
One child family								
Only son	19.3	36.1	27.3	24.2	4.9	10.6	12.5	23.1
Only daughter	19.6	35.5	17.1 ***	20.3	5.3	12.3	13.2	25.5
Two children family								
Two sons	30.1	42.9	19.9	22.2	8.1	18.0	19.6	27.0
One son, one daughter	19.0 ***	42.3	17.8	18.5 *	7.7	18.5	20.6	31.3
Two daughters	16.0 ***	37.7	12.1 **	14.1 *	6.9	17.9	20.6	31.2
3+ children in a family								
Number of sons >=3	23.8	39.8	16.7	19.2	14.2	21.4	21.6 *	28.5
Number of sons =2	17.6	38.1	19.9	15.3	9.0	19.1	21.8 *	28.8
Number of sons =1	23.3	41.6	16.0	18.2	5.0	12.0	23.7 *	30.8
No sons	16.0	32.3	14.4	15.7	8.8	16.6	11.5	25.3
Gender of the first-born child								
Son	22.7	39.7	21.2	20.7	7.8	16.4	18.7	28.0
Daughter	18.2 **	38.5	16.1 ***	17.7 *	6.6	15.3	18.0	28.2

Note: Weighted percentages and means are provided.

* $P < .05$ ** $P < .01$ *** $P < .001$ (two-tailed)

Table 6.7 Tobit Coefficients of Gender Composition of Children's Sibship in Models for Minutes per Day in Direct Care time, Time with Children, and Minding time of Fathers in Two-Parent Families

	N	Direct care time		Time with children		Minding time	
		Tobit	s.e.	Tobit	s.e.	Tobit	s.e.
Model 1	4,917						
Presence of a son		29.2 ***	4.6	27.5 ***	6.8	13.4	8.0
Model 2	4,917						
Presence of a son in ages 0-2		51.1 ***	5.4	47.3 ***	8.4	-1.4	10.0
Presence of a son in ages 3-5		41.5 ***	5.3	28.4 ***	8.2	6.2	9.7
Presence of a son in ages 6-12		1.4	4.5	12.7	6.9	16.0 *	8.2
Model 3	1,391						
One child family : only son vs. only daughter		12.6	7.6	14.7	11.6	11.7	13.5
Model 4	2,240						
Two children family (vs. Two sons)							
One son, one daughter		-10.8	7.8	-21.7	11.7	-27.7 *	13.6
Two daughters		-32.8 ***	9.3	-37.9 **	13.8	-20.2	16.1
Model 5	1,286						
3+ children in a family (vs. No sons)							
Number of sons >=3		49.4 **	16.7	29.2	22.9	-19.2	28.2
Number of sons =2		37.6 *	15.3	25.1	20.9	-18.7	25.8
Number of sons =1		32.3 *	15.6	45.7 *	21.2	13.7	26.1
Model 6	4,197						
Gender of the first-born child (Son/daughter)		15.4 ***	4.2	18.6 **	6.4	12.9	7.5

Note: All models control for maternal employment, fathers' education, work hours, occupation, age, race/ethnicity, weekend diary day
* $P<.05$ ** $P<.01$ *** $P<.001$ (two-tailed)

Table 6.8 Tobit Coefficients of Gender Composition of Children's Sibship in Models for Minutes per Day in Childcare Activities of Fathers Two-Parent Families

	N	Physical		Recreational		Educational		Managerial	
		Tobit	s.e.	Tobit	s.e.	Tobit	s.e.	Tobit	s.e.
Model 1	4,917								
Presence of a son		20.8 ***	3.5	35.6 ***	7.6	6.7	3.9	3.3	4.7
Model 2	4,917								
Presence of a son in ages 0-2		46.2 ***	4.0	66.2 ***	8.3	-7.9	5.0	-20.9 ***	6.2
Presence of a son in ages 3-5		26.6 ***	3.9	51.3 ***	8.2	16.0 ***	4.5	12.3 *	5.6
Presence of a son in ages 6-12		-5.5	3.5	-23.3 **	7.7	17.4 ***	3.9	9.3 *	4.7
Model 3	1,391								
One child family : only son vs. only daughter		3.6	6.3	29.9 *	11.8	-7.9	7.6	-9.2	6.8
Model 4	2,240								
Two children family (vs. Two sons)									
One son, one daughter		-16.2 **	6.1	-16.3	12.1	-0.4	5.6	11.7	8.2
Two daughters		-26.0 ***	7.3	-51.7 ***	15.1	-2.7	6.7	13.4	9.6
Model 5	1,286								
3+ children in a family (vs. No sons)									
Number of sons >=3		20.1 *	10.2	43.5	28.5	16.4	14.4	20.2	18.1
Number of sons =2		11.0	9.5	32.5	26.4	4.8	13.4	21.6	16.7
Number of sons =1		24.1 *	9.5	32.3	26.6	-23.7	14.1	29.9	16.8
Model 6	4,197								
Gender of the first-born child (Son/daughter)		7.6 *	3.2	21.0 **	6.9	4.9	3.6	-0.7	4.4

Note: All models control for maternal employment, fathers' education, work hours, occupation, age, race/ethnicity, weekend diary day

* P <.05 ** P <.01***P <.001 (two-tailed)

Table 6.9 Tobit Coefficients in Models for Childcare Time of Fathers in Two-Parent Families: Interaction of Gender Composition of the Sibship and Fathers' Education

	N	Direct care time		Time with children		Minding time	
		Tobit	s.e.	Tobit	s.e.	Tobit	s.e.
Model 1	4,917						
Presence of a son		14.5	18.2	23.6	26.2	-14.6	31.3
Fathers' education		8.1 ***	1.5	4.9 *	2.2	4.1	2.6
Presence of a son * Fathers' education		1.5	1.6	0.7	2.4	2.7	2.9
Model 2	4,917						
Presence of a son in ages 0-2		9.3	20.7	37.3	30.5	-27.7	37.0
Presence of a son in ages 3-5		57.4 **	20.8	28.5	31.2	17.7	37.4
Presence of a son in ages 6-12		17.7	17.3	9.3	25.3	-28.5	30.3
Fathers' education		8.7 ***	1.3	4.7 *	2.0	3.9	2.4
A son in ages 0-2 * Fathers' education		**3.9** *	1.9	1.2	2.8	2.6	3.3
A son in ages 3-5 * Fathers' education		-1.3	1.9	0.2	2.8	-0.9	3.4
A son in ages 6-12 * Fathers' education		-1.4	1.6	0.4	2.3	4.3	2.8
Model 3	1,391						
One child family : only son vs. only daughter		-6.8	32.3	7.7	47.7	39.7	55.9
Fathers' education		10.4 ***	2.3	7.7 *	3.4	8.8 *	4.0
Only son * Fathers' education		1.6	2.9	1.1	4.3	-3.1	5.1
Model 4	2,240						
Two children family (vs. Two sons)							
One son, one daughter		-4.2	31.7	-17.3	45.5	-148.4 **	53.4
Two daughters		-40.8	37.3	-16.6	53.5	-23.5	62.2
Fathers' education		9.0 ***	2.3	5.2	3.3	-3.4	3.9
One son, one daughter* Fathers' education		-0.8	2.8	-0.5	4.1	**11.0** *	4.8
Two daughters * Fathers' education		0.6	3.4	-2.3	4.9	0.0	5.7
Model 5	1,286						
3+ children in a family (vs. No sons)							
Number of sons >=3		100.3 *	48.7	110.2	63.8	-29.5	79.1
Number of sons =2		92.4	48.5	-9.9	63.7	-131.7	79.4
Number of sons =1		113.6 *	52.5	43.8	69.8	-98.9	87.4
Fathers' education		13.9 ***	3.9	6.6	5.2	5.6	6.4
Number of sons >=3* Fathers' education		-6.2	4.4	-6.7	6.0	4.1	7.4
Number of sons =2* Fathers' education		-5.4	4.4	3.1	5.9	10.7	7.4
Number of sons =1* Fathers' education		-6.3	4.7	-1.5	6.5	8.2	8.1
Model 6	4,197						
Gender of the first-born child (Son/daughter)		5.2	16.9	-4.0	24.4	-14.0	29.1
Fathers' education		8.9 ***	1.2	4.4 *	1.8	4.8 *	2.1
First-born son*Fathers' education		1.0	1.5	2.4	2.2	2.4	2.7

Note: All models control for maternal employment, work hours, occupation, age, race/ethnicity, weekend diary day

* $P<.05$ ** $P<.01$ *** $P<.001$ (two-tailed)

Table 6.10 Tobit Coefficients of Gender Composition of Children's Sibship in Models for Minutes per Day in Direct Childcare and Minding time of Fathers in Two-Parent Families by Fathers' Education

	High school or below		Some college		College graduate		Postgraduate	
	tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.
Panel A. Fathers' direct care								
Presence of a son in age 0-2	39.2 ***	10.0	68.4 ***	11.6	55.1 ***	9.2	27.7 *	13.5
Presence of a son in age 3-5	55.5 ***	9.5	31.8 **	11.3	29.9 **	9.3	37.0 **	12.3
Presence of a son in age 6-12	6.2	8.1	9.4	9.4	-12.5	8.3	-5.5	10.8
N	1,569		1,241		1,305		779	
Panel B. Fathers' minding time								
Two children family (vs. Two sons)								
One son, one daughter	-52.3 *	24.8	-60.7 *	24.7	0.9	26.1	42.1	36.7
Two daughters	-25.9	28.2	-50.3	29.3	28.2	31.9	-3.9	44.0
N	668		591		616		365	

Note: All models control for maternal employment, fathers' work hours, occupation, age, race/ethnicity, weekend diary day
* P <.05 ** P <.01***P <.001 (two-tailed)

Table 7.1 Means or Percentages of Selected Characteristics of Employed Fathers in Two-Parent Families with children underage 13 by Wife's Employment Status

	All	Wife not employed	Wife employed
Fathers' characteristics			
Age	37.5	36.7	38.1 ***
	(7.4)	(7.8)	(7.1)
Race/ethnicity (%)			
Non-Hispanic White	67.2	61.3	70.7 ***
Non-Hispanic Black	8.0	6.7	8.8 **
Hispanic	19.2	25.9	15.2 ***
Other	5.6	6.1	5.4
Mean work hours	46.8	46.9	46.7
	(11.0)	(10.9)	(11.1)
Work hours distributions (%)			
Part-time[a] (1-34 hours)	6.9	6.6	7.0
Full-time (35-49 hours)	56.2	54.3	57.3 *
Over-time (50+ hours)	37.0	39.1	35.7 *
Occupation schedules			
Flexible schedule occupation (%)	43.9	43.1	44.5
Shift work occupation (%)	39.5	39.1	39.8
Spouses' Characteristics			
Education (%)			
High school or below	35.8	43.5	31.3 ***
Some College	26.4	23.5	28.0 ***
College graduate	26.5	24.6	27.6 *
Postgraduate	11.4	8.4	13.1 ***
Fathers relative to mothers			
The relative education (%)			
H>W	30.3	38.1	25.8 ***
H=W	38.3	35.3	40.1 ***
H<W	31.4	26.6	34.1 ***
Children's characteristics			
Age of the youngest child	4.8	3.9	5.4 ***
	(3.7)	(3.5)	(3.7)
Number of children under age 13	1.8	2.0	1.6 ***
	(0.8)	(1.0)	(0.7)
Presence of a son under age 13 (%)	66.8	70.9	64.5 ***
N	4,917	1,771	3,146

[a] Include hours vary workers (about 3.1% of the sample)

Note: Numbers in parentheses are standard deviations.Weighted percentages and means are provided.

*P <.05 ** P <.01***P <.001 indicates means of fathers with employed wives and fathers with nonemployed wives are significantly different

Table 7.2 Mean Minutes per day in Childcare and Activities with Children of Fathers in Two-Parent Families by Wife's Employment Status

	All fathers	Wife not employed	Wife employed
Panel A. Overall minutes per day			
Direct care time			
Total	65.6	61.9	67.8 *
Physical	20.5	18.7	21.5
Recreational	18.7	19.3	18.4
Educational	7.2	7.1	7.2
Managerial	18.5	16.0	19.9 **
Time with children	272.0	264.9	276.1
Minding time	268.4	249.8	279.3 ***
Panel B. Percent Reporting			
Direct care time			
Total	60.7	57.4	62.6 ***
Physical	39.0	37.7	39.8
Recreational	19.2	20.7	18.3 *
Educational	16.1	15.1	16.6
Managerial	28.1	22.8	31.2 ***
Time with children	91.1	90.7	91.4
Minding time	83.9	79.1	86.7 ***
N	4,917	1,771	3,146

Note: Weighted means, percentages, and t-test results are provided.
* $P < .05$ ** $P < .01$ *** $P < .001$ (two-tailed)

Table 7.3 Tobit Coefficients in Models for Minutes per Day in Direct Care, Time with Children, and Minding Time of Fathers in Two-Parent Families (N=4,917)

	Direct care time		Time with children		Minding time	
	tobit	s.e.	tobit	s.e.	tobit	s.e.
A. Bivariate Model						
Spouse's employment status	13.1 **	4.5	12.2	7.5	43.6 ***	8.8
Intercept	16.3 ***	3.7	252.8 ***	5.9	214.4 ***	7.1
Loglikelihood	-20277.2		-31247.3		-29757.3	
B. Mutivariate Model						
Spouses						
Employment status	24.0 ***	4.5	19.0 **	6.9	34.9 ***	8.2
Education (vs. College graduate)						
High school or below	-45.9 ***	6.1	-8.4	9.4	2.3	11.2
Some College	-17.7 **	5.8	14.1	9.0	24.5 *	10.7
Postgraduate	25.0 ***	7.2	22.8 *	11.5	14.5	13.6
Relative education (vs. H>W)						
H=W	-8.4	5.1	3.0	7.9	-3.7	9.4
H<W	-21.7 ***	5.8	-16.5	8.9	-28.1 **	10.6
Fathers						
Age	0.5	0.4	0.2	0.5	-0.3	0.6
Work hours (vs. Full-time)						
Part-time (1-34 hours)	29.9 ***	8.2	35.3 **	12.8	32.8 *	15.2
Over-time (50+ hours)	-19.0 ***	4.5	-51.2 ***	6.9	-57.2 ***	8.2
Occupation schedules						
Flexible schedule occupation	9.8 *	4.7	-6.5	7.4	2.2	8.8
Shift work occupation	-13.4 **	4.4	-11.8	6.8	-4.9	8.1
Children						
Age of the youngest child	-10.0 ***	0.7	-9.5 ***	1.1	0.0	1.3
Number of children under 13	9.4 ***	2.7	3.5	4.3	11.5 *	5.1
Presence of a son	17.7 ***	4.6	22.1 **	7.1	9.6	8.4
Other controls						
Race/ethnicity (vs. non-Hispanic White)						
Black	-30.6 ***	7.9	-67.4 ***	12.0	-22.0	14.2
Hispanic	-26.6 ***	6.0	-19.4 *	9.0	-56.5 ***	10.8
Other	-29.7 **	9.1	-2.2	14.0	3.8	16.6
Weekend diary day	0.4	4.5	226.9 ***	6.9	268.1 ***	8.2
Intercept	52.3 ***	14.9	234.2 ***	22.9	159.6 ***	27.2
Loglikelihood	-19949.8		-30661.6		-29243.2	
Censored n	1,905		389		696	

* P <.05 ** P <.01***<.001 (two-tailed)

Table 7.4 Tobit Coefficients in Models for Minutes per Day in Childcare Activities of Fathers in Two-Parent Families (N=4,917)

	Physical		Recreational		Educational		Managerial	
	tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.
A. Bivariate Model								
Spouse's employment status	6.6	3.5	-11.3	7.3	3.5	3.7	24.3 ***	4.7
Intercept	-41.2 ***	3.0	-148.7 ***	7.7	-87.8 ***	4.3	-90.9 ***	4.6
Log likelihood	-13042.7		-7583.7		-5890.8		-10083.4	
B. Multivariate Model								
Spouses								
Employment status	16.7 ***	3.4	6.4	7.4	5.0	3.9	25.1 ***	4.9
Education (vs. College graduate)								
High school or below	-37.9 ***	4.7	-27.7 **	10.1	-22.3 ***	5.3	-34.0 ***	6.6
Some College	-7.9	4.3	-20.3 *	9.7	-4.5	4.9	-19.3 **	6.2
Postgraduate	16.8 **	5.3	23.0 *	11.6	11.2	6.0	14.3	7.6
Relative education (vs. H>W)								
H=W	-3.1	3.9	-17.0 *	8.5	-6.1	4.3	-12.3 *	5.5
H<W	-11.8 **	4.4	-24.3 *	9.6	-18.0 ***	5.0	-18.5 **	6.2
Fathers								
Age	0.3	0.3	-0.6	0.6	0.5	0.3	0.8 *	0.4
Work hours (vs. Full-time)								
Part-time (1-34 hours)	19.0 **	6.1	12.3	13.2	17.9 **	6.8	11.1	8.7
Over-time (50+ hours)	-11.2 **	3.4	-20.1 **	7.5	-9.3 *	3.9	-12.5 **	4.8
Occupation schedules								
Flexible schedule occupation	14.5 ***	3.6	1.9	7.9	7.4	4.1	0.1	5.1
Shift work occupation	-2.9	3.4	-22.6 **	7.5	-6.0	3.9	-3.4	4.8
Children								
Age of the youngest child	-11.3 ***	0.6	-17.4 ***	1.3	1.9 **	0.6	1.4	0.8
Number of children <13	6.0 **	2.0	-8.1	4.4	16.9 ***	2.3	14.5 ***	3.0
Presence of a son among children<13	11.9 ***	3.6	29.5 ***	7.8	-1.4	4.0	-1.5	5.0
Other controls								
Race/ethnicity (vs. non-Hispanic White)								
Black	-20.8 ***	6.1	-90.6 ***	16.3	-8.4	6.9	5.0	8.2
Hispanic	-32.7 ***	4.8	-30.4 **	10.0	-13.4 *	5.5	7.0	6.4
Other	-20.7 **	6.9	-34.4 *	15.2	1.1	7.5	-10.1	9.9
Weekend diary day	-0.8	3.5	16.4 *	7.4	-20.5 ***	4.1	-22.3 ***	5.1
Intercept	-2.8	11.3	-12.3	24.6	-119.5 ***	13.7	-117.0 ***	16.4
Log likelihood	-12534.1		-7361.1		-5789.4		-10021.8	
Censored n	2,938		3,891		4,115		3,629	

* P <.05 ** P <.01***<.001 (two-tailed)

Table 7.5 Tobit Coefficients in Models for Childcare Time of Fathers in Two-Parent Families: Interaction of Maternal Employment and Maternal Education (N=4,917)

	Direct care time		Time with children		Minding time	
	tobit	s.e.	tobit	s.e.	tobit	s.e.
Spouses						
Employment status	12.5	8.2	13.3	13.1	20.2	15.6
Education (vs. College graduate)						
High school or below	-57.6 ***	9.1	-13.8	14.1	-7.6	16.9
Some College	-19.6 *	9.7	16.3	15.2	7.7	18.2
Postgraduate	-3.6	13.2	0.0	20.8	-2.9	24.9
Interactions						
Employment *Highschool or below	18.4	10.9	8.6	16.9	15.0	20.1
Employment *Some college	2.9	11.7	-3.3	18.4	25.2	21.9
Employment *Postgraduate	40.1 **	15.6	32.0	24.6	25.3	29.4
Loglikelihood	-19945.53		-30660.44		-29242.54	
Censored n	1,905		389		696	

* $P<.05$ ** $P<.01$***$<.001$ (two-tailed)

Note: Each model controls for fathers' age, fathers' work hours, fathers' occupational schedules, age of youngest child, number of household children, presence of a son, fathers' race/ethnicity, weekend diary day.

Table 7.6 Tobit Coefficients in Models for Minutes per Day in Direct Childcare Time of Fathers in Two-Parent Families by Spouse's Education

	High school or below		Some college		College graduate		Post-graduate	
Spouses								
Employment status	26.4 ***	7.7	16.1	9.1	8.4	7.8	47.9 ***	14.4
Relative education (vs. H>W)								
H=W	-7.7	8.0	-4.3	10.9	-6.2	9.4	-3.6	20.8
H <W	-37.1 **	11.8	-22.7 *	10.4	-17.6	10.6	-0.8	19.5
Fathers								
Age	0.4	0.6	0.0	0.7	0.7	0.7	1.4	1.1
Work hours (vs. Full-time)								
Part-time (1-34 hours)	14.8	13.6	-10.3	16.2	56.8 ***	15.8	138.6 ***	25.2
Over-time (50+ hours)	-17.7 *	8.3	-20.7 *	8.8	-21.4 **	7.6	-11.0	12.6
Occupation schedules								
Flexible schedule occupatic	24.1 **	9.2	9.5	9.0	6.5	8.4	-12.1	13.2
Shift work occupation	-7.3	7.5	-24.6 **	8.8	-11.9	8.1	-22.5	14.4
Children								
Age of the youngest child	-9.0 ***	1.3	-10.3 ***	1.4	-8.4 ***	1.3	-16.1 ***	2.1
Number of children under 13	8.3	4.6	5.7	5.6	14.9 **	4.8	16.2	9.3
Presence of a son	26.5 **	8.1	28.9 **	9.4	-2.0	8.2	24.3	13.0
Other controls								
Race/ethnicity (vs. non-Hispanic White)								
Black	-14.5	14.4	-55.3 ***	15.1	-22.3	14.2	-17.4	23.3
Hispanic	-33.5 ***	8.5	-1.7	12.6	2.4	14.4	-94.2 **	29.7
Other	-34.4	19.5	-33.3	21.3	-32.7 *	14.1	1.0	19.8
Weekend diary day	-10.0	7.9	-4.0	9.1	18.3 *	8.0	1.6	13.0
Intercept	-1.1	22.3	65.3 *	27.6	46.3	26.8	28.3	50.5
Loglikelihood	-5878.8		-5343.3		-5994.1		-2670.8	
Censored n	773		536		421		175	
N	1,488		1,339		1,444		646	

* *P* <.05 ** *P* <.01***<.001 (two-tailed)

Table 7.7 Means or Percentages of Selected Characteristics of Fathers in Dual-Earner Families with Children under Age 13 (N=3,146)

	Mean/Percentage	(S.D)
Spouses' Characteristics		
Mean Work hours	34.6	(12.3)
Work hours distributions(%)		
Part-time[a] (1-34 hours)	35.0	
Full-time (35-49 hours)	57.8	
Over-time (50+ hours)	7.2	
Occupation schedules		
Flexible schedule occupation (%)	37.0	
Shift work occupation (%)	39.4	
Earnings (Weekly)	630.5	(400.6)
Education (%)		
High school or below	31.3	
Some College	28.0	
College graduate	27.6	
Postgraduate	13.1	
Fathers' Characteristics		
Mean work hours	46.7	(11.0)
Work hours distributions (%)		
Part-time[a] (1-34 hours)	7.0	
Full-time (35-49 hours)	57.3	
Over-time (50+ hours)	35.7	
Occupation schedules		
Flexible schedule occupation (%)	44.5	
Shift work occupation (%)	39.8	
Earnings (Weekly)	975.0	(533.7)
Age	38.1	(7.0)
Race/ethnicity (%)		
Non-Hispanic White	70.7	
Black	8.8	
Hispanic	15.2	
Other	5.4	
Mothers vs. fathers		
Relative education (%)		
H>W	25.8	
H=W	40.1	
H<W	34.1	
Relative earnings (%)		
H>W	75.3	
H<=W	24.7	
Children's Characteristics		
Age of the youngest child	5.4	(3.7)
Number of children	1.6	(0.7)
Presence of a son (%)	64.5	
Flag of imputation (%)		
Mother_earnings	16.4	
Mother_occupation	5.4	
Father_earnings	13.1	

[a] Include respondents who report hours vary (77 or 2% for mothers, 153 or 3% for fathers)

Note: Weighted percentages and means are provided.

Table 7.8 Tobit Coefficients in Models for Dual-Earner Fathers' Minutes per Day in Direct Care, Time with children, and Minding Time (N=3,146)

	Direct care time		Time with children		Minding time	
	tobit	s.e.	tobit	s.e.	tobit	s.e.
Spouses						
Work hours (vs. Full-time)						
Part-time	0.9	6.2	5.9	9.9	-7.1	11.3
Over-time	-15.4	10.5	20.2	16.6	8.0	19.2
Occupation schedules						
Flexible schedule occupation	5.9	5.6	3.7	9.0	2.1	10.3
Shift work occupation	5.0	5.7	5.2	9.1	2.0	10.4
Earnings (in 100 dollars)	0.1	0.9	-2.58	1.4	-3.1	1.6
Mothers' Education (vs. College graduate)						
High school or below	-36.5 ***	8.1	-6.5	13.0	-3.9	14.8
Some College	-15.8 *	7.2	8.8	11.6	25.0	13.3
Postgraduate	35.4 ***	8.7	29.9 *	14.2	23.0	16.3
Fathers						
Work hours (vs. Full-time)						
Part-time	35.3 ***	10.2	43.6 **	16.6	11.3	19.0
Over-time	-22.4 ***	5.7	-50.4 ***	9.1	-54.9 ***	10.4
Occupation schedules						
Flexible schedule occupation	3.7	5.9	-8.8	9.5	5.0	10.8
Shift work occupation	-9.6	5.5	-9.4	8.8	1.6	10.0
Earnings(in 100 dollars)	1.0	0.6	0.3	1.0	-0.4	1.2
Mothers vs. fathers						
Relative earnings	-11.1	8.0	-34.4 **	12.8	-16.8	14.6
Relative education (vs. H>W)						
H=W	-7.1	6.6	-4.5	10.6	-9.8	12.1
H<W	-15.4 *	7.5	-13.0	12.1	-25.8	13.8
Children						
Age of the youngest child	-10.3 ***	0.9	-9.8 ***	1.4	-0.3	1.6
Number of children	6.5	3.8	-3.1	6.2	0.6	7.1
Presence of a son	20.8 ***	5.7	27.9 **	9.0	14.8	10.3
Other controls						
Fathers' age	-0.1	0.5	0.6	0.7	0.3	0.8
Race/ethnicity (vs. non-Hispanic White)						
Black	-32.3 ***	9.5	-54.4 ***	14.9	-36.5 *	17.0
Hispanic	-17.4 *	7.8	-26.7 *	12.3	-40.0 **	14.2
Other	-36.1 **	11.8	-23.2	18.5	-20.9	21.1
Weekend diary day	-15.3 **	5.6	217.6 ***	8.8	262.2 ***	10.1
Intercept	95.4 ***	20.6	281.4 ***	33.1	222.1 ***	37.9
Loglikelihood	-12524.1		-18868.4		-18376.2	
Censored n	1,186		243		382	

* P <.05 ** P <.01***<.001 (two-tailed)

Table 7.9 Tobit Coefficients in Models for Dual Earner fathers' Minutes per Day in Childcare Activities (N=3,146)

	Physical		Recreational		Educational		Managerial	
	tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.
Spouses								
Work hours (vs. full-time)								
Part-time	0.8	5.1	30.0 **	11.1	3.1	5.0	-15.0 *	6.5
Over-time	-15.3	8.8	-45.3 *	21.2	4.2	8.2	12.5	10.3
Occupation schedules								
Flexible schedule occupation	-9.0	4.6	19.6	10.0	9.6 *	4.5	7.2	5.8
Shift work occupation	-5.1	4.7	20.1	10.4	15.1 **	4.6	4.4	5.9
Earnings (in 100 dollars)	1.8 **	0.7	0.3	1.5	1.6 *	0.7	-1.2	0.9
Mothers' education (vs. college)								
High school or below	-34.3 ***	6.7	-17.6	14.6	-29.6 ***	6.7	-26.8 **	8.5
Some College	-9.7	5.8	-12.6	13.1	-8.0	5.7	-21.0 **	7.5
Postgraduate	18.8 **	6.9	43.3 **	15.1	14.6 *	6.9	13.9	8.8
Fathers								
Work hours (vs. full-time)								
Part-time	18.2 *	8.2	18.9	17.4	10.3	8.1	10.2	10.6
Over-time	-15.6 ***	4.7	-20.5 *	10.4	-10.2 *	4.7	-15.1 *	6.0
Occupation schedules								
Flexible schedule occupation	8.9	4.8	-5.3	10.5	6.9	4.8	4.6	6.1
Shift work occupation	-1.9	4.5	-18.7	10.0	-4.6	4.5	-1.8	5.7
Earnings (in 100 dollars)	-0.1	0.5	0.8	1.1	0.7	0.5	0.8	0.7
Mothers vs. fathers								
Relative education (vs. H>W)								
H=W	-8.4	5.5	-25.1 *	11.9	-0.5	5.3	-4.6	6.9
H<W	-12.7 *	6.1	-29.8 *	13.6	-13.9 *	6.1	-7.0	7.8
Relative earnings	2.9	6.5	-21.8	14.2	-7.3	6.5	-7.8	8.3
Children								
Age of the youngest child	-12.0 ***	0.8	-17.7 ***	1.8	3.0 ***	0.7	0.0	0.9
Number of children	7.6 *	3.1	-12.0	6.7	14.5 ***	3.2	10.8 **	4.0
Presence of a son among children	10.6 *	4.7	22.2 *	10.3	2.6	4.6	6.2	5.9
Other controls								
Fathers' age	-0.2	0.4	-1.3	0.8	-0.2	0.4	0.8	0.5
Race/ethnicity (vs. Non-Hispanic White)								
Black	-28.2 ***	8.1	-100.2 ***	21.9	-12.1	8.0	4.1	9.6
Hispanic	-26.1 ***	6.8	-34.6 *	14.4	-7.4	6.8	7.3	8.1
Other	-24.5 *	9.6	-27.6	21.2	1.1	9.1	-16.8	12.3
Weekend diary day	-9.9 *	4.6	7.4	10.0	-24.4 ***	4.9	-32.9 ***	6.1
Intercept	29.8	16.7	17.0	36.8	-89.1 ***	17.4	-82.4 ***	21.3
Loglikelihood	-7861.9		-4321.7		-3617.9		-6691.6	
Censored n	1,886		2,529		2,630		2,242	

* $P<.05$ ** $P<.01$***$<.001$ (two-tailed)

Table 8.1 Means or Percentages of Selected Characteristics of Employed Fathers in Two-Parent Families with children under age 13 by Fathers' Education

	All	High school	Some college	College[a]	Postgraduate
Fathers					
Work hours	46.8	45.5 ***	46.4 ***	48.2	48.9
	(10.8)	(11.9)	(11.0)	(10.1)	(8.9)
Occupation schedules					
Flexible schedule occupation (%)	43.1	17.6 ***	39.9 ***	74.9	71.1 *
Shift work occupation (%)	40.1	50.5 ***	42.0 ***	29.9	21.3 ***
Earnings	1024.8	707.7	956.7	1337.2	1530.7
	(595.7)	(404.6)	(453.6)	(600.4)	(624.7)
Earnings (hourly)	22.7	16.0 ***	22.1 ***	29.4	32.0 **
	(16.6)	(10.1)	(15.8)	(20.7)	(13.1)
Spouses					
Employment status (%)	63.0	60.6	69.5 **	63.9	56.5 **
Education (%)					
High school and below	35.8	67.9 ***	25.9 ***	9.9	5.8 ***
Some college	26.4	20.7	47.0 ***	21.5	12.9 ***
College	26.5	9.7 ***	20.0 ***	51.9	43.1 ***
Postgraduate	11.4	1.7 ***	7.2 ***	16.7	38.2 ***
Earnings (among employed n=3146)	630.5	525.6	596.2	712.2	876.4
	(398.9)	(298.6)	(344.8)	(408.9)	(540.1)
Children					
Age of the youngest child	4.8	4.9 **	5.0 **	4.5	5.0 **
	(3.6)	(4.0)	(3.6)	(3.5)	(3.3)
Number of children	1.8	1.8	1.8	1.8	1.8
	(0.8)	(0.9)	(0.8)	(0.8)	(0.7)
Presence of a son (%)	67.1	65.4	67.2	68.3	70.0
Other controls					
Fathers' age	37.5	35.9 ***	37.0 ***	38.8	41.0 ***
	(7.3)	(8.3)	(6.9)	(6.1)	(6.1)
Race/ethnicity (%)					
White	67.2	52.4 ***	69.8 ***	80.9	78.8
Black	8.0	7.7	11.9 ***	5.9	5.3
Hispanic	19.2	36.0 ***	13.6 ***	6.0	3.5 *
Other	5.6	2.9 ***	4.8 *	7.2	12.4 ***
Weekend diary day (%)	29.8	32.0 *	29.7	27.0	26.9
N	4,917	1,569	1,264	1,305	779

Note: Numbers in parentheses are standard deviations.Weighted percentages and means are provided.
[a] Fathers with college education are the reference group
* $P<.05$ ** $P<.01$***$<.001$ (two-tailed)

Table 8.2 Mean Minutes per day in Childcare and Activities with Children of Fathers in Two-Parent Families by Fathers' Education

	All fathers	High school	Some college	College[a]	Postgraduate
Panel A. Overall minutes per day					
Direct care time					
Total	65.6	51.0 ***	68.7 *	77.9	80.7
Physical	20.5	12.8 ***	23.2	27.6	25.4
Recreational	18.7	15.6 **	17.5 *	22.3	23.8
Educational	7.2	5.1 ***	7.8	8.4	9.8
Managerial	18.5	16.4	19.8	19.0	21.1
Time with children	272.0	267.7	278.2	269.1	277.6
Minding time	268.4	260.8	275.9	273.0	268.5
Panel B. Percent reporting					
Direct care time					
Total	60.7	48.0 ***	65.6 **	71.1	71.8
Physical	39.1	25.6 ***	42.8 ***	51.3	51.5
Recreational	19.2	14.5 ***	19.0 **	24.1	25.5
Educational	15.9	10.4 ***	16.9 *	20.0	23.5
Managerial	28.1	23.3 ***	29.5	30.9	35.3 *
Time with children	91.1	89.2 *	92.4	91.7	93.5
Minding time	83.8	80.3 **	86.8	84.4	87.6 *
N	4,917	1,569	1,264	1,305	779

[a] Fathers with college education are the reference group

Note: Weighted means and percentages are reported.

* $P<.05$ ** $P<.01$ ***$<.001$ (two-tailed)

Table 8.3 Tobit Coefficients in Stepwise Models for Minutes per Day in Direct Care of Fathers in Two-Parent Families (N=4,917)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.
Fathers														
Education (vs. College graduate)														
High school or below	-59.8 ***	5.8	-63.3 ***	5.7	-53.7 ***	6.4	-51.2 ***	6.7	-50.3 ***	6.7	-39.9 ***	6.4	-34.6 ***	6.6
Some college	-16.5 **	6.2	-19.5 **	6.2	-13.7 *	6.4	-12.6	6.5	-13.0	6.5	-6.4	6.3	-3.8	6.3
Postgraduate	3.7	7.3	5.1	7.3	4.9	7.3	3.3	7.3	3.9	7.3	8.4	7.1	8.8	7.1
Work hours			-1.3 ***	0.2	-1.3 ***	0.2	-1.4 ***	0.2	-1.4 ***	0.2	-1.2 ***	0.2	-1.3 ***	0.2
Occupation schedules														
Flexible schedule occupation					13.4 **	5.1	10.8 *	5.2	10.4	5.2	8.6	5.0	6.2	5.0
Shift work occupation					-9.9 *	4.7	-9.7 *	4.7	-9.7 *	4.7	-13.4 **	4.5	-12.6 **	4.5
Earnings (in 100 dollars)							0.6	0.4	0.8	0.4	1.5 ***	0.4	1.1 **	0.4
Spouses														
Employment status									12.7 **	4.6	31.9 ***	4.5	28.9 ***	4.6
Children														
Age of the youngest child											-10.1 ***	0.6	-10.7 ***	0.7
Number of children											8.8 **	2.8	8.0 **	2.8
Presence of a son among children											16.4 ***	4.7	17.2 ***	4.7
Other controls														
Fathers' age													0.6	0.4
Race/ethnicity (vs. non-Hispanic White)														
Black													-30.0 ***	8.1
Hispanic													-27.8 ***	6.1
Other													-29.2 **	9.3
Weekend diary day													0.0	4.6
Intercept	50.6 ***	4.4	111.5 ***	10.7	104.2 ***	11.3	99.9 ***	11.8	90.5 ***	12.3	83.1 ***	13.3	82.5 ***	17.3
Loglikelihood	-19491.2		-19465.1		-19457.9		-19455.0		-19451.1		-19267.5		-19247.7	
Censored n	1,905		1,905		1,905		1,905		1,905		1,905		1,905	

* $P<.05$ ** $P<.01$***$<.001$ (two-tailed)

Table 8.4 Tobit Coefficients of Fathers' Education in Models for Minutes per Day in Direct Care, Time with Children, and Minding Time of Fathers in Two-Parent Families (N=4,917)

	Direct care time		Time with children		Minding time	
	tobit	s.e.	tobit	s.e.	tobit	s.e.
Fathers						
Education (vs. College graduate)						
High school or below	-34.6 ***	6.6	-15.6	10.2	-31.6 **	12.1
Some college	-3.8	6.3	4.9	9.9	-9.4	11.8
Postgraduate	8.8	7.1	17.9	11.2	6.3	13.3
Work hours	-1.3 ***	0.2	-2.7 ***	0.3	-2.7 ***	0.4
Occupation schedules						
Flexible schedule occupation	6.2	5.0	-10.8	7.8	-7.9	9.3
Shift work occupation	-12.6 **	4.5	-9.1	6.9	-2.0	8.3
Earnings (in 100 dollars)	1.1 **	0.4	-0.2	0.7	-1.0	0.8
Spouses						
Employment status	28.9 ***	4.6	20.8 **	7.0	33.5 ***	8.3
Children						
Age of the youngest child	-10.7 ***	0.7	-9.4 ***	1.1	0.7	1.3
Number of children	8.0 **	2.8	3.5	4.3	12.1 *	5.1
Presence of a son among children	17.2 ***	4.7	21.1 **	7.2	8.5	8.6
Other controls						
Fathers' age	0.6	0.4	0.2	0.6	-0.5	0.7
Race/ethnicity (vs. non-Hispanic White)						
Black	-30.0 ***	8.1	-69.6 ***	12.3	-22.9	14.5
Hispanic	-27.8 ***	6.1	-21.5 *	9.2	-54.9 ***	11.0
Other	-29.2 **	9.3	-2.9	14.2	3.9	16.9
Weekend diary day	0.0	4.6	227.4 ***	7.0	268.2 ***	8.3
Intercept	82.5 ***	17.3	348.0 ***	26.5	296.8 ***	31.5
Loglikelihood	-19247.7		-29571.8		-28212.2	
Censored n	1,906		389		696	

* $P<.05$ ** $P<.01$***$<.001$ (two-tailed)

Table 8.5 Tobit Coefficients of Fathers' Education in Models for Minutes per Day in Childcare Activities of Fathers in Two-Parent Families (N=4,917)

	Physical		Recreational		Educational		Managerial	
	tobit	s.e.	tobit	s.e.	tobit	s.e.	tobit	s.e.
Fathers								
Education (vs. College graduate)								
High school or below	-30.1 ***	4.8	-37.4 ***	10.7	-20.2 ***	5.8	-14.7 *	7.0
Some college	-1.1	4.6	-12.6	10.2	-2.6	5.4	-1.5	6.7
Postgraduate	4.2	5.1	18.6	11.2	6.7	5.8	12.0	7.4
Work hours	-0.5 ***	0.1	-1.24 ***	0.3	-0.6 ***	0.2	-1.0 ***	0.2
Occupation schedules								
Flexible schedule occupation	10.4 **	3.7	-1.9	8.2	6.6	4.4	0.6	5.3
Shift work occupation	-2.4	3.4	-19.5 **	7.4	-2.9	4.0	-2.0	4.8
Earnings (in 100 dollars)	0.6	0.3	-0.2	0.7	0.5	0.4	0.7	0.4
Spouses								
Employment status	21.2 ***	3.4	5.2	7.3	7.1	4.0	30.2 ***	4.9
Children								
Age of the youngest child	-11.8 ***	0.6	-17.3 ***	1.3	2.0 **	0.6	0.6	0.8
Number of children	4.4 *	2.0	-8.8 *	4.4	16.1 ***	2.4	13.8 ***	2.9
Presence of a son among children	11.0 **	3.5	29.7 ***	7.8	-0.4	4.1	-3.7	5.0
Other controls								
Fathers' age	0.3	0.3	-0.6	0.6	0.4	0.3	0.9 *	0.4
Race/ethnicity (vs. non-Hispanic White)								
Black	-20.6 ***	6.1	-86.4 ***	16.0	-10.9	7.1	5.4	8.2
Hispanic	-34.2 ***	4.8	-32.5 ***	9.9	-11.0 *	5.6	3.1	6.3
Other	-13.9 *	6.6	-29.4 *	14.7	-1.1	7.7	-5.8	9.7
Weekend diary day	-1.8	3.4	15.0 *	7.4	-22.1 ***	4.3	-23.7 ***	5.1
Intercept	9.6	12.7	32.5	27.8	-107.6 ***	15.7	-107.3 ***	18.6
Loglikelihood	-12495.7		-7327.5		-5728.7		-9979.0	
Censored n	2,938		3,891		4,115		3,629	

* $P<.05$ ** $P<.01$***$<.001$ (two-tailed)

Table 9.1 Summary of Hypotheses and Findings for Fathers' Childcare Time in Different Family Contexts

Hypotheses	Bivariate findings	Multivariate findings
Resident fathers		
Hypothesis 1. Resident fathers' marital status and living arrangements affect their level of involvement with children.		
1.1 Among married, cohabiting and single resident fathers, I expect single fathers to have the highest level of father involvement.	Not supported	Supported for direct care of sole single fathers
1.2 Married fathers' time with children is not expected to be significantly different from cohabiting fathers' time, especially given that the ATUS data does not distinguish married fathers' step and biological relationship to children.	Supported for levels of childcare, not for childcare activities	Supported for levels of childcare, not for childcare activities
1.3 Compared to single fathers living with parents or other adults, single fathers who live by themselves are expected to have the highest levels of paternal involvement.	Supported for direct care	Supported for direct care
Non-resident fathers		
Hypothesis 2. Fathers' level of involvement with children who do not live with them is contingent on their current marital status.		
2.1 Compared to never-married fathers, divorced fathers spend more time with their non-resident children, because they have been previously married to the child's mother and thus might be more "family oriented" than never-married fathers.	Supported for time with children	Not supported
2.2 Compared to divorced fathers, currently married fathers spend less time with their non-resident children, because (re)married non-resident fathers may have more parenting obligations to new children in the new family.	Supported for direct care and time with children	Supported for direct care
Hypothesis 3. Compared to resident fathers, non-resident fathers may have proportionally more time devoted to playing with children and less time devoted to education-related activities.	Partially supported	----

(Continued)

(Table 9.1. Continued)

Hypotheses	Bivariate findings	Multivariate findings
Fathers in two-parent families		
Child's age and gender		
Hypothesis 4. The decline of fathers' childcare time by child's age is contingent on childcare activities at different stages of child development: Fathers' physical childcare time decreases as children age, but education-related time may increase.	Supported	Supported
Hypothesis 5. Father's preference for time with sons depends on fathers' education. Better educated fathers may be less gender biased in childcare time than less-educated fathers.	---	Not supported
Spousal employment		
Hypothesis 6. Mothers' educational attainment confounds the relationship between wife's employment and father's involvement in childcare. Fathers married to a better-educated spouse do more childcare when their spouses work outside home, because of wives' stronger ability to urge fathers to share in the care of children.	---	Supported for direct care
Fathers' education		
Hypothesis 7. Factors linking education level with father involvement:		
7.1 Compared to less-educated fathers, better educated fathers are more likely to be employed in occupations with flexible schedules; therefore their capacity to respond to childcare demands may be higher.	Supported	Supported for physical care
7.2 Compared to less-educated fathers, higher earnings and therefore higher opportunity costs associated with the choice of spending time with children reduce the capacity of better educated fathers to respond to childcare demands.	Supported	Not supported
7.3 Compared to better educated fathers, less educated fathers are more likely to be employed in occupations requiring nonstandard hours (e.g., night shifts), which increases these fathers' capacity to respond to childcare demands during the standard working hours.	Supported	Not supported

Figures

Figure 2.1 Model of Correlates and Components of Paternal Involvement

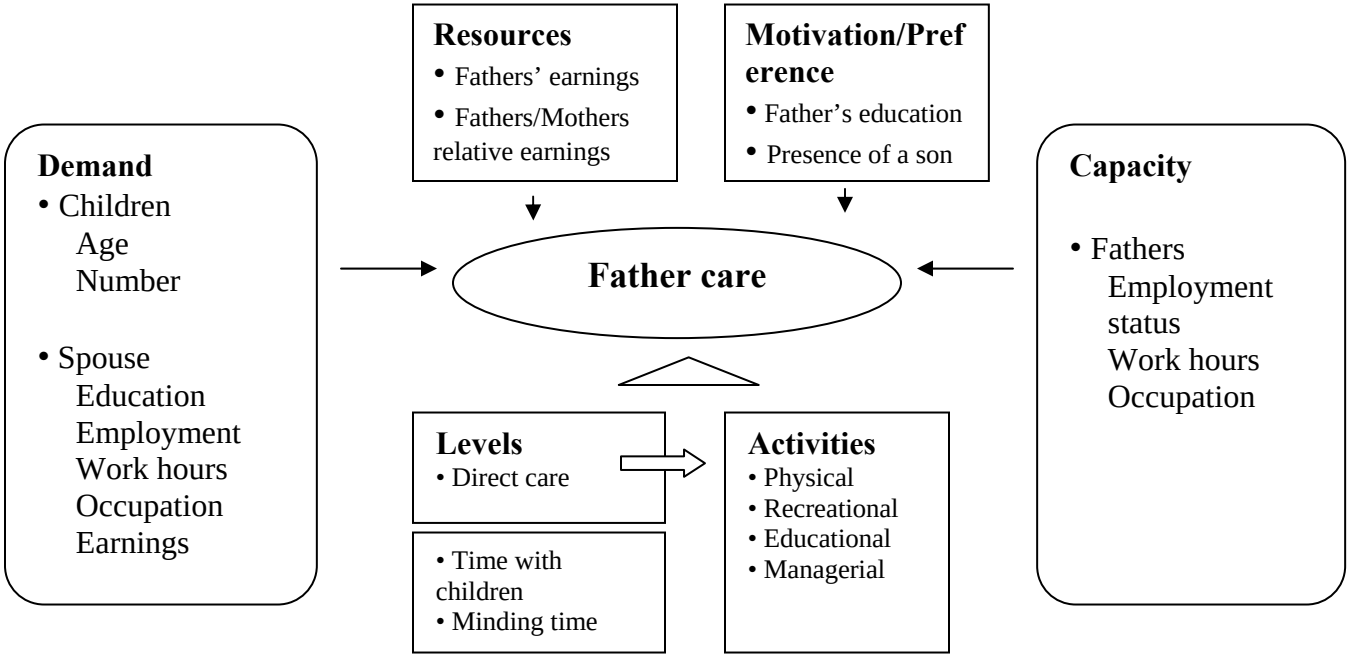


Figure 3.1 Flow Chart of Sample Sizes for Fathers with Own Children under Age 13 in the 2003-2005 ATUS

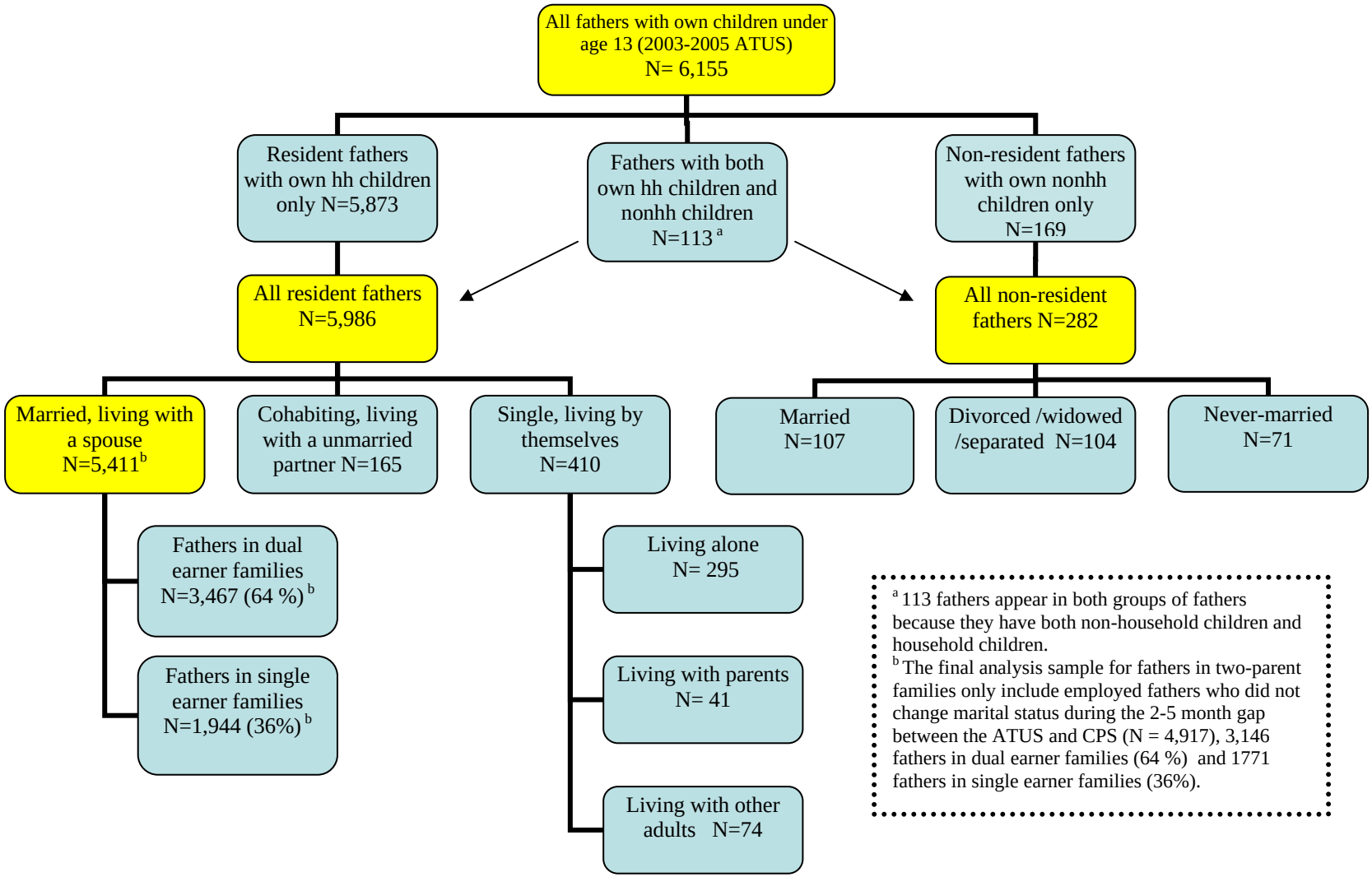
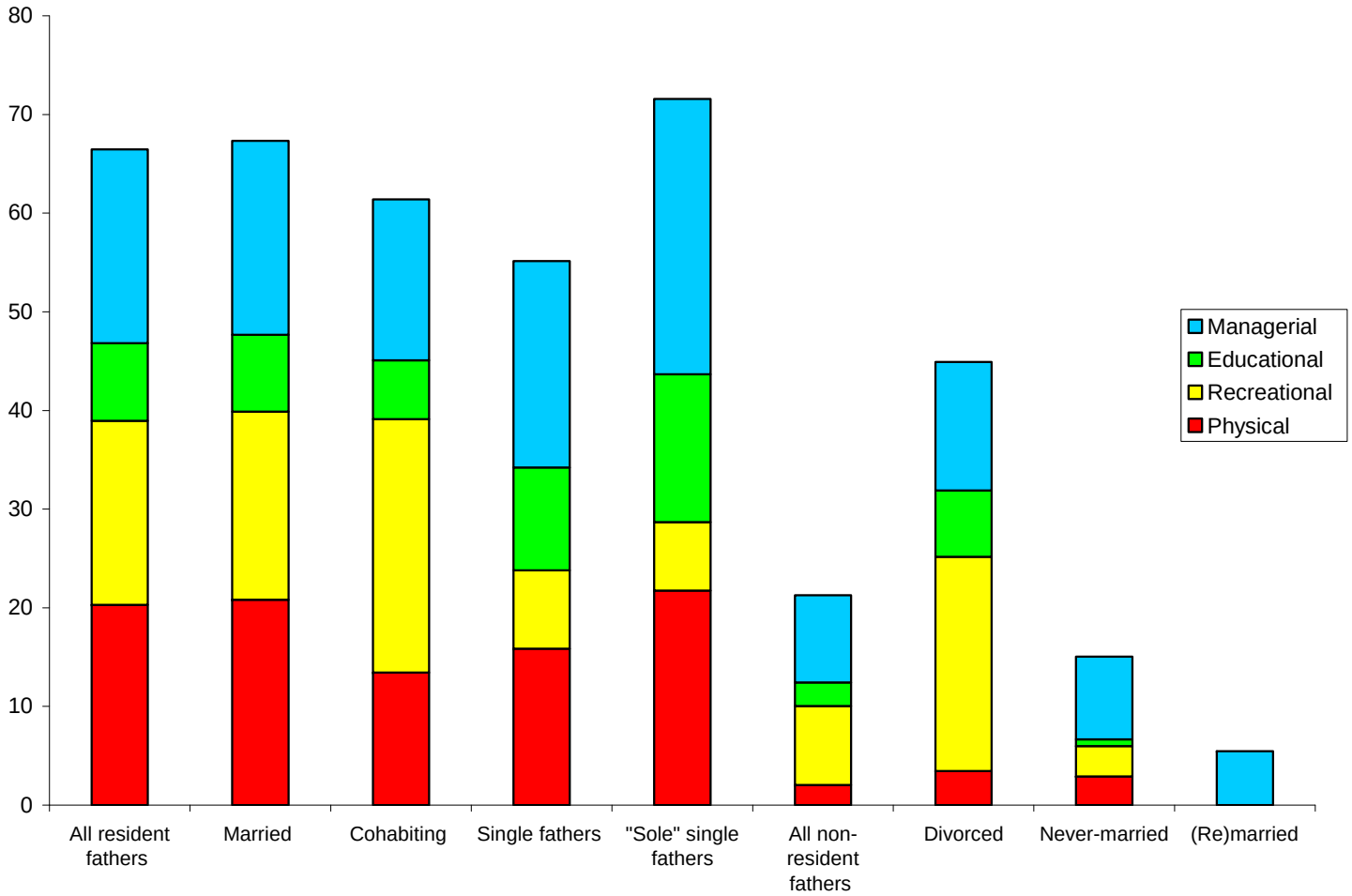
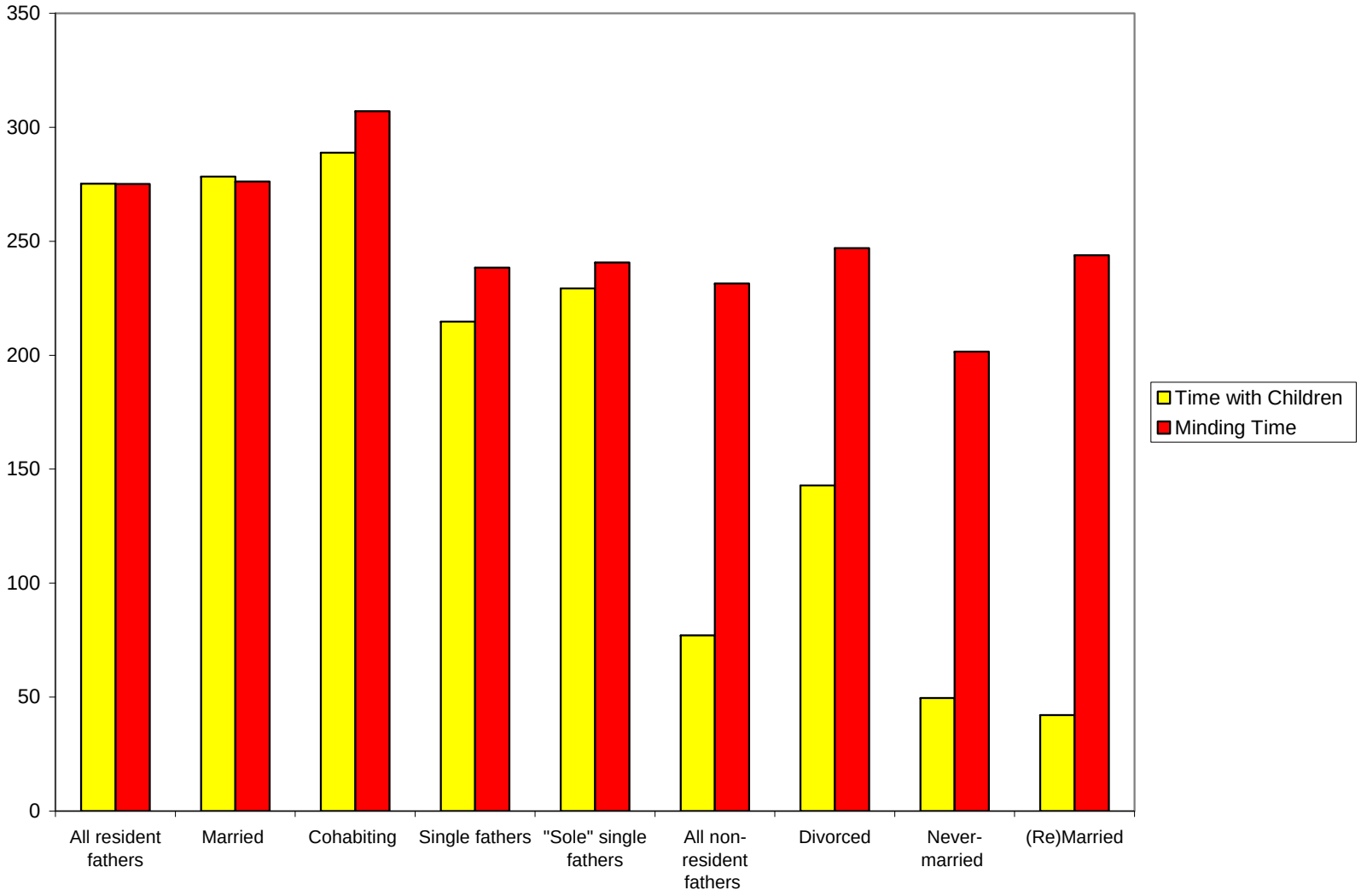


Figure 9.1 Overview of Fathers' Mean Minutes per Day in Direct Childcare and Activities



Notes: The total number of non-resident fathers who report direct care time is very small, there are only 13 non-resident fathers (unweighted) report doing physical care, 11 for recreational activities, 10 for educational, and 42 for managerial activities. (Re)married non-resident fathers in the sample only report managerial activities with their non-household children.

Figure 9.2 Overview of Fathers' Minutes per Day in Time with Children and Minding Time



Appendices

Appendix Table 3.1 Description of Variable Sources in the Study

	Description	Variable name	File	Question [Edited Universe (EU) not shown if it's for all]
Identifying fathers				
Sex	Sex of the respondent	TESEX	Roster	
Fathers' resident status	Whether the respondent report having own non-hh children (TERRP=40)	TERRP	Roster	How is this person related to you?
	Flag of whether the respondent has own nonhh child	TRNHHCHILD	Respondent	Presence of own non-hh kid under18
	Flag of whether the respondent has own hh child	TROHHCHILD	Respondent	Presence of own household children<18
Fathers' marital status (resident fathers)	Whether the father is married, cohabiting ,or single.	TRSPPRES	Respondent	Presence of the Respondent's spouse or unmarried partner in the household (1=spouse present 2= unmarried partner present 3=no spouse or unmarried partner present)
Single fathers' living arrangements	Whether the a father report having parents/other adults living with him => Further restrict to single fathers (TRSPPRES=3)	TERRP	Roster	How is this person related to you?
Fathers' marital status (non-resident fathers)	Fathers marital status	PEMARITL	ATUS-CPS	Are you now married, widowed, divorced, separated or never married? [EU: PRTAGE >=15]
Childcare Time				
Direct care time	For hh children	totcare_hh	Activity	Constructed by summing up the time respondents spend with hh children
	For non- hh children	totcare_nhh	Activity	Constructed by summing up the time respondents spend with non-hh children
Direct care time in different activities	For hh children	Physical, Play, Education, Responsible	Activity	Constructed by summing up the time respondents spend in each group of activities with hh children
	For non- hh children	Physical_nhh, Play_nhh, Education_nhh, Responsible_nhh	Activity	Constructed by summing up the time respondents spend in each group of activities with non-hh children
Time with children (with whom code)	For hh children	TRTOHHCHILD	Respondent	Total time respondent spent with own hh children [This variable is computed using TUWHO_CODE info; all activities for which who info is not collected, such as sleeping, are omitted from the calculation]
	For non- hh children	TRTONHHCHILD	Respondent	Total time respondent spent with own non-hh children [This variable is computed using TUWHO_CODE info; all activities for which who info is not collected, such as sleeping, are omitted from the calculation]
Minding time ("in your care")	For hh children and own nonhh children <13	TRTCC	Respondent	Total time spent providing secondary childcare for household and own non-hh children<13

(continued)

(Appendix Table 3.1, Continued)

	Description	Variable name	File	Question [Edited Universe (EU) not shown if it's for all]
Fathers' characteristics				
Age	Fathers' age	TEAGE	Roster	Age (top coded to 80)
Race/ethnicity	Race	PTDTRACE	ATUS-CPS	Race (top coded)
	Hispanic origin	PEHSPNON	ATUS-CPS	Are you Spanish, Hispanic, or Latino?
Education	Education attainment	PEEDUCA	ATUS-CPS	What is the highest level of school you have completed or the highest degree you have received? [EU: PRPERTYP=2 or 3]
Employment status	Employed or not	TELFS	Respondent	Labor force status (Employed: TELFS=1/2)
work hours	weekly work hours	TEHRUSLT	Respondent	Total hours respondent usually work per week (sum of hours at main job and hours at other job) [EU: TELFS=1/2]
Occupation schedules	Using the occupation code to generate shiftwork schedules and flexible schedules based on MAY2004 CPS	TRDTOCC1	Respondent	Detailed Occupation Recode (Main job) [EU: TELFS=1/2] [22 categories]
Earnings	Weekly earnings in ATUS (use for fathers' earnings)	TRERNWA	Respondent	Weekly earnings [ET:TELFS=1/2 and TEIO1cow=1-5] [Employed and work for government or private organizations (main job)]
Mothers' characteristics				
Employment status	Employed or not	TESPEMPNOT	Respondent	Employment status of Spouse(or unmarried partner) [ET: TRSPPRES=1/2]
Work hours	weekly work hours	TESPUHRS	Respondent	Usual hours of work of Spouse(or unmarried partner) [ET: TESPEMPNOT=1]
Education	Educational attainment	speduca	ATUS-CPS	Constructed by matching the ATUS CPS variable PEDUCA and respondent file
Earnings	Weekly earnings (2 implied decimals)	sprernwa	ATUS-CPS	Constructed by matching the ATUS CPS variable PRERNWA and respondent file [EU: PRERELG=1] [Employed and Month-in-sample = 8]
Occupation schedules	Using the occupation code to generate shiftwork schedules and flexible schedules based on MAY2004 CPS (women's chart)	sprdtocc1	ATUS-CPS	Constructed by matching the ATUS CPS variable PRDTOCC1 and respondent file [EU: PRIOELG=1]

(continued)

(Appendix Table 3.1, Continued)

Description	Variable name	File	Question [Edited Universe (EU) not shown if it's for all]
Children's characteristics			
-Resident own Children (under age 13)			
Age	Age of the youngest own hh children	age_young_ohh	
Number of children	Number of own hh children<13	numkids13	
Presence of a son	Presence of a son among ohh<13	ifson_ohh13	Constructed from the Roster file by identifying own hh children (TERRP=22)
Presence of a son in three age categories	Presence of a son in age 0-2 Presence of a son in age 3-5 Presence of a son in age 6-12	ifson_0t2 ifson_3t5 ifson_6t12	
Presence of a son in three family sizes	Familytype=1 (1 child family) 2 (2 child) 3(3+ child family) sexm : number of boys in a family sibship =1 (2 boys) 2(one boy, one girl) 3 (2 girls)	familytype sexm sibship (for 2 child family)	
Gender of the first-born child	gender of the first-born child in a family	sex_oldest	
-Non-resident own children (under age 13)			
Age	Age of the youngest non- hh children	age_young_nhh	
Number of children	Number of non-hhchildren<13	numnhhkids13	
Presence of a son	Presence of a son among nhh<13	ifson_nhh13	Constructed from the Roster file by identifying onh children (TERRP=40)
Other variables			
Weekday vs. Weekend	Whether the diary day is a weekday /weekend day	TUDIARYDAY	Respondent Day of the week interviewed 1-7 "Sunday-Saturday"
Weight	ATUS final weight	TUFINLWGT	Respondent ATUS final weight (used for 04 and 05 data)
	ATUS final weight based on the 2004 methodology	TU04FWGT	Respondent (only in 03) ATUS final weight based on the 2004 methodology (used for 03 data)

Notes:1. The ATUS data file includes four files : Respondent file, the Roster file, the Activity file, and the Who file.

2.The ATUS-CPS file contains information collected in the CPS interviews about household members of persons selected to participate in ATUS. The ATUS-CPS file was collected two-five months before the ATUS interview

3.Variable names in caps are the original variables in ATUS files, uncapitalized ones are the constructed variables

Appendix Table 3.2 Time Diary Activity Codes for Childcare Activities in This Study

Category	Specific Activity	ATUS Activity code					
		hh children			nhh children		
		1st	2nd	3rd	1st	2nd	3rd
Physcial care	Physical care for children	03	01	01	04	01	01
	Providing medical care to children	03	03	01	04	03	01
Recreational	Playing with children, not sports	03	01	03	04	01	03
	Arts and crafts with children	03	01	04	04	01	04
	Playing sports with children	03	01	05	04	01	05
Educational	Reading to/with children	03	01	02	04	01	02
	Homework	03	02	01	04	02	01
	Homeschooling of children	03	02	03	04	02	03
	Helping/teaching children (not related to education)[a]	03	01	07	04	01	07
	Talking with/listening to children	03	01	06	04	01	06
Managerial	Attending children's events	03	01	10	04	01	10
	Meetings and school conferences	03	02	02	04	02	02
	Organization & planning activities for children	03	01	08	04	01	08
	Picking up/dropping off children	03	01	12	04	01	12
	Obtaining medical care for children	03	03	02	04	03	02
	Looking after children (e.g., supervising, monitoring)	03	01	09	04	01	09
	Travel related to caring for & helping children[b]	17	03	01	17	04	01
	Arranging childcare service [c]	08	01	01	08	01	01
	Waiting associated with childcare service[c]	08	01	02	08	01	02
	Calling for childcare service[c]	16	01	07	16	01	07
	Waiting for/with children	03	01	11	04	01	11
	Waiting associated with children's health	03	03	03	04	03	03
	Waiting assoiated with children's education (e.g., meet with a child's teacher)	03	02	04	04	02	04

[a.] This activity code is deleted in the ATUS 2004 -2005 coding lexicon.

[b.] The 2005code changes to 18-03-01,18-03-02,18-03-03 to hh children and 18-04-01,18-04-02,18-04-03 to nhh children.

[c.] The childcare code was not specificed for hh or nhh children.

Source: American Time Use Survey Activity Lexicon 2003 - 2005.

Appendix Table 3.3 Percentage of Workers with Flexible Schedules and On Alternative Shifts by Occupation, May 2004

	Flexible schedules		Shift work	
Occupation	%	> average	%	> average
Total (average)	27.5		14.8	
Management, professional, and related occupations				
Management, business, and financial operations				
Management occupations	45.8	x	6.1	
Business and financial operations occupations	42.3	x	2.7	
Professional and related occupations				
Computer and mathematical occupations	52.4	x	4.1	
Architecture and engineering occupations	43.6	x	3.9	
Life, physical, and social science occupations	47.5	x	5.8	
Community and social services occupations	46.1	x	12.7	
Legal occupations	44.5	x	1.8	
Education, training, and library occupations	13.1		2.3	
Arts, design, entertainment, sports, and media	40.8	x	14.7	
Healthcare practitioner and technical occupations	22.9		24.6	x
Service occupations				
Healthcare support occupations	16.5		28.0	x
Protective service occupations	18.8		50.6	x
Food preparation and serving related occupations	25.0		40.4	x
Building and grounds cleaning and maintenance	15.2		17.5	x
Personal care and service occupations	31.7	x	28.1	x
Sales and office occupations				
Sales and related occupations	38.1	x	15.2	x
Office and administrative support occupations	24.0		9.9	
Natural resources, construction, and maintenance occupations				
Farming, fishing, and forestry occupations.	23.1		9.8	
Construction and extraction occupations	16.2		4.4	
Installation, maintenance, and repair occupations	18.6		11.4	
Production, transportation, and material moving occupations				
Production occupations	12.4		24.4	x
Transportation and material moving occupations	16.5		28.5	x

Sources: Table 2 and Table 5 in BLS report "Workers on Flexible and Shift Schedules in May 2004 "

Appendix Table 5.1 Tobit Coefficients in Models for Non-resident Fathers' Childcare Time: Fathers' Earnings (N=282)

	Direct care time		Time with children		Minding time	
	tobit	s.e.	tobit	s.e.	tobit	s.e.
Marital status (vs. Divorced)						
(Re)married	-143.76 **	49.96	-238.99 *	111.01	-91.72	64.88
Never married	-50.70	46.33	-67.70	109.09	-41.20	64.56
Fathers						
Education(vs. High school or below)						
Some College	-8.83	39.92	-22.32	92.63	60.82	55.17
College graduate	50.10	60.93	196.87	134.48	177.14 *	83.96
Postgraduate	82.88	86.80	151.73	196.65	293.17 *	119.89
Weekly Earnings (vs. <=$500)						
$501-$1,000	63.53	46.54	70.19	103.19	88.84	57.58
>$1,000	90.14	63.76	247.32	138.82	47.00	82.27
Age	-4.62	2.71	-13.06 *	5.89	-12.22 ***	3.48
Race/ethnicity (vs. non-Hispanic White)						
Black	-79.92	42.67	-198.84 *	95.92	69.57	54.69
Hispanic	-124.00 *	59.84	-185.97	122.59	-4.36	66.45
Other	-39.12	138.72	205.53	253.43	261.45	147.88
Non-household Children						
Age of the youngest child	-4.66	5.54	5.29	12.24	6.36	6.98
Number of children	54.18 **	21.00	103.58 *	49.43	71.31 *	29.83
Presence of a son	-57.28	34.81	-2.09	78.13	32.09	44.66
Weekend diary day	80.36 *	34.50	182.84 *	77.45	62.05	46.02
Having household children	0.84	44.77	-3.07	102.19	231.52 ***	59.58
Flagmissincome	95.07	56.18	277.89 *	134.22	32.57	84.70
Flagunemployed	147.05 **	53.40	425.14 ***	116.48	313.67 ***	66.61
Intercept	-31.28	94.49	-111.18	210.68	190.12	126.82
Loglikelihood	-412.37		-599.75		-1405.12	
Censored n	231		210		81	

Note: There were 61 cases missing on the earning variable, I crosstabed the earing variable with the employment status, and impute employed but missing (21 self-employed) fathers with the mean of the earning variable, and impute the nonemployed fathers' earnings with 0s (40 cases). I include the imputation flag in the model.
* $P<.05$ ** $P<.01$***$<.001$ (two-tailed)

Appendix Table 5.2 Tobit Coefficients in Models for Non-resident Fathers' Childcare Time: Fathers' Work Hours and Wage Rate (N=282)

	Direct care time		Time with children		Minding time	
	tobit	s.e.	tobit	s.e.	tobit	s.e.
Marital status (vs. Divorced)						
(Re)married	-136.90 **	49.37	-232.04 *	111.30	-104.67	65.37
Never married	-59.66	46.42	-74.86	110.51	-22.96	66.08
Fathers						
Education(vs. High school or below)						
Some College	9.13	39.42	-3.16	92.06	72.61	54.02
College graduate	66.42	60.95	245.77	135.94	174.02 *	84.47
Postgraduate	102.24	87.13	205.70	198.78	274.75 *	120.31
Work hours	-1.82	1.85	-0.17	3.98	4.51	2.37
Wage rate per hour	0.27	1.70	1.61	3.84	0.61	2.31
Age	-4.20	2.65	-11.68 *	5.82	-11.23 **	3.47
Race/ethnicity (vs. non-Hispanic White)						
Black	-85.75 *	42.01	-206.63 *	94.46	57.51	53.77
Hispanic	-121.34 *	58.75	-200.39	122.55	-13.80	66.62
Other	-89.55	137.53	111.66	255.19	284.75	147.40
Non-household Children						
Age of the youngest child	-3.82	5.45	5.96	12.15	7.07	6.94
Number of children	56.82 **	20.80	115.70 *	49.09	73.72 *	29.75
Presence of a son	-54.47	34.61	-7.96	78.09	30.97	44.55
Weekend diary day	86.26 *	34.74	184.81 *	78.27	57.15	46.18
Having household children	-6.20	44.30	-0.98	101.45	231.06 ***	59.41
Flagmissincome	108.92 *	51.94	248.99 *	122.09	65.82	78.11
Flagunemployed	20.67	96.76	355.25	219.19	486.58 ***	132.07
Flaghoursvary	-93.92	102.08	-143.81	215.26	142.33	110.42
Intercept	66.33	115.48	-118.29	265.69	-21.81	167.72
Loglikelihood	-412.59		-601.05		-1403.55	
Censored n	231		210		81	

Note: There were 61 cases missing on the earning variable, I crosstabed the earing variable with the employment status, and impute employed but missing (21 self-employed) fathers with the mean of the earning variable, and impute the nonemployed fathers' earnings with 0s (40 cases). I include the imputation flag in the model.

* P <.05 ** P <.01***<.001 (two-tailed)

Appendix Table 7.1 Percentages of Working Moms in Occupations with Flexitme Schedules and Shift Schedules by Their Educational Attainment (N=3,146)

	All (%)	High school or below	Some college	College	Post-graduate
Flextime occupations	37.0	33.4	32.9	44.1	39.4
Shiftwork occupations	39.4	53.0	42.9	30.1	18.9

Note: Flextime occupations include occupations where over 26.7% of all full-time wage and salary female workers who have flexible work schedules in May 2004 CPS. Shiftwork occupations include occupations where over 14.8% of all full-time wage and salary workers work a nonday shift in May 2004 CPS.The cut off points of 26.7% and 14.8% are the average percentage of female workers who have flexible work schedules and shift work schedules in May 2004 CPS, respectively.

Secondary Childcare

The interviewer asks questions to obtain information on secondary childcare, defined as occurring when the DP had a child under age 13 in his or her care while doing other activities. The interviewer also asks what time the first child under age 13 got up and what time the last child under 13 went to bed.

In 2003, secondary childcare activities performed by the DP were captured separately for 1) household and own nonhousehold children under 13, and 2) non-own nonhousehold children under 13. After 2003, universes to the questions were altered so that separate measures could be developed for time the DP spent providing secondary childcare to 1) own household children, 2) non-own household children, 3) own nonhousehold children, and 4) non-own nonhousehold children. Because the questions during and after 2003 were similar in structure, with differences only in the universes, they are shown below only as they were asked in 2004 and after.

CC1
Universe: At least 2 household children < 13
I'd like you to think back over the day yesterday. Which child got up first yesterday?
*Display all names of household children in universe
*Read names, select all that apply separated by commas
1. [FNAME] [LNAME]
2. [FNAME] [LNAME]
3. [FNAME] [LNAME] [Go to CC2]
Don't Know, Refused [Go to CC3]

CC_LEAD
Universe: All
If household roster includes children under 13 years of age: Now I'd like to talk with you in a little more detail about childcare.
1. Enter 1 to continue [If at least two household children < 13 then go to CC1]
[If one household child < 13 then go to CC2]
OR
If household roster does not include children under 13 years of age: Now I'd like to talk with you about
childcare. People often spend time with friends', neighbors' or relatives' children.
1. Enter 1 to continue. [If no household children < 13 and at least 1 nonhousehold child < 13 then go to CC6]
[Else go to CC8]

CC2
Universe: (CC1 ≠ Don't Know, Refused) OR (only one household child <13)
At what time, yesterday, did [FNAME] [LNAME] get up?
1. Time in HH:MM format

Don’t Know, Refused [If 2 or more children < 13 listed in WHO column on time diary, go to CC3]
[If 2 or more children < 13 listed in WHO column on time diary and CC2 =value with PM go to CC_CK]
[If 1 child < 13 listed in WHO column on time diary, go to CC4]

CC3
Universe: (CC1= Don’t Know, Refused) OR [(CC2 = Valid response) AND (At least 2 household children <13)]
Which child or children went to bed last?
*Display names of household children in the universe
*Read names, select those that apply, separated by commas
1. [FNAME] [LNAME]
2. [FNAME] [LNAME]
3. [FNAME] [LNAME] [Go to CC4]
Don’t Know, Refused [If at least one own household child <13, go to CC5]
[Else if no own household child <13, but at least one non-own household child, then go to CC5B]

CC4
Universe: CC3 ≠ Don’t Know, Refused OR (At least 1 household child <13)
At what time did [FNAME] [LNAME] go to bed?
1. Time in HH:MM format [If CC2 = value with AM go to CC_CK]
[If at least one own household child <13, go to CC5]
[Else if no own household child <13, but at least one non-own household child, then go to CC5B]

CC5
Universe: At least 1 OWN household child under 13
I'D LIKE TO ASK YOU ABOUT **CHILDREN WHO LIVE WITH YOU**. A child was awake between [insert value from CC2] and [insert value from CC4]. At which times or during which activities during that time period was/were [FNAME] [LNAME] in your care? (fills name(s) of all the DP’s own children under 13 in the household)
* Probe: Any other times or activities?
1. Activities where child was in your care. [Go to next row]
96. All day.
97. None/no more childcare activities. [If first row of CC5=97, or if no entries in CC5, go to CC5_CK]
Don’t Know, Refused [If CC5= Don’t Know, Refused, go to next row]
[If no more rows or if CC5=96, 97 and at least one non-own household child< 13, then go to CC5B]
[Else if no more rows or if CC5=96, 97and no own nonhousehold children, go to CC8]

CC6
Universe: At least 1 OWN Nonhousehold child under 13
NOW I'D LIKE TO ASK YOU ABOUT **YOUR CHILDREN WHO DON'T LIVE WITH YOU.** During any part of the day yesterday, was/were [FNAME][LNAME] in your care? (insert name(s) of own, nonhousehold children under 13)
1. Yes [Go to CC7]
2. No
Don't Know, Refused [Go to CC8]

CC7
Universe: CC6 = 1
At which times or during which activities was/were [FNAME] [LNAME] in your care? (insert name(s) of own, nonhousehold children under 13)
1. Activities where nonhousehold child was in your care. [Go to next row]
97. None/no more nonhousehold childcare activities.
Don't Know, Refused [If 97 in first row or no "1" in column, then go to CC7_CK]
[Else If no more rows go to CC8]

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